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Article in *Journal of Personality and Social Psychology* · December 1985

DOI: 10.1037/0022-3514.49.6.1565

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## Integrative Complexity of American and Soviet Foreign Policy Rhetoric: A Time-Series Analysis

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This study used the integrative complexity coding system to analyze official American and Soviet foreign policy statements issued between 1945 and 1983. Time series (ARIMA) and two-stage least squares analyses of the data revealed numerous significant trends. The integrative complexity of Soviet statements was a function of Soviet complexity levels in the past, American complexity levels in the present, Soviet military or political interventions in other countries, the successful culmination of American-Soviet negotiations, and American presidential elections. The integrative complexity of American statements was a function of American complexity levels in the past, Soviet complexity levels in the past, presidential elections, changes in presidential administrations, Soviet military or political interventions in other countries, American military or political interventions in other countries, and the successful culmination of American-Soviet negotiations. I interpret the results by drawing on concepts from two complementary levels of analysis: the study of cognitive processes and the study of bargaining and impression management strategies. I conclude by exploring potential policy implications of the results.

Since the end of World War II, international relations have been profoundly shaped by the rivalry between two superpowers—the United States and the Soviet Union—and their allies and proxies in almost every region of the globe. This often intense competition takes a wide variety of forms and can be analyzed from a correspondingly wide variety of disciplinary perspectives. The research reported in this article takes a psychological perspective toward the problem. The goal is to explore the usefulness of theoretical concepts and research tools drawn from the psychological literature for increasing our understanding of American-Soviet relations.

The present study differs in significant ways from most existing psychological analyses of the relationship between the two superpowers. Previous work has tended to be interpretive

and qualitative; investigators have advanced historical reconstructions of events to support various claims concerning the underlying causes of American and Soviet foreign policy. Previous work has also tended to be prescriptive. The conclusions one draws concerning the foreign policy objectives of the two superpowers have important implications for what constitutes the best strategy for preserving peace in the nuclear age (George, 1980, 1983). Thus deterrence theorists generally depict the Soviet Union as a dangerously expansionist power that must be thwarted by firm demonstrations of force and the willingness to use it. Failure to stand up to Soviet advances in one area will only encourage further encroachments (R. E. Osgood, 1981; Ulam, 1968; Wildavsky, 1983). Conflict spiral theorists, by contrast, generally depict the Soviet Union as a defensive power and American-Soviet conflict as the result of mutual misperceptions that lead each side to exaggerate the hostile intent of the other. High priority must be given to unwinding the conflict spiral by conciliatory, trust-enhancing policies that reassure the other side of one's own peaceful objectives (C. E. Osgood, 1962; White, 1984).

These competing analyses of American-Soviet relations are intellectually provocative; unfortunately, a conceptual impasse has been

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A grant from the Institute on Global Conflict and Cooperation provided assistance in the conduct of this research. I appreciate the assistance of Charles McGuire, Douglas Hamilton, Kristen Hannum, Marjorie Kimbell, Patrick Micheletti, and Fred Reis in the data collection and analysis phases of the project. I also appreciate the constructive comments of Robert Jervis and of an anonymous reviewer on an earlier version of the article.

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reached (Jervis, 1976; Tetlock, 1983c). Advocates of different interpretations have little difficulty reinterpreting each other's evidence. Deterrence theorists can easily assimilate evidence invoked in support of the status quo power hypothesis (e.g., Soviet treaty-signing behavior does not reflect a desire to defuse international tensions, but rather a subtle effort to tip the balance of power in the Soviets' favor). Conversely, conflict spiral theorists can easily assimilate evidence invoked in support of the expansionist hypothesis (e.g., Soviet military intervention in Afghanistan is not part of a master plan to dominate the Middle East, but rather a defensive effort to prevent a hostile government from assuming power in a strategically sensitive area).

This study is not intended to resolve the now 40-year-old debate over the ultimate motives underlying Soviet foreign policy. My objectives are more modest: to test a number of limited and specific hypotheses concerning the role of social psychological processes in American-Soviet relations. I also attempt to minimize the problems of political bias and subjectivity of interpretation that have plagued past efforts. To test the major hypotheses, I apply systematic data coding and analysis procedures to publicly available documentary sources: official American and Soviet foreign policy statements.

The theoretical focus of the study is on the construct known as *conceptual* or *integrative complexity* (Harvey, Hunt, & Schroder, 1961; Schroder, Driver, & Streufert, 1967; Streufert & Streufert, 1978; Suedfeld, 1983; Tetlock, 1984). As originally formulated, integrative complexity theory was an attempt to explain individual differences in the complexity of the cognitive rules that people use to process and analyze incoming information (Harvey et al., 1961). Later incarnations of the theory, however, abandoned the static trait conception of integrative complexity in favor of an interactionist position in which the integrative complexity of cognitive functioning at any given time was viewed as a joint product of long-term dispositional variables (e.g., early learning and socialization experiences) and immediate situational variables (e.g., environmental stressors such as threat, time pressure, information load, and role demands). Various statements of this interactionist position can

be found in Schroder et al. (1967), Streufert and Streufert (1978), and Tetlock (1979, 1981a, 1983a).

Important methodological innovations accompanied this theoretical evolution. Advocates of the earlier "trait" view of integrative complexity relied heavily on the semiprojective Paragraph Completion Test for assessing individual differences in styles of thinking. Subjects were presented with sentence stems (e.g., "Rules . . .," "When I am criticized. . .") and asked to complete each stem and to write at least one additional sentence. Trained coders rated subjects' responses on a 7-point scale designed to measure the integrative complexity of subjects' thinking in the topic area. Low scores reflected low differentiation (lack of awareness of alternative ways of viewing problems, reliance on rigid rules for making decisions); moderate scores reflected moderate to high differentiation, but low integration (awareness of alternative ways of viewing problems, but no recognition of relations between viewpoints); high scores reflected high differentiation and high integration (awareness of multiple perspectives on problems and of interrelations among perspectives). Streufert and Streufert (1978) reviewed the considerable laboratory evidence on the construct validity of the Paragraph Completion Test. The test has demonstrated predictive power in a variety of experimental contexts, including studies of crisis decision making (Driver, 1965; Schroder et al., 1967), bargaining and negotiation behavior (Streufert & Streufert, 1978), and attitude change (Streufert & Fromkin, 1972).

Later researchers adopted the integrative complexity coding system for analyzing a much broader range of material than sentence-stem responses. Researchers applied the coding system to such diverse archival sources as the writings of revolutionary leaders (Suedfeld & Rank, 1976), diplomatic communications in international crises (Levi & Tetlock, 1980; Raphael, 1982; Suedfeld & Tetlock, 1977; Suedfeld, Tetlock, & Ramirez, 1977), presidential speeches before and after elections (Tetlock, 1981a), senatorial policy statements (Tetlock, 1981b, 1983a; Tetlock, Hannum, & Micheletti, 1984), Supreme Court opinions (Tetlock, Bernzweig, & Gallant, 1985), magazine editorials (Suedfeld, 1983), and confidential interviews with British parliamentari-

ans (Tetlock, 1984). These novel methodological applications of the coding system accelerated the theoretical movement away from the trait model of integrative complexity. The "nomological network" (Cronbach & Meehl, 1955) surrounding the integrative complexity construct expanded to include not only individual difference predictions, but also a broad array of hypotheses concerning situational determinants of complex information processing (ranging from accountability to groupthink to environmental stressors). The data that emerged from this research program required a less restrictive, more interactionist theoretical framework. Integrative complexity possesses attributes of both a relatively stable individual difference variable (moderate consistency across time, situations, and issues) and a relatively context-specific variable (predictable variation as a function of situational and issue variables). The identity of integrative complexity as a purely cognitive construct has also been challenged. There exists growing recognition that the integrative complexity of a person's verbal behavior reflects not only how that person perceives and interprets events, but also the impression management tactics that the person deems advantageous in particular situations (Tetlock, 1979, 1981a, 1981b, 1983b; Tetlock et al., 1985, 1984).

The study reported here draws on this now extensive body of laboratory and archival research in order to test a series of hypotheses that link the integrative complexity of foreign policy rhetoric and the actual foreign policy behavior of the two nuclear superpowers. Methodologically, the study follows in the tradition of previous archival research. In this case, the data source consists of official American and Soviet foreign policy statements issued between 1945 and 1983. Theoretically, the study adopts an eclectic stance on the nature of integrative complexity. Variables operating at many levels of analysis undoubtedly shape American and Soviet foreign policy statements. Following previous writers (e.g., Pool, 1959; Tetlock, 1983d; Tetlock et al., 1985, 1984), I assume that official policy statements reflect a complex and inevitably confounded mixture of perceptual-cognitive variables (how key policy makers actually see the world) and political impression management variables (the influence tactics that policy

makers use to achieve desired goals). I divide the major hypotheses into the following four categories.

#### Integrative Complexity and Competitive Versus Coordinative Policy Initiatives

Pruitt's (1981) strategic choice model of negotiation behavior identifies two basic strategies (not requiring unilateral concessions) for resolving conflicts of interest between parties. One strategy is the competitive: The objective is to gain an advantage for one's own side by standing firm and using pressure tactics (threats, positional commitments, etc.) to persuade one's opponent to make concessions. A second strategy is the coordinative: The objective is to collaborate with the other side to achieve an agreement in which all participants are reasonably satisfied with their outcomes (cf. Deutsch, 1973). Examples of coordinative behavior include proposing compromises, symbolic tension-reducing initiatives, and cooperation with third parties who are trying to resolve the conflict.

Good empirical and theoretical reasons exist for hypothesizing close links between the integrative complexity of American and Soviet policy statements and competitive versus coordinative policy initiatives by the two governments. All other things being equal, low integrative complexity will be associated with competitive behavior, and high integrative complexity with coordinative behavior. The empirical case for this hypothesis rests on laboratory and archival research findings. For instance, data from the Inter-Nation Simulation studies indicated that individuals low in integrative complexity relied on highly competitive tactics (war and unprovoked arms build-ups) approximately three times more frequently than highly integratively complex individuals. Violence as a response to frustration was also much more likely among integratively simple subjects (Driver, 1965; Schroder et al., 1967; Streufert & Streufert, 1978). Experimental research on negotiation behavior has yielded compatible findings. Researchers have found that integratively simple pairs of bargainers were less likely than their integratively complex counterparts to arrive at mutually beneficial compromise agreements (Pruitt, 1981; Pruitt

& Lewis, 1975). Finally, data from content analysis studies have indicated that diplomatic communications exchanged in crises that culminated in war were characterized by lower integrative complexity than were communications exchanged in crises peacefully resolved (Suedfeld & Tetlock, 1977; Suedfeld, Tetlock, & Ramirez, 1977).

Processes operating at two distinct levels of analysis could produce powerful links between the integrative complexity of policy statements and competitive-coordinative behavior. From a purely cognitive perspective, policy statements reflect, albeit imperfectly, how key government officials perceive and interpret events. The integrative complexity of these perceptions shapes actual foreign policy behavior. Low integrative complexity predisposes policy makers to adopt competitive initiatives in which little consideration is given to the perspective of the other side; high integrative complexity encourages policy makers to seek compromise agreements in which the interests of both parties are taken into account. In the words of Pruitt and Lewis (1975), integratively complex bargainers are more likely "to gather information about one another's utility structures and achieve more insights into how to integrate those utility structures" (p. 628).

From a political impression management perspective, policy statements are best thought of not as reflections of how policy makers actually think, but rather as strategic communications designed to manipulate the views of important domestic and international audiences. The integrative complexity of policy statements is an integral part of a competitive or coordinative bargaining strategy. Integratively simple statements that present issues in unambiguous, black-white terms are means of communicating firmness of resolve and unwillingness to back away from core commitments. Integratively complex statements, which differentiate issues into component parts and suggest methods of resolving conflicts or trade-offs, are means of communicating interest in coordinative initiatives.

The cognitive and impression management interpretations are not, of course, mutually exclusive. Simplicity-complexity at one level may be associated with simplicity-complexity at the other. Unfortunately, in the absence of

data on the true perceptions of policy makers, this issue cannot be conclusively resolved.<sup>1</sup>

### The Issue of Timing

The previous hypotheses linked the integrative complexity of rhetoric to competitive versus coordinative foreign policy behavior. The hypotheses do not, however, clarify the timing of the association: Do rhetorical shifts typically occur before, at the same time as, or after policy shifts?

Rhetorical shifts may precede policy shifts as a result of cognitive or impression management processes. The cognitive interpretation assigns a central causal role to the integrative complexity variable. In this view, the complexity of American and Soviet leaders' perceptions is a major determinant of their assessments of the feasibility of achieving mutually satisfactory integrative agreements. The impression management perspective assigns a more secondary, justificatory role to the integrative complexity variable. In this view, Soviet and American policy makers use rhetoric to create climates of opinion supportive of what they plan to do in the near future. Such anticipatory justifications are means of reinforcing national credibility and the impression of continuity and coherence in national policy (cf. Axelrod & Zimmerman, 1981; Graber, 1976; Jervis, 1970).

Rhetorical shifts may also occur at the same time as, or even after, policy initiatives. One possibility is that rhetorical and policy shifts are not causally related to each other, but rather are products of third variables such as changing domestic political coalitions or international alignments (e.g., increased influence of hawk or dove factions in the leadership; unexpected geopolitical opportunities or threats). This analysis implies that rhetorical shifts will tend to occur at approximately the same time as policy shifts. Another possibility is that rhetoric lags behind policy initiatives. Organizations, including foreign policy bureaucracies, may often act first and construct

<sup>1</sup> Tetlock and Manstead (1985) offered a detailed discussion of the serious logical and methodological obstacles to distinguishing intrapsychic and impression management explanations even in highly controlled laboratory situations.

appropriate justifications later (cf. March & Olsen, 1976; Staw, 1980; Weick, 1979).

### Influence Processes

The theoretical analysis up to this point has yet to take into account the reciprocal effects of American and Soviet statements on each other. Previous research gives strong grounds for hypothesizing such reciprocal effects. Experimental and field research on negotiation behavior has revealed a good deal of mutual responsiveness in negotiation behavior, although the exact form of the relationship varies from study to study (for reviews, see Druckman, 1977, 1983). Sometimes the data fit a simple action-reaction model; other times, the interdependence is asymmetrical with one party showing more responsiveness than the other or following the other in a leader-lagger relationship (e.g., Hopman & Smith, 1977).

Different "theories" of American-Soviet relations suggest different patterns of mutual responsiveness in American and Soviet foreign policy statements. Traditional containment and deterrence analyses depict American foreign policy as a defensive series of reactions to Soviet expansionism (e.g., Wildavsky, 1983). Assuming that Soviet complexity levels are closely associated with that nation's competitive versus coordinative policy initiatives, and that American foreign policy is essentially reactive, it is reasonable to expect shifts in Soviet complexity to precede shifts in American complexity. Not all analysts, however, accept this characterization of American policy as passive and Soviet policy as initiatory. The two sides may take turns in testing each other or may adopt different roles in different historical periods (Bialer, 1981; Breslauer, 1983). In this case, a more symmetrical pattern of interdependency is likely to emerge.

### Leadership Transitions

The last category of hypotheses deals with variations in American and Soviet integrative complexity as a function of changes in the top leadership of the two countries. In the case of the United States, one hypothesis is that the complexity of foreign policy statements will decline in election years. This hypothesis is based on Tetlock's (1981a) finding that presi-

dential speeches are less integratively complex in election years than in nonelection years. In their attempts to rally support for their own candidacies and those of their political party in election years, presidents tend to present policy issues in unusually black-white, dichotomous terms. Another hypothesis concerns differences in integrative complexity of presidential administrations: conservative administrations are expected to issue less integratively complex foreign policy statements than liberal or moderate administrations. This hypothesis is based on the frequently-replicated finding that conservatives score higher on measures of cognitive rigidity, intolerance of ambiguity, and dogmatism than do moderates or liberals (e.g., diRenzo, 1967; Neuman, 1981; Stone, 1980; Tetlock, 1981b, 1983a, 1984).

In the case of the Soviet Union, our knowledge of domestic political cleavages is very limited (A. Dallin, 1981) and hypotheses need to be stated more tentatively. What, if anything, is the functional Soviet equivalent of an "election year"? What do the terms *liberal*, *moderate*, and *conservative* mean in the Soviet context? Although I explore variation in integrative complexity as a result of leadership transitions, I test only one explicit hypothesis: Integrative complexity of Soviet foreign policy statements in the Stalin period will be lower than integrative complexity in the post-Stalin period. This hypothesis is based on the writings of historical analysts who have suggested that post-Stalinist foreign and domestic policy is characterized by greater tactical flexibility and sophistication than was policy in the Stalin era (e.g., D. J. Dallin, 1961; Noguee & Donaldson, 1981).

To test these hypotheses, the current study assessed the integrative complexity of American and Soviet foreign policy statements in each quarter-year period between 1945 and 1983. Working from this data set, I constructed detailed statistical models of the two interrelated time series, and assessed the magnitude and relative predictive power of the major hypothesized effects.

### Method

The data for this study were derived from official American and Soviet foreign policy statements issued between

July 1, 1945, and December 31, 1983. The major source used in sampling American statements was the *Department of State Bulletin*. Supplementary material was obtained from the *Collected Papers of the Presidents of the United States*, *Vital Speeches*, and the *New York Times*. The major source used in sampling Soviet statements was the *Current Digest of the Soviet Press*. Supplementary material was obtained from *Soviet News* (the major source of data between 1945 and 1948), the Foreign Broadcast Information Service (FBIS), and the *New York Times*. The following criteria were used to determine whether to include a statement for subsequent analysis:

1. An authoritative source must assume responsibility for the statement. Authoritative American sources included the President and Vice President of the United States, the Secretary of State, and the Ambassador to the United Nations. Authoritative Soviet sources included the General Party Secretary of the Communist Party, the Foreign Minister, the Ambassador to the United Nations, and official editorials in the government-controlled newspapers *Pravda* and *Izvestiya*.<sup>2</sup> and

2. The statements selected had to be primarily concerned with problems that bore directly on American-Soviet relations. Examples included disputes over Berlin, Germany's status in NATO (North Atlantic Treaty Organization), Iran, Greece, Turkey, Czechoslovakia, Korea, Austria, the Hungarian crisis, the Suez crisis, Cuba, Vietnam, the Arab-Israeli conflicts, Angola, the Ethiopian-Somalian war, and Afghanistan. Also included were statements on American-Soviet negotiations on topics such as trade, scientific-cultural cooperation, and conventional and nuclear arms control.

An effort was made to assemble a large collection of official American and Soviet foreign policy statements for each year of the period studied ("large" in this context means an average of approximately 20,000 words for each country in each year). From this initial selection, 10 paragraph-sized statements were randomly sampled for each superpower in each quarter-year period between July 1, 1945, and December 31, 1983. The statements sampled ranged in length from 25 to 170 words. No significant differences were observed in the length of Soviet and American statements. Low positive correlations existed between the length and integrative complexity of statements ( $r = .11$  for the United States;  $r = .10$  for the Soviet Union).

### *Integrative Complexity Coding*

All statements were coded for integrative complexity on a 7-point scale (see Schroder et al., 1967, Appendix I; Tetlock & Hannum, 1984). As noted earlier, the scale defines integrative complexity in terms of both conceptual differentiation and integration. *Differentiation* refers to the number of evaluatively independent dimensions of judgment that an individual uses to interpret events. An undifferentiated statement classifies events into dichotomous, good-bad categories (clear-cut right-or-wrong answers exist); a highly differentiated statement classifies events into a multidimensional category system that cannot be reduced to a simple, evaluative rule (e.g., arms control proposals differ on many dimensions: their verifiability, their domestic political acceptability, and their effects on each side's first- and second-strike capabilities). *Integration* refers to the

development of conceptual connections among differentiated idea-elements. (Differentiation is thus a necessary condition for integration.) The complexity of integration depends on whether differentiated idea-elements are perceived to exist in isolation (low integration), in first-order or hierarchical relationships (medium integration; e.g., making a decision requires balancing two competing objectives against each other), or in even more elaborate, contingent relationships (high integration; e.g., making a decision requires balancing several objectives against each other, each of which needs to be weighted somewhat differently depending on the circumstances).

Scores of 1 reflect low differentiation and low integration. Events are classified into dichotomous, good-bad categories. For example:

Detente failed for one reason: bad faith on the part of the Soviets. The Soviets very calculatingly capitalized on American unwillingness after the Vietnam War to make military commitments to stop communist expansion. The result was a series of destabilizing interventions by the Soviets in Third World countries that shifted the global balance of power significantly in favor of the Soviet Union and against the free world. Decisive action is required to reverse this deteriorating situation. Failure to act will only encourage further Soviet adventurism.

Scores of 3 reflect moderate to high differentiation, but low integration. The individual recognizes alternative points of view, but does not perceive relations between them. For example:

In the 1970's the United States and the Soviet Union perceived detente to be in their national interest. Yet detente, for all practical purposes, collapsed. It collapsed in part because of Soviet opportunism—their desire to take advantage of power vacuums that emerged in various regions of the world in the 1970s. It also collapsed in part as a result of unrealistic American expectations for detente—expectations that led some to believe that detente signaled the end of Soviet interest in expanding into so-called Western spheres of influence.

Scores of 5 reflect moderate to high differentiation and moderate integration. The individual develops an explicit

<sup>2</sup> Significant individual differences in integrative complexity may well exist within a given American or Soviet administration (cf. Tetlock, 1979). Such individual differences, however, are not of primary interest here. My working assumption is that foreign policy statements are the product of complex political and organizational processes (the statements themselves often have multiple authors, the content of a given statement reflects not only the individual beliefs and preferences of the policy maker formally associated with the statement, but the political and organizational constraints within which that policy maker must work). The empirical units of analysis in this study are not therefore, individuals, but rather are the American and Soviet governments. Major leadership changes (the coming to power of new American presidents or General Party secretaries in the Soviet Union) are treated as independent variables that influence the integrative complexity of official government statements on foreign policy.

comparison rule to contrast alternative perspectives on the issue. For example:

Detente refers to a mixed competitive and collaborative relationship. It assumes that the interests of the superpowers are in some respects conflicting and in other respects complementary. The goal is to develop specific and mutually acceptable ground rules for American-Soviet relations that limit competition and promote collaboration.

Scores of 7 reflect high differentiation and high integration. The individual uses complex rules to compare and contrast alternative perspectives on the issue. For example:

Soviet attainment of approximate nuclear parity in the early 1970s led to strong American interest in arms control and crisis prevention as well as in deterrence. But for detente to maintain its momentum as a process, given the very different ideologies, political systems and geopolitical goals of the two powers, it had to be supported by more than mere wishes for good relations. Explicit norms of restraint had to develop concerning how the superpowers would conduct themselves when their interests collided. These norms were always vague and each side interpreted them to its perceived advantage. Explicit norms of collaboration were also needed to cultivate areas of mutual interest. Although some inroads were made—especially in arms control—the knottiest problems were put off. These problems came back to erode detente even further. Given the precariousness of the initial understandings, the existence of many real points of friction, and the domestic resistance to detente in both countries, it is surprising that the concept lasted as long as it did.

Scores of 2, 4, and 6 represent transition points between levels. Coders were instructed to assign these scores when there was evidence of implicit differentiation (e.g., information seeking, qualification to an absolute rule) or implicit integration (e.g., hints of recognition of interactive causality or of value trade-offs). Integrative complexity coding was performed by four trained coders, two of whom were unaware of the hypotheses being tested and the sources of the material being analyzed (mean interrater  $r = .91$ ).<sup>3</sup>

### *Predictors of Integrative Complexity*

The following independent variables were used to predict temporal fluctuations in the integrative complexity of Soviet foreign policy statements:

1. Major military or political interventions by the Soviet Union in other countries (behavior that, in terms of the strategic choice model, can be readily construed as competitive). On the basis of a survey of historical and political analyses of American-Soviet relations (Bialer, 1981; Gamson & Modigliani, 1971; Hoffman & Fleron, 1971; Kanet, 1982; Kaplan, 1981; London, 1980; Noguee & Donaldson, 1981; Triska & Finley, 1968), the following incidents were included: (a) the Soviet attempt to create procommunist governments in northern Iran (December 1945) and the announcement that Soviet occupation forces would remain in the region (March 1946); (b) the communist coup in Czechoslovakia with the assistance of Soviet military and political pressure (February 1948); (c) the Soviet blocking

of Western ground access to Berlin (the rail blockade of April 1948 and the complete blockade of June 1948); (d) the Soviet-supported invasion of South Korea by North Korea (June 1950); (e) the Soviet military intervention in Hungary (October 1956); (f) the Soviet threat of military intervention in the Suez crisis (November 1956); (g) the Soviet issuance of a major ultimatum on the status of West Berlin (November 1958); (h) the Soviet sealing of the East Berlin border with the wall (August 1961); (i) the Soviet move to install nuclear weapons in Cuba (approximately July-September 1962); (j) the Soviet military intervention in Czechoslovakia (August 1968); (k) the Soviet threat to intervene in the Yom Kippur war (October 1973); (l) the Soviet/Cuban intervention in Angola on a large scale (October-November 1975); (m) the Soviet/Cuban intervention in the border war between Ethiopia and Somalia (from December 1977 to January 1978); and (n) the Soviet military intervention in Afghanistan (December 1979). Five dummy variables were created in order to assess the effects of major Soviet military or political interventions on integrative complexity. One variable switched on only in the quarter-year period in which the intervention occurred. The other four switched on either one or two quarters preceding the intervention or one or two quarters following the intervention.

2. Major American-Soviet agreements on issues that had been significant sources of tension between the superpowers (behavior that, in terms of the strategic choice model, can be readily construed as coordinative). On the basis of the historical sources noted earlier, the following incidents were included: (a) agreement to lift the Berlin blockade (April 1949); (b) final truce agreement ending the Korean War (July 1953; the Soviet Union was indirectly involved in these negotiations in its role as a close ally of the Chinese and North Korean governments); (c) Geneva settlement of Indochinese conflict (July 1954); (d) the Soviet agreement to Austrian peace treaty involving withdrawal of all occupation forces and the permanent neutralization of that country (May 1955); (e) the Soviet agreement to withdraw missiles from Cuba and the American promise not to invade Cuba (October 1962); (f) agreement on nuclear test ban treaty (July 1963); (g) agreement on nuclear nonproliferation treaty (May-June 1968); (h) agreement on strategic arms limitation talks (SALT I) treaty limiting antiballistic missile systems and certain types of strategic delivery vehicles (April-May 1972); (i) Vladivostok understandings on arms race (November 1974); (j) Helsinki declaration on European boundaries and human rights (August 1975); and (k) agreement on SALT II treaty limiting the number of strategic missile launchers and certain

<sup>3</sup> A small percentage (approximately 5%) of the statements sampled were unscorable because they simply recounted events in a factual or nonevaluative way (e.g., "President Nixon and General Party Secretary Brezhnev met to discuss issues of mutual concern to the United States and the Soviet Union. Their conversations were lengthy and covered such topics as arms control, the Middle East, Vietnam, and trade"). Some degree of active interpretation and analysis of information is necessary for inferences concerning conceptual structure (cf. Suedfeld & Tetlock, 1977; Tetlock, 1981a, 1981b, 1983a).



types of weapon development (June 1979). As for military-political interventions, we created five dummy variables to assess the effects of major international agreements on integrative complexity. One variable was activated only in the quarter-year period in which the agreement was reached. The other four were activated in either the one or two quarter-year periods that preceded the intervention or in the one or two quarter-year periods that followed the intervention.

3. The integrative complexity of American foreign policy statements. Three dummy variables were created to assess the effects of American complexity on Soviet complexity. Two of these variables were time-lagged, one by one quarter-year period, the other by a two-quarter-year period. The third variable was American complexity in the same quarter as that of Soviet complexity.

4. Soviet leadership transitions. Five dummy variables were created to assess differences in integrative complexity attributable to changes in Soviet leadership. Each variable represented a significant shift in the political balance of power in the Soviet Union: (a) the Stalin period (from July 1945 to March 1953); (b) the Malenkov-Khrushchev period (from April 1953 to March 1957); (c) the Khrushchev period (from March 1957 to October 1964); (d) the Brezhnev period (from October 1964 to November 1982); and (e) the Andropov period (from November 1982 to December 1983).

The following independent variables were entered into the time-series analysis of integrative complexity scores of American foreign policy statements.

1. Major military or political interventions by the United States in other countries (competitive behavior). On the basis of a survey of major historical and political analyses, the following incidents were included: (a) American support to the Iranian government to resist the establishment of pro-Soviet regimes in northern Iran (January-March 1946); (b) American announcement of the Truman doctrine (February 1947); (c) American resistance to Soviet blockade of Berlin (beginning of April to June 1948); (d) American intervention in the Korean war (July 1950); (e) American intervention in Lebanon (July 1958); (f) American rejection of Soviet ultimatum on Berlin (November 1958); (g) American support for the Bay of Pigs invasion of Cuba (April 1961); (h) American reaffirmation of support for West Berlin in response to the construction of the wall (August 1961); (i) American military and political pressure on the Soviet Union to withdraw its missiles from Cuba; (j) large-scale American build-up of ground forces in Vietnam (April 1965); (k) American invasion of Cambodia (April 1970); and (l) American military support of Israel in the Yom Kippur war and American raising of the "alert level" of its strategic nuclear forces (October 1973). The effects of American interventions on American complexity were assessed in the same way as the effects of Soviet interventions on Soviet complexity. Five dummy variables were created: two for the two quarter-year periods before the intervention, one for the quarter-year period in which the intervention occurred, and two for the two quarter-year periods after the intervention.

2. Major American-Soviet agreements on issues that had been significant sources of tension between the superpowers (coordinative behavior). This list and the procedure for creating dummy variables were identical to those for the Soviet analysis.

3. The integrative complexity of Soviet foreign policy statements. Three dummy variables were created in order to assess the effects of Soviet complexity on American complexity. Two of these variables were time-lagged, one by one quarter-year period, the other by two quarter-year periods. The remaining variable was Soviet complexity in the same quarter as American complexity.

4. American leadership transitions. Dummy variables were created in order to assess variation in integrative complexity attributable to changes in American leadership. Each variable represented a new presidential administration: (a) the Truman administration (from July 1945 to January 1953); (b) the Eisenhower administration (from January 1953 to January 1961); (c) the Kennedy administration (from January 1961 to November 1963); (d) the Johnson administration (from November 1963 to January 1969); (e) the Nixon administration (from January 1969 to August 1974); (f) the Ford administration (from August 1974 to January 1977); (g) the Carter administration (from January 1977 to January 1981); and (h) the Reagan administration (from January 1981 to December 1983).

5. American presidential elections. Five dummy variables were created to assess the effects of presidential elections on integrative complexity: one for each quarter-year period of the election year and one for the quarter-year period immediately after the election year.

## Results

Figures 1, 2, 3, and 4 present the mean integrative complexity of American and Soviet foreign policy statements in each of the 154 quarter-year periods between July 1, 1945 and December 31, 1983.<sup>4</sup> A combination of ARIMA (autoregressive integrated moving average) and multiple regression techniques were used to develop separate statistical models of the determinants of American and Soviet complexity levels (for detailed discussion, see Box & Jenkins, 1976; Cleary & Levenbach, 1982).

<sup>4</sup> Integrative complexity scores tend to be negatively skewed. It is not unusual for 40% to 60% of the scores assigned to be at the lowest level of integrative complexity. In accordance with the practice of previous investigators (e.g., Schroder, Driver, & Streufert, 1967; Tetlock, Hannum, & Micheletti, 1984), the dependent variable in this study was defined as the mean of the five highest integrative scores in each quarter-year period for each government. Although this index is highly correlated with the mean of all 10 scores in each time period ( $r = .94$ ), the index has two advantages: (a) the high-score index yields a closer approximation to a normal distribution of scores, and (b) the high-score index displays greater temporal variability and, one might argue, is more sensitive to shifts in the political tone of the relationship between the superpowers. Integrative simplicity is common; even a small shift in the number of moderately complex statements may signal an important change in the relationship between the two nations.

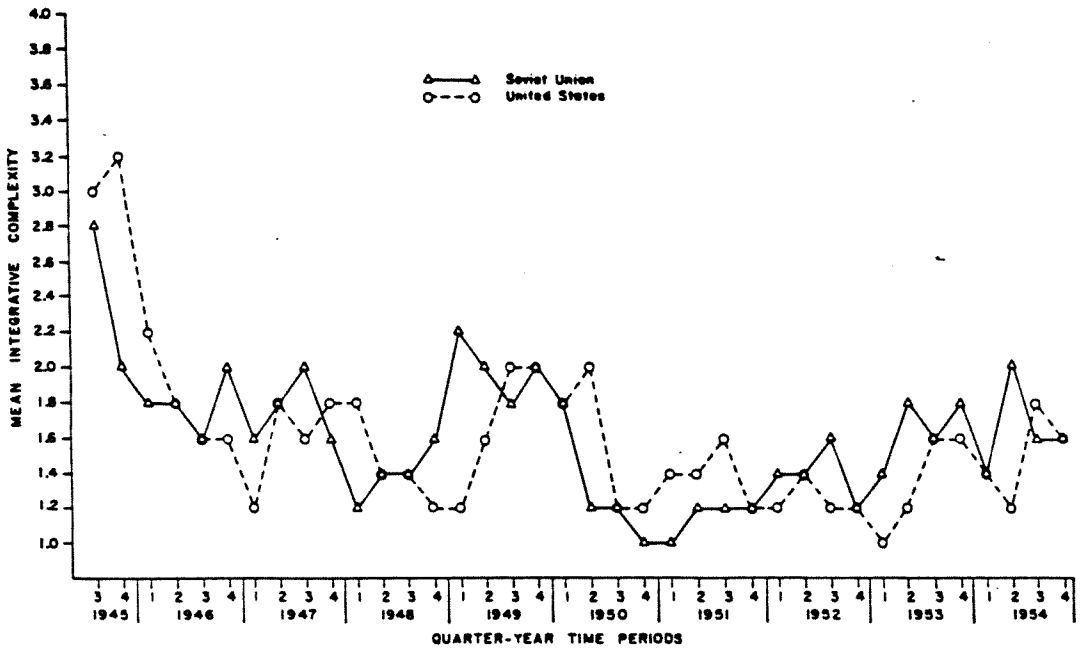


Figure 1. Mean integrative complexity of official American and Soviet foreign policy statements, 1945-1954.

*Diagnostic Checking of Soviet Data*

Time series analysis of the integrative complexity data was a multistep procedure, the ul-

timite goal of which was to permit ordinary least squares estimation of the key parameters in our theoretical model. The first step was to identify the appropriate ARIMA model under-

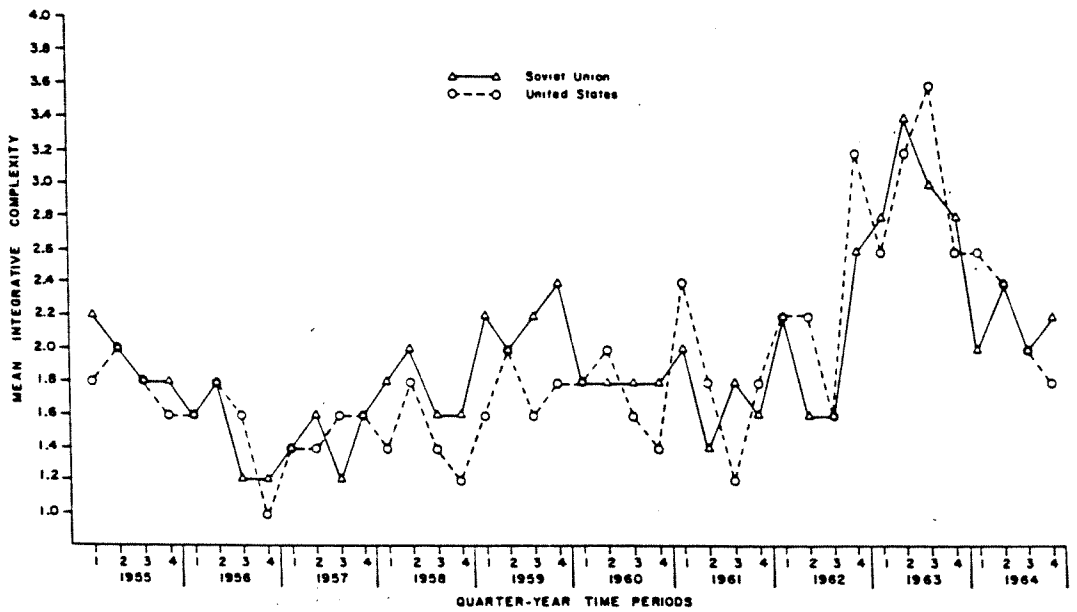


Figure 2. Mean integrative complexity of official American and Soviet foreign policy statements, 1955-1964.

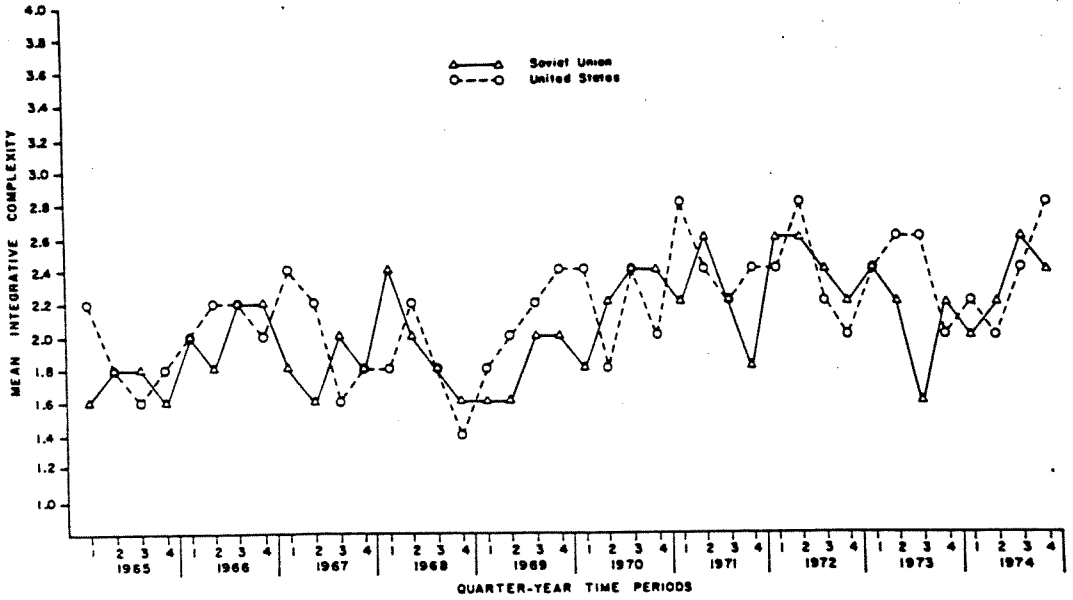


Figure 3. Mean integrative complexity of official American and Soviet foreign policy statements, 1965-1974.

lying the Soviet time series. Inspection of the autocorrelations and partial autocorrelations indicated that the appropriate model took the

form of an autoregressive, not a moving average, process. The autocorrelations decayed slowly, whereas the partial autocorrelations

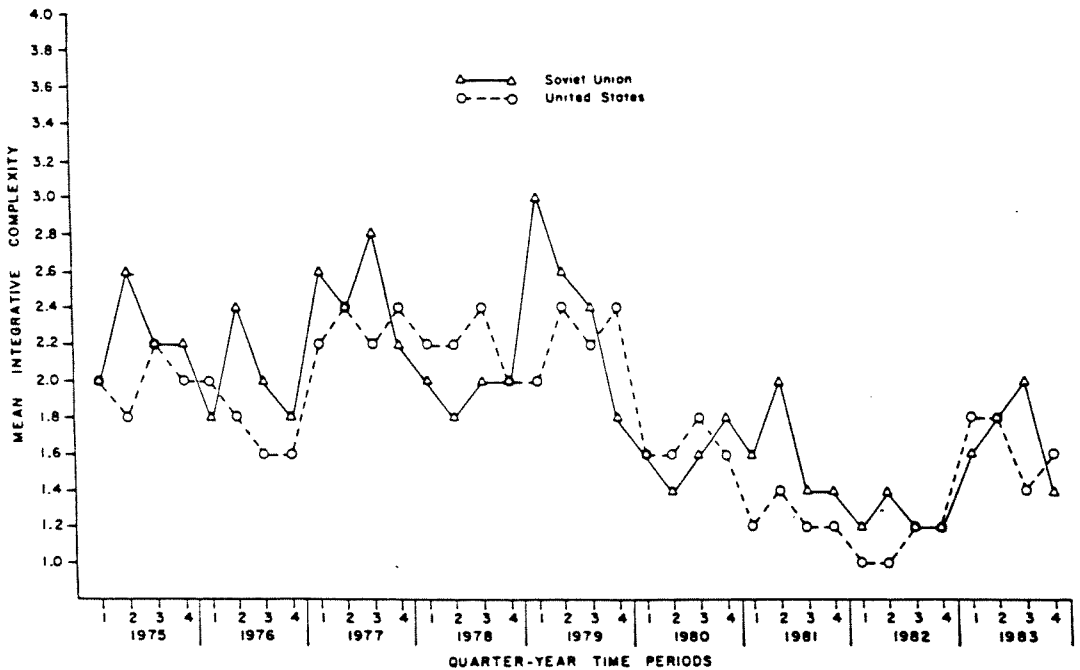


Figure 4. Mean integrative complexity of official American and Soviet foreign policy statements, 1975-1983.

dropped off sharply after two quarter-year periods. Akaike's criterion, which is used to select autoregressive models with minimum root mean square error, converged on a similar conclusion. The second step was to test whether an autoregressive model of order 2 was actually effective in removing the pronounced serial correlation in the original data. The Box-Pierce  $Q$ -statistic indicated that no significant serial dependency existed in the data after Soviet complexity scores at  $t_0$  were regressed on Soviet complexity scores at  $t - 1$  and  $t - 2$  ( $Q = 18.12$ , critical  $\chi^2(20) = 31.41$ , at the .05 level.<sup>5</sup> The ARIMA analysis did, however, reveal marginally significant heteroscedasticity in the model, Goldfeld-Quandt test,  $F(26, 24) = 1.98$ ,  $p < .05$ .<sup>6</sup> The latter problem was solved via a natural logarithmic transformation of the data, posttransformation  $F(26, 24) = 1.63$  (*ns*). The ARIMA model for the Soviet time series was thus

$$\ln y_t = \beta_0 + \beta_1 \ln y_{t-1} + \beta_2 \ln y_{t-2} + \epsilon_t.$$

#### *The Soviet Model*

The third step of the analysis was to build on the ARIMA model by simultaneously exploring the predictive power of a wide range of possible determinants of Soviet complexity levels. Variables entered into this exploratory regression included Soviet complexity in the past (the ARIMA model indicated that both the  $t - 1$  and  $t - 2$  periods were necessary), Soviet military or political interventions abroad, American military or political interventions abroad, successful culmination of American-Soviet negotiations, Soviet leadership transitions, and American presidential elections. This omnibus regression included a total of 28 independent variables, was highly significant,  $F(28, 123) = 11.1$ ,  $p < .001$ , and accounted for a large percentage of the variation in Soviet complexity scores ( $R^2 = .72$ ; after correction for shrinkage,  $R^2 = .64$ ).

To simplify the interpretation of the data, I created a restricted multiple regression model, which retained only the nine independent variables that approached statistical significance in the unrestricted model (all  $ps < .25$ ). Table 1 shows the raw-score regression coefficients,  $t$  statistics, and probability values for the variables in the restricted model. As can

Table 1  
*Restricted Regression Model of Integrative Complexity of Soviet Statements*

Predictor variable	Raw-score regression coefficient	$t$	$p$
Quarter before Soviet interventions	-.24	-5.41	.001
Quarter during Soviet interventions	-.10	-2.21	.01
Quarter before major agreements	.29	6.62	.001
Quarter during major agreements	.12	2.52	.01
Soviet complexity two quarters in past	.25	3.29	.001
Soviet complexity one quarter in past	.46	5.66	.001
Stalin leadership period	-.06	-2.07	.01
Khrushchev/Malenkov leadership period	-.13	-2.31	.01
First quarter of American election years	-.12	-2.55	.01

be seen, the restricted analysis revealed strong support for the following effects: (a) there were significant downturns in Soviet complexity in the quarter-year periods before and at the same time as major competitive policy initiatives by the Soviet Union; (b) there were significant upturns in Soviet complexity in the quarter-year periods before and at the same time as the successful culmination of major American-Soviet negotiations; (c) Soviet complexity levels in the present tended to be a positive function of Soviet complexity levels in the immediately preceding two quarter-year periods; (d) Soviet complexity tended to be lower during the Stalin and Khrushchev/Malenkov leadership periods; and (e) Soviet complexity tended to be lower in the first quarter-year period of

<sup>5</sup> The Box-Pierce  $Q$  statistic tests the null hypothesis that all autocorrelations at different lags are jointly zero in the time series (Cleary & Levenbach, 1982).

<sup>6</sup> In the Goldfeld-Quandt test, the time series is divided into three sections and the estimated variances from the different sections are compared. The null hypothesis is rejected (i.e., heteroscedasticity exists) if the estimated variances are significantly different.

American presidential election years. The restricted regression equation was also highly significant,  $F(9, 142) = 35.83, p < .0001$ , and accounted for a large percentage of the total variation ( $R^2 = .67$ ). The restricted regression model did not differ significantly in predictive power from the unrestricted model,  $F(19, 123) < 1, ns$ .

This analysis fails, however, to test the communication hypothesis, which posits that American and Soviet complexity levels influence each other. Testing this hypothesis raises a new statistical challenge: the *simultaneity* problem (when hypothesized independent and dependent variables influence each other, the ordinary least squares assumption of independence of errors is violated). Following the recommendations of Kenny (1979) and Pindyck and Rubinfeld (1981), I used the two-stage least squares method to estimate a nonrecursive model of Soviet complexity. The method involves using instrumental variables in a "first-round" multiple regression to create an estimate of the nonrecursive independent variable that is free of the confounding effects of disturbances. This was done by regressing American complexity at  $t_0$  (the nonrecursive independent variable) on the full list of exogenous variables (not including Soviet complexity) that had been hypothesized to influence American complexity (e.g., presidential administration, presidential elections, competitive and coordinative policy initiatives, American complexity in the past). In this way, it was possible to obtain a set of decontaminated predicted values of American complexity, which could be used as substitutes for the original nonrecursive independent variable.

In the second stage, I added three independent variables to the restricted model of Soviet complexity: actual American complexity in the immediately preceding two quarter-year periods and estimated American complexity in the present. Table 2 presents the results of this analysis. Three points merit particular note. First, support was found for the hypothesis that the complexity of American foreign policy statements influences the complexity of Soviet statements issued in the same quarter-year period. But no time-lagged effects emerged for American complexity. Second, including current American complexity as a predictor of Soviet complexity altered the size and statis-

tical significance of a number of effects in the earlier restricted model. Several trends were no longer significant, including those of lower complexity in the same time period as Soviet interventions, lower complexity in the Stalin and Khrushchev/Malenkov leadership periods, and higher complexity in the same time periods as major American-Soviet agreements. Third, including American complexity in the equation significantly increased the overall predictive power of the restricted regression model,  $F(3, 139) = 4.64, p < .01$ . The restricted two-stage least squares model of Soviet complexity accounted for 73% of the variance and was highly significant,  $F(12, 139) = 31.40, p < .001$ .

#### *Diagnostic Checking of American Data*

Analysis of the American complexity data involved the same procedures as the analysis of the Soviet data. The first step was to identify the appropriate ARIMA model underlying the

Table 2  
*Restricted Two-Stage Least Squares Model of Integrative Complexity of Soviet Statements*

Predictor variable	Raw-score regression coefficient	<i>t</i>	<i>p</i>
American complexity two quarters in past ( $t - 2$ )	-.03	-0.50	<i>ns</i>
American complexity one quarter in past ( $t - 1$ )	-.07	0.89	<i>ns</i>
American complexity in present ( $t_0$ )	.32	2.85	.01
Quarter before Soviet interventions	-.23	-5.69	.001
Quarter during Soviet interventions	-.06	-1.24	<i>ns</i>
Quarter before major agreements	.29	6.68	.001
Quarter during major agreements	-.08	1.53	<i>ns</i>
Soviet complexity two quarters in past	.15	1.89	.10
Soviet complexity one quarter in past	.28	3.21	.001
Stalin leadership period	-.04	-1.25	<i>ns</i>
Khrushchev/Malenkov leadership period	-.07	-1.30	<i>ns</i>
First quarter of American election years	-.12	-2.61	.001

American time series. Inspection of the autocorrelations and partial autocorrelations indicated, once again, that an autoregressive, not a moving average, model best described the data. The autocorrelations decayed slowly, whereas the partial autocorrelations dropped off sharply after three quarter-year periods. Akaike's criterion pointed to a similar conclusion. The second step was to assess whether significant serial dependency existed in the data after American complexity scores at  $t_0$  were regressed upon American complexity scores at  $t - 1$ ,  $t - 2$ , and  $t - 3$  ( $Q = 15.1$ ), critical  $\chi^2(20) = 31.41$ , at the .05 level. Significant heteroscedasticity did not exist in the data; however, to facilitate comparison with the Soviet data, the American data were also subjected to a natural logarithmic transformation. The ARIMA model for the American data thus was

$$\ln y_t = \beta_0 + \beta_1 \ln y_{t-1} + \beta_2 \ln y_{t-2} + \beta_3 \ln y_{t-3} + \epsilon_t.$$

### The American Model

The next step was to build on the ARIMA model by simultaneously exploring the predictive power of a large number of possible determinants of American complexity. Variables entered into the equation included American complexity in the past (the ARIMA model indicated that the  $t - 1$ ,  $t - 2$ , and  $t - 3$  periods were necessary), Soviet and American interventions abroad, successful negotiations, presidential administrations, and presidential elections. This omnibus regression included a total of 30 independent variables, was highly significant,  $F(30, 120) = 16.03$ ,  $p < .001$ , and accounted for a large percentage of the variation in American complexity scores ( $R^2 = .78$ ; after correction for shrinkage,  $R^2 = .74$ ).

I created a restricted multiple regression model that retained only those 14 variables that approached statistical significance in the unrestricted model ( $p < .25$ ). Table 3 presents the raw-score regression coefficients,  $t$  statistics, and probability values for the variables in the restricted model. This restricted analysis revealed numerous trends: (a) significant downturns in American complexity in the same

quarter-year period as major American interventions abroad (but no time-lagged effects), significant downturns two quarter-year periods before reaching major agreements with the Soviet Union, significant downturns in the same quarter-year period as major Soviet interventions abroad (but no time-lagged effects), and significant downturns in the third and fourth quarter-year periods of American presidential elections; (b) significant upturns in American complexity in the quarter-year periods in which major agreements were reached with the Soviet Union; (c) American complexity as a positive function of American complexity in the immediately preceding quarter-year period (the second and third quarter time-lagged effects fell to nonsignificance when their predictive power was assessed simultaneously with that of other independent variables in both the unrestricted and restricted models); and (d) significant differences in integrative complexity as a function of presidential administrations, the Kennedy, Johnson, Nixon, Ford, and Carter administrations being more

Table 3  
Restricted Regression Model Integrative Complexity of American Statements

Predictor variable	Raw-score regression coefficients	$t$	$p$
Quarter during American interventions	-.17	-3.84	.001
Two quarters before major agreements	-.12	-2.80	.01
One-quarter period before major agreements	-.04	-0.91	ns
Quarter during major agreements	.20	4.80	.001
Quarter during Soviet interventions	-.19	-4.43	.001
American complexity one quarter in past	.47	8.20	.0001
Third quarter of presidential election year	-.11	-2.54	.01
Fourth quarter of presidential election year	-.19	-4.21	.001
Kennedy administration	.25	5.38	.001
Johnson administration	.13	3.41	.001
Nixon administration	.21	5.63	.001
Ford administration	.11	2.33	.01
Carter administration	.16	4.06	.001
Reagan administration	-.11	-2.55	.01

integratively complex than the Truman administration (the baseline or intercept value) and the Reagan administration being less integratively complex than the Truman administration.

The restricted regression equation was highly significant,  $F(14, 136) = 34.75, p < .0001$ , and accounted for a large percentage of the variation in American complexity ( $R^2 = .76$ ; after correction for shrinkage,  $R^2 = .73$ ). The shift from the unrestricted to the restricted regression model did not result in a significant loss in predictive power,  $F(16, 121) < 1, ns$ .

I also used two-stage least squares procedures to test the possibility that the complexity levels of the Soviet Union influence those of the United States. The first-round analysis involved regressing Soviet complexity at  $t_0$  (the nonrecursive independent variable) on a full list of exogenous variables (not including American complexity) that had been hypothesized to influence Soviet complexity. From this regression, I derived a set of decontaminated predicted values of Soviet complexity at  $t_0$  that could be used as substitutes for the original nonrecursive independent variable. In the second-round analysis, I added three independent variables to the restricted model of American complexity: Soviet complexity in the immediately preceding two quarter-year periods and estimated Soviet complexity in the present. Table 4 presents the results of this analysis. Three points should be emphasized. First, I found evidence that the integrative complexity of Soviet statements in the immediately preceding quarter-year period did influence American complexity, but that Soviet complexity in the present and two quarter-year periods in the past exerted no influence on American complexity. Second, including Soviet complexity levels as predictors of American complexity had very little effect on the magnitude or significance of the relation between other independent variables and the dependent variable. A comparison of Tables 3 and 4, for instance, revealed that only one relation that was significant in Table 3 fell to nonsignificance in Table 4 (the tendency for the Ford administration to issue more integratively complex statements than the Truman administration). Third, including levels of Soviet complexity in the equation significantly increased the predictive power of the restricted

regression model,  $F(3, 133) = 7.14, p < .001$ . The restricted two-stage least squares model of American complexity accounted for 79% of the variance and was highly significant,  $F(17, 133) = 32.49, p < .001$ .

### Discussion

The integrative complexity of American and Soviet foreign policy statements is itself complexly determined. The integrative complexity of American statements is a function of American complexity in the previous quarter-year period, Soviet complexity in the previous quarter-year period, competitive and coordinative policy initiatives by the United States, competitive policy initiatives by the Soviet Union, presidential elections, and the current presidential administration. The integrative complexity of Soviet statements is a function

Table 4  
*Restricted Two-Stage Least Squares Model of Integrative Complexity of American Statements*

Predictor variable	Raw-score regression coefficient	<i>t</i>	<i>p</i>
Soviet complexity two quarters in past	.08	1.00	<i>ns</i>
Soviet complexity one quarter in past	.19	2.11	.01
Soviet complexity in present	.08	0.58	<i>ns</i>
Quarter during American interventions	-.15	-3.34	.001
Two quarters before major agreements	-.11	-2.74	.01
One quarter before major agreements	-.07	-1.34	<i>ns</i>
Quarter during major agreements	.14	2.92	.01
Quarter during Soviet interventions	-.14	-3.03	.001
American complexity one quarter in past	.27	3.53	.001
Third quarter of presidential election year	-.11	-2.39	.01
Fourth quarter of presidential election year	-.19	-4.45	.001
Kennedy administration	.23	4.96	.001
Johnson administration	.11	3.11	.001
Nixon administration	.19	5.01	.0001
Ford administration	.07	1.37	<i>ns</i>
Carter administration	.13	3.25	.001
Reagan administration	-.12	-2.97	.01

of Soviet complexity in the previous two quarter-year periods, American complexity in the present, competitive and coordinative policy initiatives by the Soviet Union, and American presidential elections. I shall consider here both the similarities and the differences in the predictors of American and Soviet complexity.

The most salient similarity in the American and Soviet data is the highly significant link between integrative complexity and competitive-versus-coordinative policy initiatives. In general, upward shifts in integrative complexity were associated with successful coordinative behavior (agreement on important bilateral or multilateral issues relevant to American-Soviet relations); downward shifts in integrative complexity were associated with competitive behavior (political or military interventions abroad). One can interpret this powerful association between integrative complexity and competitive-coordinative foreign policy behavior in either information processing or political impression management terms.

According to the information processing interpretation, American and Soviet foreign policy statements are indicators of how key policy makers actually view the relationship between their countries. Shifts in integrative complexity may occur as a result of changes in either personality or situational variables—for example, the emergence of new leaders with simpler or more complex cognitive styles (Tetlock, 1984), crisis-induced stress (Staw, Sandelands, & Dutton, 1981; Suedfeld & Tetlock, 1977), or the adoption of new styles of small group or organizational decision making (Janis, 1982; Tetlock, 1979). Whatever the causes of the shifts in styles of thinking, however, the shifts are by no means inconsequential, for the complexity of policy makers' thinking shapes their assessments of how to deal with conflicts of interest between the superpowers. Policy makers who think about American-Soviet disputes in simple, black-white terms will tend to be especially suspicious of coordinative solutions to conflicts, and prone to resort to pressure tactics to coerce concessions from the other side (cf. Driver, 1965). By contrast, integratively complex policy makers will tend (a) to make active efforts to see disputes from the perspective of the other side as well as from their own (e.g., introducing a new weapons system may not only increase

one's own deterrent capability, but also the vulnerability of the other side to a first strike, prompting the other side to develop new weapons systems to compensate for its weakness), and (b) to seek ways of integrating different perspectives on disputes into compromise proposals that satisfy at least to some degree the needs of both parties (e.g., developing integrative formulas that take into account the distinctive strengths and weaknesses of the strategic forces of the two sides).

According to the political impression management interpretation American and Soviet foreign policy statements are better viewed not as indicators of true perceptions, but as strategic communications designed to manipulate target audiences in desired ways. Shifts in integrative complexity occur as a result of often carefully calculated decisions to create particular impressions (tough, conciliatory, etc.) on particular domestic or international audiences. From this perspective, the integrative complexity of communications is a manifestation (not a determinant) of a competitive or coordinative bargaining strategy. Through integratively simple rhetoric, one seeks to convince important domestic and international audiences that little flexibility exists in one's negotiation posture and that it is up to the other side to make major concessions; through integratively complex rhetoric, one seeks to convince the same audiences that one realizes the needs of the other side must be taken into account and that bargaining room exists for arriving at a mutually acceptable compromise agreement.

There also, however, existed important differences in the linkage between integrative complexity and policy initiatives in the American and Soviet data. One unresolved question is why Soviet complexity shifts tended to precede Soviet policy initiatives, whereas American complexity shifts tended to occur at the same time as American policy initiatives. One possibility is that Soviet foreign policy is more "premeditated" than American foreign policy. This line of speculation gains some credibility from influential analyses of the belief systems or operational codes of Soviet leaders (Adomait, 1981; George, 1969; Leites, 1953). Perhaps the most basic of the postulated operational principles of Soviet foreign policy is "to refrain from competitive risk-taking without careful



calculation" and "to move forward only after thorough preparation" (Adomeit, 1981, p. 360). The Soviet leadership may often decide to undertake competitive or coordinative policies well in advance of actually implementing these policies. Shifts in integrative complexity that occur before major decisions may constitute anticipatory justifications for these decisions—justifications that serve important political functions. Downward shifts signal that the Soviet Union is about to enter into a more competitive relationship with the United States; upward shifts signal an increased willingness to enter into "constructive dialogue" (to use diplomatic parlance) with the United States. A second, more cognitive interpretation is the "leakage" hypothesis. Changes in the integrative complexity of the perceptions of Soviet leaders, or perhaps changes in the influence of integratively simple versus complex factions of the Soviet leadership, are reflected in changes in the complexity of official Soviet statements. A rare glimpse is offered in this view of how key Soviet decision makers are actually thinking. These shifts in integrative complexity may, moreover, have causal significance. Simpler thought processes may predispose policy makers to adopt competitive policies; more complex thought processes may predispose policy makers to adopt coordinative ones.

These speculations still leave much of the American data unexplained. It is not sufficient simply to postulate that American foreign policy statements are more reactive to the immediate situation than are Soviet foreign policy statements. At best, this hypothesis only explains the data on competitive American initiatives that, it is often maintained, are responses to Soviet threats to Western spheres of influence (e.g., the Iranian crisis of 1946, the communist insurgency in Greece, the Korean war). Proponents of the reactivity hypothesis are hard pressed to explain the data on coordinative American initiatives, for, in these cases, one finds not only the predicted upturn in integrative complexity at the time of major agreements, but also an unexpected downturn in integrative complexity two quarter-year periods before major agreements (a pattern very different from that displayed in the Soviet data). This latter finding lends itself readily to a political impression management

interpretation. Downward shifts in American complexity two quarter-year periods before agreements appear well designed to achieve two important political objectives simultaneously: (a) to convince domestic American constituencies (particularly hardliners) that the current administration is trying to strike a "tough bargain" with the Soviet Union, and (b) to convince the Soviet Union that definite limits exist on American willingness to make concessions and that the Soviets need to be more forthcoming in their approach to the negotiations.

The data also supported the hypothesis that the complexity levels of American and Soviet foreign policy statements influence each other. This point might seem self-evident from Figures 1 through 4: The integrative complexity of the two nations' statements rarely sharply diverges. However, the time-series regression analyses also revealed a less obvious finding. Whereas the complexity of Soviet statements was a function of American complexity in the same time period, the complexity of American statements was a function of Soviet complexity in the previous quarter-year period. Such results must, of course, be interpreted carefully (like the other regression results, they may be contingent on the types of predictor variables in the regression equations for American and Soviet complexity). However, given the large number of predictor variables controlled for in the analyses, some confidence in the findings is justified. Soviet policy makers do, indeed, appear more attuned to fluctuations in the complexity of American rhetoric than their American counterparts are to fluctuations in the complexity of Soviet rhetoric. This asymmetrical pattern may be related to the already noted tendency for shifts in Soviet integrative complexity to occur in the quarter-year periods before major Soviet competitive or coordinative acts, and for shifts in American integrative complexity to occur in the same quarter-year periods as major American competitive or coordinative acts. Perhaps American policy makers have learned to adopt a wait-and-see attitude toward shifts in the complexity of Soviet rhetoric, whereas Soviet leaders have learned to associate shifts in the complexity of American rhetoric with imminent competitive or coordinative initiatives by the American government.

Also illuminating are the effects of introducing American complexity levels as predictors of Soviet complexity on the importance of other predictors of Soviet complexity. For instance, introducing American complexity levels via two-stage least squares procedures had virtually no effect on the tendency for Soviet complexity levels to rise before major agreements and to fall before major Soviet competitive acts, but greatly reduced the tendency for Soviet complexity to rise in the same quarters as major agreements and to fall in the same quarters as major Soviet competitive acts. The time-lagged effects are not at all responsive to American statements; the contemporaneous effects are highly responsive to American statements. This pattern suggests that the time-lagged and contemporaneous effects are the product of different psychological or political processes. The contemporaneous effects are best interpreted as the result of a complex interactive process. On the one hand, the integrative complexity of current American statements appears to influence current Soviet complexity. On the other hand, current American complexity appears to be influenced by Soviet complexity in the previous quarter-year period (a variable that also influences current Soviet complexity), competitive Soviet initiatives in the present, and major American-Soviet agreements in the present. In view of the closely intertwined nature of these variables, it should not be surprising that controlling for current American complexity substantially reduces the contemporaneous links between Soviet policy initiatives and complexity of Soviet rhetoric. By contrast, the time-lagged effects do not fit readily into the ongoing pattern of American-Soviet communication. In these cases, the Soviets appear to be spontaneously initiating change in their relationship with the United States. Advertently or inadvertently, the Soviets signal their intention to engage in major competitive or coordinative initiatives in the next quarter-year period. This signal, moreover, cannot be explained away as a function of the other predictor variables in the statistical model of the Soviet data.

Including American complexity as a predictor of Soviet complexity also substantially reduced the relation between Soviet leadership variables and Soviet complexity. Before American complexity was included in the

regression equation, the Stalin and Khrushchev/Malenkov leadership periods were associated with significantly lower levels of integrative complexity than were the other leadership periods. These trends fell far short of significance after American complexity levels were included in the regression equation. This finding is open to two different, and difficult to disentangle, interpretations: (a) A major reason that the Soviets issued less integratively complex statements in the Stalin and Khrushchev/Malenkov periods was merely to match the low integrative complexity of American statements; the leadership effects are, in this view, artifactual. (b) During the Stalin and Khrushchev/Malenkov periods, the Soviets issued less integratively complex statements and engaged in more competitive and less coordinative behavior than in later leadership periods. This combination of factors lowered the integrative complexity of American policy statements. The leadership effects are, in this view, real (reflections of the distinctive policy priorities and rhetorical styles of the Stalin and Khrushchev/Malenkov periods). Elimination of the leadership effects by controlling for American complexity is artifactual (because American complexity itself is a function of the different policy priorities and rhetorical styles of Soviet leaders).

Including Soviet complexity as a predictor of American complexity had very little impact on the importance of other variables as predictors of American complexity. The only effect that fell below statistical significance was the tendency for the Ford administration to be more integratively complex than the Truman administration (the base of comparison). The indeterminacy problems that arise in interpreting some of the Soviet effects are thus not as acute in the American case. Soviet complexity levels add to our ability to predict American complexity, but do not seriously erode the predictive power of other independent variables in the equation.

Domestic American politics appeared to influence the integrative complexity of American and, to a lesser extent, Soviet statements. As hypothesized, American complexity levels dropped off significantly in election years, especially in the third and fourth quarters of those years, and rose again in the first quarters of postelection years. This finding replicates

Tetlock's (1981a) analysis of pre- and post-election presidential speeches. The finding can be interpreted in several (not mutually exclusive) ways: (a) incumbent administrations do not want to be vulnerable to the charge of being "soft on the Russians" and, in anticipation of such criticism, simplify foreign policy statements relevant to American-Soviet relations; (b) incumbent administrations want to communicate to the Soviet Union their determination not to be pressured into making concessions in a period of domestic uncertainty; and (c) the last half of election years is a period of unusually high stress that encourages simple, good-bad information processing (Streufert & Streufert, 1978; Suedfeld & Tetlock, 1977).

The unexpected trend for Soviet complexity to decline in the first (but not in later) quarters of presidential election years is less easily explained. One possibility is that the downward Soviet shift represents a signal to American administrations not to seek domestic political advantage by pursuing confrontational tactics in dealings with the Soviet Union.

Significant variations in American integrative complexity also occurred as a function of presidential administrations. The data do not, however, support the hypothesis that conservative administrations would issue consistently less complex foreign policy statements than more moderate or liberal administrations. The current tone of American-Soviet relations and the interest of the administration in pursuing some form of detente relationship with the Soviet Union appeared to be more critical determinants of integrative complexity than the general ideological orientation of the administration. The two most complex administrations—those of Kennedy (moderate to liberal) and Nixon (conservative)—are distinguished by their systematic efforts to moderate American-Soviet competition (e.g., weapons testing, arms control) and to foster cooperation. The least complex administrations—those of Truman, Eisenhower, and Reagan—are distinguished by their emphasis on the need to deter Soviet "expansionism," and by their pessimism about achieving viable compromise agreements with the Soviet Union. These findings suggest that differences among presidential administrations reflect the relative interest of

administrations in competitive versus coordinative solutions to American-Soviet conflicts.

Differences in integrative complexity among presidential administrations should not, however, be taken automatically as evidence of the importance of presidential personality or ideology. Large within-administration shifts in integrative complexity also occur (otherwise the regression model for American complexity would not have been nearly so elaborate). As a result of events, presidents sometimes seem to change their policy orientations quite dramatically. Two examples are worth singling out: the sharp increase in the complexity of American policy statements in the aftermath of the Cuban missile crisis (a time at which President Kennedy estimated the likelihood of war to have been one in three) and the sharp decline in American complexity in the aftermath of the invasion of Afghanistan (an event that President Carter declared had forced him to rethink his views on detente and the Soviet Union). The Cuban missile crisis served as a catalyst to increased efforts to arrive at a stable modus vivendi with the Soviet Union, efforts that some writers have viewed as illustrating the applicability of tension reduction principles to American-Soviet relations (cf. White, 1984). The Afghanistan crisis, by contrast, marked the end of the era of detente and the beginning of what some writers have viewed as a new cold war (cf. Bialer, 1983).

Finally, it is appropriate to close by considering directions that future researchers might take as well as potential policy implications of the results. No single study can address more than a small fraction of the theoretical questions that one might want to pose. What is needed is a systematic research program on American-Soviet relations, one that explores the interrelations among a much broader range of variables than have been assessed here. This study, for instance, focused on only the integrative complexity of American and Soviet foreign policy rhetoric. The choice proved to be a good one (integrative complexity was related to many variables to which, on theoretical grounds, it should have been related); but integrative complexity coding far from exhausts the wealth of information contained in American and Soviet communications. One

could code the communications for negative affect (hostility) toward adversaries (C. E. Osgood, 1962; Tetlock, 1979, 1981b), positive affect toward one's own nation (C. E. Osgood, 1962; Tetlock, 1979, 1981b), power and affiliation imagery (Hermann, 1980; Winter & Stewart, 1977), internal-external locus of control (Hermann, 1980), and even presumptuousness (Stiles, 1978). Moreover, there exist good logical and empirical reasons for expecting many of these variables to be inter-correlated (e.g., negative affect toward out-groups and positive affect toward in-groups are negatively correlated with integrative complexity; Tetlock, 1979, 1981b); untangling the complex network of relations among these content analysis indicators is likely to be no small chore. This study can also be challenged for the simplicity of its classification of the foreign policy behavior of the superpowers. The competitive-coordinative distinction is, to be sure, a critical one (Pruitt, 1981), but alternative systems of act classification do exist in the large political science literature on event analysis (Callaghan, Brady, & Hermann, 1982). Multivariate content-analysis and time-series studies of both policy rhetoric and behavior represent the next logical step for research in this area.

With respect to policy implications of the data, it is useful to begin with a disclaimer. The results of this study do not tell us whether (or when) policy makers are well advised to be integratively simple or complex in their pronouncements. Much hinges on one's assumptions concerning the long-range intentions of the two superpowers. For some observers, particularly conservative deterrence theorists, the search for integratively complex resolutions of American-Soviet disputes is misguided, even dangerous. The Soviet Union is relentlessly expansionist, but pursues these expansionist goals with tactical flexibility. Although the Soviets appear at times to be interested in entering into bilateral or multilateral agreements with Western powers, such Soviet moves should not be taken at face value. The fundamental goals of Soviet foreign policy are supposed to be unalterable, determined by the regime's ideological commitments, its totalitarian nature, and its search for domestic legitimacy (R. E. Osgood, 1981). Integratively

complex rhetoric will only encourage the Soviets to look for weak spots in Western resolve and negotiation positions (cf. Grey, 1982; Pipes, 1977). For other observers, the preceding analysis is far too deterministic to capture the complex, contradictory and dynamic nature of reality (cf. Breslauer, 1983; Scalapino, 1981). To be sure, conflicts of-interest exist between the two superpowers. However, such conflicts of interest are not the full story. The American-Soviet relationship is best characterized as a mixed competitive-collaborative one, with the relative importance of the competitive and collaborative components varying from one issue domain or geopolitical context to another. Integrative complexity is vital—at the level of both private thought and public rhetoric—if the two countries are to be successful in protecting their own long-term security and welfare.

Although fundamental controversies concerning the nature of American-Soviet relations cannot be resolved in this article, the current study sheds light on more circumscribed issues. The data suggest, for instance, that the two sides are quite responsive to each other's rhetoric. Integrative simplicity begets simplicity; integrative complexity begets complexity. The data also suggest that the integrative complexity variable cannot be dismissed as "only words." The integrative complexity of policy statements is powerfully related to actual foreign policy behavior. In the Soviet case, moreover, integrative simplicity-complexity is a strong predictor of future policy initiatives. Observers concerned with forecasting trends in international relations (or other forms of interpersonal or intergroup conflict) should seriously consider including integrative complexity among their predictive tools. Policy makers concerned with preventing or ameliorating international conflict should seriously consider conducting quasi-experiments (in the spirit of Campbell, 1969, or C. E. Osgood, 1962) that are designed to explore the potential causal relations between competitive-coordinative behavior and integrative complexity of policy rhetoric. Does increasing the integrative complexity of one's rhetoric create a political atmosphere that encourages successful American-Soviet negotiations? Does decreasing the integrative complexity of one's rhetoric create

an atmosphere that encourages competitive policy initiatives? These questions are well worth pursuing.

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Received September 14, 1984

Revision received January 15, 1985 ■