ALLIANCE   COHESION:

NATO   AND   THE   WARSAW   PACT

by

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ABSTRACT

        This thesis reports the results of an attempt

to assess the influence of two variables, national power

base and degree of external threat, on the cohesion of

international alliances.   Two specific modern alliances

are examined: the North Atlantic Treaty Organization and

the Warsaw Pact.   The findings indicate that the expected

relationships between power base and alliance cohesion, and

between external threat and alliance cohesion, hold true

only for certain types of alliance members.

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CHAPTER I

THEORY AND RESEARCH ON ALLIANCES

Alliances of nation-states usually merit some attention in any general textbook in the field of international politics. The discussion of alliances, however, is more likely to be brief, anecdotal, and unsystematic than rigorous and exhaustive. When alliances have been examined more thoroughly, as a special topic of interest, the tendency has been to base the discussion on a number of unstated assumptions about the nature and importance of alliances, and to emphasize the most powerful alliances in existence at the time of writing. We are offered almost innumerable propositions about alliances in general; we are deluged with detailed observations on the functioning of a few specific alliances. Most, if not all, of these propositions, however, remain untested. Similarly, the relevance of observations of such specific alliances as NATO, CENTO, or the Triple Entente to other alliances is yet largely undetermined.

The purpose of the analysis below is to attempt to assess the applicability to NATO and the Warsaw Pact of some common propositions concerning the cohesion of alliances. Two general propositions will be examined: first, the common assertion that alliance cohesion will diminish as external threat to the alliance or alliance members lessens; second, the notion that alliance members will show evidence of increasing dis-satisfaction with the alliance as their national power grows.

An assessment of the implications and relevance of such an analysis can, I believe, be facilitated by some knowledge of past

research related to the subject of alliances, and of the successes and limitations of this research. The relevant literature falls into two broad categories: the international politics literature dealing with alliances in general or with specific alliances; and the experimental studies of small group coalitions.[1] The latter studies will be considered first.

Small Group Studies

A growing number of experimental studies of small groups and coalitions of individuals has appeared in the literature, in the past two decades, of sociology, game theory, social psychology, and other fields of psychology. This research has been concentrated mainly on two topics: coalition formation and group cohesion. The studies of coalition seem quite germane to an analysis of the formation of inter-national alliances, but they fall outside the scope of the present endeavour and, in any event, recent works by Chertkoff (1970), Kelley (1967 and 1970), and Zinnes (1970) provide well-reasoned assessments of the progress to date of research on coalition formation.

The other aspect of small groups which has received considerable attention is the cohesion of coalitions or groups. Kelley (1970, p. 483), summarizing a number of coalition studies, notes:

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1 The relevance of studies of small group coalitions to international politics has been largely ignored, with the notable exception of Zinnes (1970). Yet they offer a number of fairly rigorously tested propositions which seem particularly germane to alliances.

We then have the following dependent variables:

1. size of coalition
2. who actually join in coalitions
3. who actually join in winning coalitions
4. when coalitions will break up - or how long they will exist.
5. who seeks to bargain initially with whom
6. what, if any, the various regularities are in the bargaining processes attendant to the formation of coalitions.

All but the fourth variable are part of the process of coalition formation; the fourth variable refers to coalition cohesion.

The studies relating to cohesion may be divided into two groups: those examining coalition or group[2] cohesion as a dependent variable; and those employing cohesion as an independent or explanatory variable. Experiments falling into the latter category are outside the scope of this paper and will not be discussed here.

It should be noted, first, that the concept of cohesion has proved difficult to define operationally. Hagstrom and Selvin (1965) employed factor analysis on the data from a small group experiment in an attempt to determine the major components of cohesion. They found two major dimensions: social satisfaction and sociometric cohesion. Social satisfaction includes satisfaction with the group and with social life. The sociometric cohesion dimension is given that label because it is highly correlated with such sociometric measures as "proportion of best friends in the group and proportion who seek personal advice from other

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2 Many of these studies are small group experiments with no explicit reference to coalitions.

group members," (pp. 35-6), as well as such measures as group size. They
conclude,

> The first factor, social satisfaction, may be said
> to measure the instrumental attractiveness of the
> groups . . . The second factor, sociometric cohesion,
> may be said to measure intrinsic attractiveness,
> the degree to which members are attracted by values
> internal to the group. We have shown that it is
> necessary to consider both factors in studying the
> dynamics of small group behavior.   (p. 41)

This, of course, says nothing about the reliability with which Hagstrom
and Selvin's dimensions actually do represent instrumental and intrinsic
attractiveness. Further, we have no guarantee that cohesion is, in
fact, a two-dimensional (rather than 3, 4, or n-dimensional) concept.

Still, Hagstrom and Selvin have improved considerably on
Festinger's definition of cohesion as 'the resultant of all forces
influencing the members to remain in the group. These forces may depend
on the attractiveness of either the prestige of the group, members of
the group, or the activities in which the group engages.' (Quoted in
Albert, 1953, p. 232). Festinger offers no speculation, evidence, or
hypothesis about what, exactly, these 'forces' are.

Eisman (1959) also argues that cohesion is a non-unitary
concept. She used five different measures of cohesion[3] in a small

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3 "The following measures of cohesiveness were utilized: (a) a
   sociometric index based on friendship; (b) a direct rating of
   group attractiveness; (c) average number of reasons given by
   group members for belonging to the group; (d) number of same
   reasons for group membership given by a majority of the members;
   and (e) degree of similarity existing among group members with
   respect to their values."   (Eisman, 1959, p. 188)

group experiment and computed the rank order correlations (Kendall's

TAU) between the measures. No measure was related to any other at

the .05 level of significance or better. She offered the warning which

should be borne in mind when considering the comparability and generality

of the results of studies employing cohesion as a variable, that:

> It is hardly legitimate for us to attempt to generalize
> functional relationships between cohesiveness and other
> variables, such as group productivity, uniformity of
> opinion, etc., when cohesiveness, in the various
> empirical studies from which indications of these
> functional relationships come, is measured differently
> from one study to another.   (p. 186)

One variable commonly linked to cohesion in studies of coalitions

and small groups is threat to the group from an external source. Sherif,

et.al., (1961, in Singer 1965) reporting on the well known Robber's Cave

experiment, found a strong relationship between inter-group competition

on the one hand and in-group solidarity and co-operativeness on the other:

> The heightened in-group solidarity and co-operativeness
> were observed at the very time when inter-group
> hostility was at its peak, during the period when the
> groups asserted emphatically that they would not have
> anything more to do with each other.   (p. 429)

Boulding offers a similar conclusion. He hypothesized that a common

enemy serves as a unifying force, and offered anecdotal supporting

evidence from such disparate groups as international alliances, labor

unions, and churches (1962, p. 162).

Hamblin (in Singer, 1965) conducted an experiment testing the

relationship between group integration and crisis situations. Half the

subjects were placed in a crisis situation and half in a non-crisis

situation, and the extent of co-operative behavior was observed, with

the results tested for statistical significance (two-tailed t-test).

The availability of a cooperative or competitive solution to the crisis

was found to be an important intervening variable:

> Group integration decreases during a crisis if a
> likely solution to the crisis problem is unavailable.
> Group integration increases during a crisis if a
> likely cooperative solution to the crisis problem
> is present. Groups disintegrate during a crisis
> if a likely competitive solution to the crisis
> problem is present. (p. 230)

Cartwright and Zander (1960, p. 82) noted that, "It appears

that cohesiveness can be increased in some groups by attacks from the

environment." In support of this conclusion, they cite the experience

of Japanese-Americans in World War II relocation camps, and experiments

in boys camps conducted by Sherif.

Cartwright and Zander also refer to a study by Kelley[4] who

found a statistically significant relationship, in a small group

experiment, between the amount of prestige a person has in a group and

the extent of his attraction to the group. Exline and Ziller (1959)

offer some support for this finding. They conducted an experiment with

a discussion group with groups placed in a situation of either status

congruency or incongruency across two dimensions of status (ability and

voting power). The groups were required to perform certain tasks, and

the degree of interpersonal conflict was measured. Members of status

congruent groups argued with one another in discussion significantly

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4 H. H. Kelley, "Communication in Experimentally Created Hierarchies,"
Human Relations, IV (1950, pp. 39-56).

more often than status incongruent groups; however,

> ... members of status congruent groups rated their
> co-workers no more favorably and no less critically
> than did members of incongruent groups. It was
> suggested that these findings pointed to the desir-
> ability of differentiating the concept of interpersonal
> conflict into objective and affective components. (p. 160)

Exline and Ziller concluded that the hypothesized relationship between

status incongruency and intra-group conflict held true in cases of

objective, but not affective components of conflict.

Kelman (in Singer, 1965) offered further modification of the

hypothesis. He offered a set of hypotheses relating kinds of power to

type of conformity:

> 1. To the extent to which the power of the influencing
>   agent is based on means-control, conformity will
>   tend to take the form of compliance.
> 2. To the extent to which the power of the influencing
>   agent is based on attractiveness, conformity will
>   tend to take the form of identification.
> 3. To the extent to which the power of the influencing
>   agent is based on credibility, conformity will tend
>   to take the form of internalization. (p. 234-5)

Responses to a questionnaire indicated that all of these hypotheses were

supported statistically at the .05 level of significance or better. In

comparing these findings with those reported by Cartwright and Zander,

and by Exline and Ziller, however, it must be recalled, that each study

used a slightly different independent variable: prestige; status in-

congruency; and power; and possibly non-comparable dependent variables:

attraction to the group, intra-group conflict, and conformity.

The reliability and significance of the findings of the small

group studies are enhanced by the fact that they are mainly based on

rigorous experimental research much of which has been replicated, and some of which has been found to be in need of modification. On the other hand, the generality of the findings is hampered by the limitation that the findings on group cohesion are largely based on a single explanatory variable, and, unfortunately, usually the same single explanatory variable: external threat. We lack information concerning the relative explanatory power of the independent variables employed in comparison with other possible independent variables, and about the possible importance of interaction effects between different explanatory variables. We also lack any information concerning the relevance of these findings to international relations. Derived, as they are, from experimental studies of individuals, the applicability of these propositions to international relations should be regarded as tenuous and questionable. Nevertheless, there is fairly strong support for the relevance of differences in level of external threat to cohesion in small groups, and an examination of this factor in the context of international alliances may be a fruitful line of inquiry.

The Study of Alliances in International Politics

The international politics counterpart to the studies of coalitions and interaction in small groups is the large body of literature on alliances. Alliance has some properties in common with other forms of international co-operation, but, as Fedder notes (1968, p. 69), it is important to distinguish alliance from other forms of organized international co-operation or alignment, and from collective security arrangements. The first distinction was aptly made by Friedman. He noted

certain factors common to associations among nation-states (in Friedman,

Bladen, and Rosen, eds., 1970, pp. 4-5):

a. pairing or collaboration with one another for a
limited duration regarding a mutually perceived
problem;

b. aggregation of their capabilities for participation
in international affairs;

c. pursuit of national interests jointly or by parallel
courses of action;

d. probability that assistance will be rendered by
members to one another.

... What distinguishes alliance from other experiences
of international cooperation, such as integration, multi-
national community building and economic partnership, is
the presence of such pivotal factors as:

a. existence of an enemy or enemies, actual or
anticipated;
b. contemplation of military engagement and the
risk of war;
c. mutuality of interest in either the preservation
of the status quo or aggrandizement in regard to
territory, population, strategic resources, and
so forth.

An alliance may be distinguished from a collective security arrangement

by the fact that an alliance need not be universal (Fedder, 1968, p. 80)

while universal or near-universal adherence to collective security is

necessary in order for it to function properly (Claude, 1964, Chap. 12),

and by the fact that a collective security system is aimed at maintenance

of the status quo, while an alliance can be aimed at either preservation

or disruption of the status quo.

The literature on alliances can be fruitfully divided up accord-

ing to the approach taken by various authors. Just as the studies on

small groups and coalitions comprised a number of different approaches so, too, with the literature in international relations. We have, first, a large group of studies which might be lumped together under the term 'equilibrium models and analyses,' that is, those works which examine international politics in terms of the balance of power, the structure of the international system, or the search for 'stability'. Since such a large proportion of the international politics literature fits into this category, it seems advisable to further subdivide them to facilitate analysis. Accordingly, I shall consider first, those studies utilizing the 'equilibrium' approach which are of limited scope, that is, those which deal only with one alliance (or, occasionally, two alliances which exist at the same time in the same geographical area). The second group of studies deal with a broader range of alliances (e.g. the alliance policies of new states; European alliances since the 19th century; or all post-World War II American alliances) than the first group, either in terms of geographical area or time span, but still do not claim universal relevance. The third group of studies apply, or at least purport to apply, to alliances in general, though often with the caution that the conclusions are probably not relevant to alliances which existed before some time period, such as World War II.

Most of the case studies of alliances deal with NATO and the Warsaw Pact, a reflection, probably, of the fact that most of them were written in the Post-World War II period, and of the obvious importance and long life-span of these two alliances. A number of studies of the Communist system also merit attention for their insights into the

dynamics of relations in a group of nations, although the Communist

system is not an alliance but rather an alignment of states.

Triska and Finley (1965) suggested that in a bipolar inter-

national system competing alliances tend to mirror one another. The

establishment of the North Atlantic Treaty Organization, they pointed

out, led eventually to the establishment of a similar alliance in the

East, the Warsaw Pact. The latter organization "presents a near mirror-

image of NATO - a concept of unified military resources rationalized as

a Societ-East European defense system against the NATO threat." (pp. 38-9)

They suggested, then, that the Warsaw Pact was formed in response to

the threat posed by the existence of NATO.

Calvocoressi (1966) based his analysis, as did Triska and

Finley, on anecdotal data about NATO and the Warsaw Pact. However,

while Triska and Finley limited themselves to a discussion of the

symmetrical formation and organization of the East and West alliances,

Calvocoressi was concerned, instead, mainly with the demands alliance

members make on each other. His impressionistic analysis of events

concerning NATO and the Pact suggested a number of factors which might

hamper the cohesion of an alliance: decreased external threat; growing

strength of minor alliance members; disapproval of the alliance leader's

policies; neglect of the interests of minor alliance members in con-

frontations between the superpowers; great disparity in the relative

strengths of alliance members; progress in integration among a subset

of alliance members, excluding others; and, in an alliance based on

nuclear deterrence, a decline in the credibility of that deterrent (pp. 358-

360). He noted also that the military pressure of the Korean War led to pressures by the U.S. for greater assumption of alliance burdens by other members (p. 357). Eastern Europe's domestic dissatisfaction with the Warsaw Pact may, Calvocoressi suggested, inspire more responsive policies on the part of the alliance leader (pp. 363-4). None of these observations, however, were tested by application to other alliances, nor even systematically examined in the context of NATO and the Warsaw Pact.

Other articles and books dealing with NATO reflect the same preoccupation with the cohesion of the alliance, as well as a proclivity for the use of anecdotal evidence. It is impossible to do more than scratch the surface of the NATO literature here, but the following examples are, I believe, representative of the research and analysis to date, excluding the endless discussions of organizational structures and nuclear strategy to be found in such sources as The Atlantic Community Quarterly, and the studies which fall into other categories to be discussed below, such as transaction analyses and more general studies employing the equilibrium approach.

Marshall (in Wolfers, 1964), and Pfaltzgraff (1969) both emphasize the effect of changes in external threat on alliance cohesion. Marshall hypothesized that the East-West detente of the 1960's may have a disintegrative effect on NATO (p. 19). Pfaltzgraff, in a sense, tested this proposition in his discussion of the effect of the Czeckoslovak crisis of 1968 on the Atlantic Alliance. He noted the disunity in NATO before the crisis and concluded that:

> ... in the presence of perceived external threat,
> NATO members took steps to increase their force
> levels and improve the quality of their military
> capabilities. Moreover, they attempted to make
> improvements in the planning machinery and consulta-
> tion procedures within the alliance. (p. 220)

Arnold Wolfers (1959, p. 3) also offered the proposition that external

danger enhances alliance cohesion, or, more specifically, encourages

allies to rally around the alliance leader. Wolfers, as with the

previous authors, based his analysis on anecdotal evidence about NATO.

He also suggested a number of other factors which might be related to

alliance cohesion: idiosyncratic qualities of leaders; discrepancy in

capabilities of allies; the end of the American nuclear monopoly; and

varied goals of members (pp. 4 - 11). The latter factor is also

mentioned, in somewhat different terms, by von Brentano (1961, p. 422):

"The subjective limit of loyalty to an alliance seems to be reached as

soon as a nation feels that vital interests of its own are at stake ..."

Bowie (1963, pp. 52-9), writing in the same impressionistic

fashion, also suggested that alliance tension would be created by

differing national goals. Morgenthau (1957) discussed events in NATO

before 1957, concentrating on relations between the U.S. and Britain

and the U.S. and France. He, like Wolfers and von Brentano, concluded

that divergent interests of alliance members may cause tension in the

alliance (pp. 24-5). Morgenthau also offered the proposition, which has

been common to many of the articles already cited, that reduction of

threat and increased power of weaker alliance members may lead to

reduced alliance cohesion; and in addition he suggested that formation

of a coalition is caused by perceived threat (pp. 22-3).

Steel (1964, pp. 21:16) suggested the same conclusions:
weak nations enter into alliances in response to external threat,
and alliances will be disrupted as external threat diminishes and
the weak become stronger (especially if they develop nuclear weapons:
pp. 34-7). It is interesting to note, however, that Steel's
hypotheses posit an interaction between the characteristics of nations
(weak - strong) and the system level variable of external threat; he
suggested that combinations of these two elements lead to alliance
formation and disruption.

Studies of the Communist system lend support to the conclusion
in many of the NATO studies that external threat has a significant
influence on alliance cohesion. Dallin, for example (1963, pp. 153,
162), concluded that conflict between the Soviet Union and China varies
directly with the difference in Sino-Soviet perceptions and attitudes
toward the United States. Lowenthal (1963, pp. 115-6) found that the
only significant factor promoting unity in the communist system was
conflict with the West. Brzezinski (1963, p. 522) hypothesized that
the Sino-Soviet conflict might lead to an upswing in Soviet relations
with Eastern Europe. Brzezinski also noted the importance of an ideology
as a unifying factor (pp. 513-4), as did Schwartz (1963, pp. 38, 44-8).
And Halpern (1963, pp. 117, 129), presenting anecdotal evidence to support
his views, suggested that formation of subcoalitions in an alliance might
be a de-unifying factor.

Not all of the research on alliances in this category is
restricted to the post-World War II blocs, however. Hardy (1919, pp. 260-5),

discussing the Argentina-Brazil-Chile alliance of 1919 found the same

relationships between external threat and alliance cohesion, and between

changing international roles and alliance cohesion, which were found in

the studies of post-World War II alliances, employing the same anecdotal

type of data and impressionistic style of analysis. Studies of World

War I alliances also offer familiar conclusions. Allen (1920, p. 449)

for example, suggested that it was the "contemplation of war" which led

to formation of the Triple Alliance and the Triple Entente. Craig (1965,

pp. 336-40) discussed the importance of trust and attitudinal similarity

among allies for alliance cohesion.

The second category of research utilizing the 'equilibrium'

approach comprises a small group of studies each of which focuses on

a particular area and particular historical period, though not on a

particular alliance. All of these studies considered here rely on

historical anecdotes for evidence rather than any systematically

gathered data, and all but one (Good, in Martin, 1962) attempt to explain

their topics through the perspective of system-level variables, that is,

in terms of such things as number and type of units or actors in the

international system, the characteristic relationships among those

units, and/or the configuration of the system. Good's explanation hinges

on the nation-state attribute of recency of independence. A new state,

he suggests, will (p. 8) want "to pick up its own franchise, speak with

its own voice, and demonstrate its own capacities. Alignment with a bloc

means a renewed loss of voice and identity." Domestic factors, such as

radical pressure and need to maintain power, are also held to militate

against alignment.

Stevens (1961, p. 45) discussed the importance of external

threat to alliance cohesion, in the context of American alliances

in the post-World War II period:

> Some countries directly under the gun - West Germany,
> South Korea, and Nationalist China, for example - are
> enthusiastic allies ... Others had to be pressed into
> treaty organizations, with the guarantee of lavish U.S.
> military aid as the decisive factor.

Stevens, then, reaches a conclusion often mentioned in the studies of

small groups and in the case studies which follow the equilibrium

approach.

Haas (1969) discussed the effect on alliances (specifically

NATO, SEATO, and the OAS) of changing international conditions,

particularly the amount of threat emanating from the environment (p. 113).

He noted (p. 98) that changed conditions can provoke two kinds of

responses in alliances: "a desire to withdraw from the entangling

alliance or a commitment to improve it by strengthening the web."

Herz (1959) found that intra-bloc relations in a bipolar

international system may be strained by power inequalities: (p. 143)

" ... the superpower is going to be confronted with counterforces and

counterinfluences on the part of its allies, particularly the stronger

ones among them." His analysis dealt mainly with NATO and the Warsaw

Pact, but might be generalized to any bipolar system.

The last group of studies following the 'equilibrium' approach

comprises those works which cover an extended time period and/or a large

number of alliances. They are, in other words, more inclusive than the

equilibrium type of analyses discussed above and, consequently, the
conclusions reached in these studies are more likely to be generally
applicable, though perhaps less accurate in their application to
specific alliances than the case studies of those alliances.

A number of these authors treated alliances quite briefly.
Particularly in older textbooks, alliances in general were considered
to be a balancing mechanism in, or an integral part of, a balance of
power system, with more or less appropriate examples given (Cf. Beloff,
1955, p. 71; Claude, 1962, p. 89; Hill, 1963, pp. 254-255; Morgenthau,
1967, pp. 175-187; Organski, 1968, p. 277; Padelford and Lincoln, 1967,
p. 309; Palmer and Perkins, 1967, p. 255). These studies usually refer
to formal military alliances in any system which might be appropriately
described as a balance of power system.

Other authors have discussed the effect on alliances of a
change in the nature of the international system. Rosecrance (1966, p. 320)
suggested that as the international system becomes more multi-polar, the
significance of shifts in alliances lessens, although the uncertainty
arising from shifting alliance patterns increases. Dinerstein (1965)
argued that the international system changed to a bipolar power con-
figuration, particularly with the development of nuclear capability. As
a result, he contended, alliances now differ from pre-World War II
alliances in three ways:

    (1)   political goals have superseded military;
    (2)   the relative power and the number of participant
            states have altered significantly;
    (3)   ideology has become a major factor.
                                     (p. 593)

Because of these three factors, Dinerstein suggested, alliances have become more durable and extend over a broader geographic area. He offered no evidence, however, to support the conclusion that the change in the nature of alliances can be best explained by the factors he has suggested rather than by other changes in the system. (See Fedder, 1968, pp. 72-75).

The concern with cohesion of alliances, manifested in the alliance case studies discussed above, is also evident in these more general studies. Stoessinger (1969, pp. 145-146, 156-157) suggested that the cohesion of post-World War II alliances is affected by such factors as intra-bloc political and military tensions; threat perception; and ideology. Stoessinger's examples are drawn solely from current American alliances, with no attempt to generalize his conclusions to other historical periods or to alliances outside of the cold war blocs.

Wolfers (1962) also concentrated his attention on the subject of alliance cohesion. Unlike Stoessinger, however, he referred to war-time as well as peacetime alliances and to a broader historical period. He, too, noted that alliance cohesion may be undermined by a diminution of external threat, or by suspicions concerning the reliability of allied pledges of future assistance (p. 29), among other factors.

A few authors have offered more complete theories of alliances, with consideration given to a number of aspects of alliances rather than just alliance formation or cohesion. Osgood (1968) emphasized post-World War II American alliances, but his examples also include references to eighteenth and nineteenth century alliances and to alliances in the

two world wars. He suggested that:

> There are four principle functions of alliances,
> and they are not necessarily mutually exclusive:
> accretion of power, internal security, restraint
> of allies, and international order.
>
> (p. 21)

Osgood also considered the creation, duration, and decline of alliances.

He concluded that a number of "determinants" might have a significant

effect on these aspects of alliances: the pattern of divergent and

convergent interests of members; the distribution of military power;

the "alliance capability" of members, that is, such factors as internal

stability, economic strength, and a predictable foreign policy; and the

subjective attitude of governments toward alliances (pp. 22-24).

K. J. Holsti (1967) has examined alliances over a very broad

time span, including examples from the Greek city-state system, wartime

alliances, and modern alliances. His analysis included discussion of

alliance formation, duration, structure, and cohesion, paying particular

attention to the configuration of alliances in different types of inter-

national systems. He noted that alliances appear in all types of

international systems except hierarchical systems, and that alliances

tend to be temporary in a 'diffuse' international system while in a

'polar' system or a 'diffuse-bloc' system alliances tend to be closely-

knit and fairly durable structures (p. 110). Holsti, as did many of the

authors discussed above, noted the importance of perceived threat for

alliances:

> Common perceptions of threat are probably the most
> frequent sources of alliance strategies. As
> Thucydides noted over 2,000 years ago, mutual fear

is the only solid basis upon which to organize an
alliance ...
If all partners of a defensive military coalition
perceive a common enemy or threat, the alliance is
likely to withstand strains caused by ideological
incompatibilities or distrust arising from
personality differences between political leaders.
(pp. 111, 116)

Holsti also suggested that incompatible major social and political

values may produce strains in military alliances and that, in the

modern era, the development of nuclear capability may have divisive

consequences for alliances (pp. 117 -119).

Morgenthau (in Wolfers, 1959, pp. 189-193) identified three

types of "interests" which alliances serve: identical, complementary,

and ideological. An alliance based solely on ideology, he suggested,

would be of very short duration while one based on common interests,

such as mutually perceived threat or economic and military complementarity,

would be more likely to last. Both the distribution of benefits among

members and the policies of an alliance, he concluded, would be likely

to reflect the distribution of power in the alliance.

Liska (1962) offered a wide variety of observations about

alliances based on anecdotal references to alliances in the nineteenth

and twentieth centuries, paying particular attention to alliances since

World War II. Liska discussed such varied aspects of alliances as the

credibility of allies, the attraction of strong states for weak ones,

the influence of small states in an alliance, and alliance efficacy, but

he paid particular attention to the subjects of alliance formation,

cohesion, and disruption. He concluded that the primary impetus to

alliance formation is external threat, with other factors such as

national strength or weakness, ideological affinity, and economic complementarity playing a secondary role (pp. 12-14). Alliance cohesion, he suggested, appears to be enhanced by domestic stability of members, common ideology, consultation among allies, complementary interests, the ability of the alliance to respond to change, and perceived external threat. On the other hand, alliance cohesion may be adversely affected by nuclear diffusion in an alliance, domestic instability of members, derangement of the alliance's status hierarchy, or willingness of allies to run risks in their own interests without regard to the interests of the alliance, among other factors.

Edwards' (1969) discussion of alliances probably cannot properly be classified as an example of the systemic or equilibrium approach, but his style approximates this category of literature more closely than it does the coalition studies or the other analyses which will be examined below. Edwards suggested that the "key issues" for analysis of alliances are the reasons for the decision to form an alliance; the determinants of the nature and form of the alliance; the "morphology" of alliance relations, that is, the interaction of the allies; the expansion or deterioration of the alliance, if any; and the determinants of the time and manner in which the alliance will terminate. (p. 209).

Edwards examined the first issue only: alliance formation. On the basis of anecdotal evidence on the WarsawPact, he hypothesized that three conditions are conducive to alliances (p. 227):

> ... a precipitating threatening change in the
> military situation, a desire by the dominant

> power to increase its position of strength against
> the adversary, and a desire to increase its
> influence over its new allies when each of these
> was weakening or threatened.

He found that these conditions applied to varying degrees to other

current alliances such as NATO, SEATO, and the Sino-Soviet alliance,

though the third condition may be "more a consequence than an objective"

(p. 227) of alliance formation.

To summarize briefly, the studies which I have grouped in the

equilibrium category share with the coalition studies an emphasis on the

formation and cohesion of alliances or coalitions with other aspects of

the topic receiving less attention. There are, however, some notable

differences between the two bodies of literature. First, the coalition

studies generally rely upon experimental evidence to support their

findings, while the evidence used in the equilibrium analyses is

anecdotal. Second, the studies of coalitions, while they do offer

explanatory propositions, seem more concerned with predicting what

coalitions will form and how extensive a group's cohesion will be given

certain circumstances. On the other hand, while predictions are commonly

implicit in the equilibrium studies, these authors are more directly

concerned with describing and explaining the situation as they find it.

Third, particularly in the studies of coalition formation, there is a

conscious effort to build theory on the basis of previous findings and

speculations. Although this tendency may operate to some extent in the

studies of alliances, there is no evidence of a comparable conscious

effort to build on the work of others. Fourth, the conclusions of the

equilibrium studies are usually more generally applicable than those of

the coalition studies, though this may be to some degree an artifact of failure to specify the limitations of the former studies. And fifth, the authors of the equilibrium type of studies almost invariably suggest a number of possible explanatory variables to explain the observed variations in their dependent variable(s), while the authors of the coalition studies tend to concentrate their attention on the influence of one explanatory variable on one dependent variable.

<div align="center">*   *   *</div>

While a large number of studies have been grouped above into the equilibrium category, by no means all of the international politics literature follow this approach. A second approach common to international politics emphasizes transactions between or among states, that is, trade patterns, communications, student and professional exchanges, etcetera.

The studies of inter-state negotiation, which fall into this category since negotiation is a form of communication, devote little space to alliances except insofar as alliances might affect negotiating procedures. Lall (1966), for example, noted that the relative power of allies might affect negotiating positions; powerful states might be in a more vulnerable bargaining position vis-à-vis smaller allies than vis-à-vis small states with which they are not allied (p. 189). Iklé (1964, pp. 126-7) suggested that summit diplomacy between national leaders might facilitate agreement among alliance members. Lall supported his hypothesis with anecdotal references to relations among

Communist states. Iklé referred to NATO and the Warsaw Pact.

While studies of formal negotiations have contributed little to our knowledge of alliances, studies of other forms of inter-state communication have been more revealing. Two analyses of the Sino-Soviet dyadic alliance employing the same type of data report roughly the same conclusion. O. R. Holsti (in Triska, 1969) hypothesized "that intra-bloc relations vary systematically according to the level of inter-bloc conflict." (p. 339). He conducted a content analysis of 39 Soviet and 45 Chinese documents issued between 1950 and 1965, and concluded:

> Although the data lend strong support to the hypothesis examined here, it seems advisable to interpret the results with great caution. It would be particularly hazardous to conclude that other factors - such as those of personality, ideology, or domestic policy - play no significant role ... A more tenable conclusion might be that East-West tension may be a necessary, but is not a sufficient, condition for Sino-Soviet cohesion.
>
> (p. 349)

Zaninovich (1962) conducted a similar study with a similar hypothesis: that perceptual configuration in a dyadic relationship will be different in crisis and no-crisis periods (p. 265). His pattern analysis of Soviet and Chinese foreign policy statements in a crisis (January, 1960) and a non-crisis (May, 1960) period confirmed the hypothesis, lending some support to Holsti's finding.

Two other authors examined different transactions in the Sino-Soviet dyad. Freeberne's (1965) anecdotal analysis of Sino-Soviet statements suggested that racial issues play an important role in the Sino-Soviet conflict (pp. 411-416). And Hoeffding (1963) noted that

Sino-Soviet economic interactions decreased as the conflict between the two nations increased in intensity.

Some of the literature on integration has dealt with the importance of transactions. Jacob and Teune (in Jacob and Toscano, 1964) suggested a number of variables which might enhance the success of integration, including homogeneity; governmental effectiveness; previous integrative experience; transaction quantities; and common functional interests among others (pp. 15-16; 27-44). Teune (in Jacob and Toscano, 1964, p. 260) hypothesized that frequency of association might promote integrative spillover from one integrative sector to another. And Deutsch (in Jacob and Toscano, 1964, p. 102) deduced that the ratio of the increase in the rate of transactions to the growth of institutions determines whether or not integration will succeed. No test is conducted on any of these propositions, and in any event these studies would appear to have questionable relevance to the study of inter-state alliances.

Other authors have taken an economic approach to the study of alliances. Waltz (1967, pp. 67-68) suggested that a nation whose economic position relative to other nations is declining might be motivated to enter into alliances. He supported this contention with anecdotal reference to English alignments in the nineteenth and twentieth centuries. Cross (in Friedman, Bladen, and Rosen, 1970) examined deductively the relevance of the economic market model to alliances, hypothesizing that "the search for a 'best' alliance is no different in principle than the search for a lowest price." (p. 199) He noted that

the economic model implies that the gains to coalition members are
determined entirely by the environment, and found that in a three-
person group: (a) any coalition may form; (b) one of the players must
receive no gains; and (c) there is no use for the bargaining process
in the determination of which coalition will form (pp. 203-205). These
findings, Cross contended, should apply to any alliance situation so
long as members are motivated to maximize their gains, and membership
in any grouping precludes membership in-another.

Olson and Zeckhauser (1966) studied the relationship between
national income and extent of fulfilment of quotas in NATO and the U.N.
They found statistically significant relationships between size of a
member's national income and proportion of that income spent on defense;
between G.N.P. and extent of fulfilment of quotas in the U.N.; between
national income and percentage of national income devoted to infrastructure
expenses in NATO; and between national income and the _ratio_ of an
alliance member's share of the costs of alliance activities supported
by only some members to his share of the costs of activities supported
by all members of the alliance. The applicability of these findings to
alliances other than NATO, however, remains to be seen.

Kaplan (1957) offered a number of propositions about alliances,
deduced partly from game theoretic considerations and partly from systems
theory, occasionally supported by anecdotal references to post-World War II
alliances. Kaplan, in common with many of the other authors mentioned
above, noted the importance of external threat in coalition formation and
alliance cohesion (pp. 24-25). He also suggested that alliance cohesion

will be increased if members' perceptions of common interests are increased (p. 80) and that actions divergent from the group norm will be viewed as deviant the more those norms are perceived as legitimate (p. 110). Finally, Kaplan suggested that alliance memberships will tend to fluctuate more as the number of 'essential national actors' in the international system increases (p. 130).

A number of studies based on a structural-functional approach also offer relevant contributions to our knowledge of alliances. North, Koch, and Zinnes (1960, p. 367) offered the familiar hypothesis: "the threat of an external enemy - and that of an internal enemy, too - is likely to increase the cohesion of the 'in-group' organization." The proposition is supported by anecdotal evidence. Similarly, Coser (1956) explained coalition formation and cohesion mainly in terms of conflict. Bladen (in Friedman, Bladen, and Rosen, 1970, p. 121) suggested that, in order for an alliance to form, it is "a prerequisite that the partners perceive themselves under a common threat, facing a common enemy." He cited anecdotal evidence from alliances during and after World War II to support this proposition. Bladen also offered a distinction between alliance and integration (p. 126):

> Successful integration, having a significant basis in economics, would seem to imply continuing and increasing benefits. Alliance, by contrast, ceases to impart benefits to the full membership once the threat which brought it into being disappears. The tasks and functions which the two processes perform are radically different.

Scott (1967) offered a number of untested propositions about alliance cohesion. He suggested cohesion will be affected by the alliance's ability to respond to demands made upon it; amount of external

threat; and the extent to which the goals of the alliance and the goals of individual members coincide (pp. 111-117; 227-228). Guetzkow, (in Rosenau, 1961), on the other hand, concentrated his attention on nations' tendencies to act in isolation or collaboration. He proposed a number of potentially relevant factors, though he left their relative importance unexamined: a) previous experience with self-reliant or collaborative policies; b) the degree of ideological emphasis or isolation; c) the extent to which isolation or collaboration seems practical or advantageous; and d) the cultural homogeneity of group members (pp. 154-159).

Finally, we have a few experimental studies relevant to alliances which do not fit neatly into any of the categories discussed above. These include simulation studies and studies of attitudes.

Brody (1963) and Brody and Benham (in Pruitt and Snyder, 1969) examined the effect on alliances of the spread of nuclear weapons in simulation experiments. Brody (1963, pp. 731-741) rejected a number of hypotheses suggesting a lower degree of perceived threat after the spread of nuclear weapons. Brody and Benham hypothesized that alliance cohesion would decrease after the spread of nuclear weapons within the bloc. Their simulation study supported the following conclusion:

> Four key elements of the prespread system were different
> after the spread of nuclear capability: (a) threat
> external to the bloc was reduced, (b) threat internal
> to the bloc was increased, (c) the cohesiveness of the
> blocs was reduced, and (d) the bipolarity was fragmented.
> (1969, p. 173)

Gordon and Lerner (1965) reported a study of interviews of European elite attitudes. They found (pp. 421-426) that the greater the extent to which elites perceive the enemy as threatening, the greater their

reliance on the bloc leader and the greater their faith in the alliance.

Summary

The studies discussed above approach the topic of alliances in a variety of ways yet reach a number of similar conclusions. Some authors in almost every category have suggested that alliance cohesion will be significantly affected by external threat. A number of studies utilizing different approaches have reported a relationship between alliance cohesion and national power. Power has quite often been advanced as a significant determinant of coalition or alliance formation. Such factors as ideology and cultural, historical, and attitudinal homogeneity have been frequently advanced as having important implications, for alliance cohesion and effectiveness. And the nature of the international system has often been linked in a more or less causal manner, the causation being implied rather than demonstrated, to alliance formation, cohesion, and duration.

In short, the studies discussed above utilize varying methodologies and data, often with different primary concerns, and deal with differing levels of analysis. Nevertheless, the findings of these disparate analyses largely converge, particularly as regards the relationship between alliance cohesion and external threat.

TABLE I

SUMMARY OF LITERATURE ON ALLIANCES

	Level of Explanation	Generality	Type of Evidence	Target of Explanation
Small Group Studies	small group	medium-low	experimental	coalition formation and cohesion.
Equilibrium: a) Case Studies	alliance	low	anecdotal	alliance formation, cohesion, disruption.
b) Regional	international system	medium-high	anecdotal	alliance formation, cohesion, interaction.
c) General	international system	high	anecdotal	alliance formation, cohesion, disruption, effectiveness, duration.
Transaction Models	alliance; international system	medium-low	aggregate data	alliance cohesion.
Economic Models	national attributes	medium-high	aggregate data	alliance formation, effectiveness.
Structural-Functional	system	high	deductive; anecdotal	alliance formation, cohesion.

Apart from the similarity of a number of the findings reached, there are some interesting differences and similarities in the studies examined here. Table I summarizes the <u>modal</u> level of explanation, generality of findings, type of evidence employed, and target of explanation or dependent variable(s) of the various approaches to analysis of alliances discussed above.

Two conclusions are suggested by the state of our knowledge of alliances: first, we know more about alliance cohesion and alliance formation than about such other aspects of alliances as their effectiveness if called into force or the durability of different types of alliances in different situations. Second, what we do know about alliance cohesion and formation is based largely on anecdotal, impressionistic evidence and on experimental studies of small groups, the relevance of whose findings to international alliances should be empirically determined rather than assumed.

Two different research strategies are, in turn, suggested by these conclusions. First, we might concentrate our attention on those aspects of alliances about which we know relatively little; or, second, we might devote our resources to gaining more reliable, more specific knowledge about alliance formation and cohesion. In the analysis which follows, I have chosen to pursue both of these strategies. The remaining chapters report the results of an attempt to examine the impact on the cohesion of NATO and the Warsaw Pact of two independent variables: external threat, which has been often discussed in the literature in connection with alliance cohesion; and national power, which has received

comparatively little attention in discussions of alliance cohesion

despite the possibility that growth in national power may be an

important factor in the declining cohesion of an alliance.

CHAPTER II

DISSENSION IN NATO AND THE WARSAW PACT

The subject of the cohesion of NATO has received considerable

attention, increasingly so since the late 1950's when de Gaulle openly

began to express French discontent with the alliance. Similarly, there

have been open rifts in the communist bloc since the 1956 crises in

Hungary and Poland, though these rifts are often discussed in the context

of the entire communist bloc rather than with explicit reference to the

Warsaw Pact. To some extent, this is also true of NATO: many of the

references are to decreasing cohesion in the "Atlantic alliance," with

no direct statement as to whether the author is referring to NATO or to

the informal friendship and alignment of nations in the Atlantic area,

quite apart from their membership in the NATO alliance.

Despite this difficulty of differentiating the Communist and

Atlantic blocs from their respective military alliances, it seems clear

that growing disunity is an important problem in both opposing alliances.

After the withdrawal of France from military participation in NATO,

Spaak (1967, p. 199) wrote:

> People say that there is a crisis in the Atlantic
> Alliance, and unfortunately they are right. Those
> who have lived with the Alliance have heard a good
> deal of talk about crises but this time, if I am
> not very much mistaken, the crisis is a real one.
> It is no minor matter when one of the most important
> members of the Alliance withdraws from NATO.

This discontent with NATO has not been confined to France. Both Canada

and the United States have recently withdrawn some of their forces from

Europe. The American withdrawals, to be sure, can be partly explained

by the pressure of the war in Vietnam and balance of payment difficulties,
but part of the explanation may also lie in growing disenchantment
among at least some American policy-makers with the alliance. Harrison
(1969, pp. 335-336) and Enthoven and Smith (1969, p. 581) have
suggested a number of factors which might promote a decrease in
American commitments to NATO: the high monetary cost of maintaining
American military forces in Europe; the unwillingness or inability of
the European NATO members to meet the military force levels called for
by NATO councils; the reduction in the Soviet military threat; and the
possibility that nuclear armaments have rendered alliance superfluous.

Germany has maintained its military involvement in NATO, but
the Germans have increasingly voiced dissatisfaction with their lack of
status in the alliance, particularly with regard to the issue of nuclear
weapons. Kressler, for example, concluded (1966, p. 233):

> The Federal Republic believes that the U.S. quest
> for a treaty to prevent the further dissemination
> of nuclear weapons diminishes the prospects for
> obtaining for Bonn an increased voice in NATO
> nuclear strategy ... Should the principle of NATO
> nuclear sharing be subordinated to the principle
> of nonproliferation, it is likely that German
> dissatisfaction with NATO will rise.

Germany has ceased to be a yes-man in NATO as German power and particip-
ation in the international community have grown.

The smaller NATO members have also begun to reassess their
commitments to the alliance. In Norway, for example, the issue of
continued membership in NATO was debated in the 1967-68 session of the
Norwegian parliament. A motion to withdraw from the alliance was
defeated, but at least one author concluded that the viewpoints expressed

in the debate were far more diversified than the voting indicated and that "the general tendency of the debate was not at all characterized by status quo thinking." (Hansen, 1969, p. 235)   Similarly, in Denmark doubts have been expressed concerning the desirability of continued membership in NATO (Haekkerup, 1969, pp. 348-350).

In the case of the Warsaw Pact, strains began to appear only a year after the formation of the alliance in 1955.   Gomulka demanded new terms for military collaboration with the Soviet Union when he took power in Poland in 1956 and Imre Nagy voiced opposition to the Warsaw Treaty during the Hungarian crisis of 1956 (Ionescu, 1965, pp. 49-50). On October 31, 1956, Nagy "revealed that he was beginning negotiations for Hungary's withdrawal from the Warsaw Pact." (Brzezinski, 1967, p. 231). The following day, Hungary formally requested withdrawal of the Soviet army, whose presence in Hungary had been legalized by the Warsaw Pact, from the country; asked to be released from the alliance; and officially proclaimed neutrality (Wesson, 1969, p. 298; Brzezinski, 1967, p. 231). The Soviet response was invasion of Hungary. The Hungarian demands were ignored, the Soviet Union took over, and the dissident Hungarian Army was disbanded:

> ... it was not until the mid-1960's that Hungarian
> divisions were once again able to join the active
> ranks of the Warsaw Pact, and even today the
> Hungarian Army numbers only a little over half of
> the eleven-division strong force which failed to
> support the Soviet cause in October 1956.
>   (Mackintosh, 1969, pp. 3-4)

Albania's relations with the Soviet Union deteriorated throughout the 1950's, as Sino-Albanian relations became more and more friendly.

In 1961, diplomatic relations between the Soviet Union and Albania were broken off; and by 1962, Albania had ceased to participate in Warsaw Pact activities, though the Albanians did not formally denounce the Warsaw Treaty until 1968 (Cf. Brzezinski, 1967, p. 457; Mackintosh, 1969, p. 9).

Bulgaria and East Germany have continued to support the policies of the Soviet Union (Wesson, 1969, pp. 368-369) but Rumania has grown increasingly independent and Czechoslavakia has been less than enchanted with Soviet foreign policy since 1968, if not before. In the mid-1960's, Rumania "began to reserve the right to take her own decisions in foreign and defence policy." (Mackintosh, 1969, p. 9) The Rumanians have repeatedly urged the abolition of military blocs, withdrawal of foreign troops from other countries, and development of better relations with the West (Mackintosh, 1969, p. 9; Wesson, 1969, p. 367). The Rumanian armed forces have been:

> ... somewhat withdrawn from joint Warsaw Pact
> activities. The 1966 fall maneuvers in Czechoslovakia
> took place without any significant participation of
> Rumanian units. Former plans charging the Rumanian
> People's Army with coordinated offensive tasks as
> part of Soviet strategy against Western Europe have
> been changed.
> (Liess, in Collier and Glaser, eds., 1967, p. 176)

No joint military exercises of the Pact members were held in Rumania between 1964 and 1969.

Mackintosh (1969, p. 10) noted that Czechoslovakian spokesmen were expressing some doubts about the utility of the Warsaw Pact as early as 1966. He offered the following observation concerning the effect of the Soviet invasion of Czechoslovakia in 1968 (p. 15):

> The main legacy of the crisis as far as the Warsaw
> Pact is concerned is that Czechoslovakia ... has
> become deeply anti-Soviet, imbued with feelings of
> distrust and disillusionment which will not be
> easily overcome.

Wesson, however (1969, pp. 390-391) concluded that the Czechs will be
more likely to pursue a fairly submissive foreign policy, partly in
order to gain more freedom in domestic affairs. Whether Czechoslovakia
will, in fact, now pursue a more independent foreign policy remains to
be seen.

While the existence of a rift in each of these two alliances
is quite obvious, the causes of these rifts are not so obvious. In some
cases, at least the immediate explanatory factors are fairly apparent:
the invasion in the case of Czechoslovakia; the ideological dispute
between Albania and the Soviet Union; the demands of the French for more
influence in European affairs; and the high cost of maintaining American
participation in European defence while the United States is engaged in
a costly military exercise in Vietnam.

In other cases, however, the causes of dissension are not so
easily identified and even the factors commonly mentioned in connection
with France, Albania, and other nations may not constitute a sufficient
explanation. The invasion of Czechoslovakia and French demands for
reorganization of NATO's structure were certainly significant and
immediate issues, but we cannot be certain that such issues were the
underlying causes of dissension in the alliances.

The purpose of this paper is not, however, to examine the
significance of the effect of specific issues on cohesion of NATO and

the Warsaw Pact. The purpose is, rather, an inquiry into the applicability

of previous findings and hypothesis concerning alliance cohesion to

these two particular alliances. In the literature which is summarized

in Chapter I, two explanatory variables commonly linked to alliance

cohesion are external threat and the power of alliance members. We have,

then, two general propositions:

Proposition One: The greater the external threat, the higher the

level of cohesion in an alliance.

Proposition Two: In an alliance of states of unequal power, the

commitment of individual members to the alliance

will decrease as their national power increases.

Osgood (1968, p. 67) suggested that "Rumania's independent

course is chiefly a product of growing economic strength and a stable,

unified political regime basing its appeal on resurgent nationalism."

Osgood also concluded that diminished East-West tension facilitated the

pursuit of an independent course, and that these factors, to varying

degrees, also facilitated increased independence of other East European

nations (pp. 67-68). Jamgotch (1968, p. 63) noted that the national

armies and military planning of the Warsaw Pact members are dominated

by the Soviet Union. It might be reasonable to expect that this

domination would be increasingly questioned as the power of the East

European states grew. Jamgotch, too, mentioned the impact of the detente

in Europe. He suggested that the fact that "very little in support of

original expressed objectives has been accomplished" (p. 65) by the

Warsaw Pact might be partly explained by the diminished threat.

Similarly, Aspaturian concluded that detente was one of the factors which allowed some of the East European states to "gradually pry themselves loose" from Soviet hegemony. (1966, p. 33)

Hopmann (1969) compared the degree of attitudinal co-orientation among members of NATO and of the Communist bloc, including non-Warsaw Pact members, in periods of intense conflict and in periods of detente. He found that the hypothesized relationship between external conflict and degree of consensus does appear to be confirmed in NATO and the Communist bloc, though with some reservation (p. 199):

> During the periods of most intense conflict between
> members of the two alliance systems, the degree of
> attitudinal consensus generally tends to increase;
> conversely, during periods of relative detente
> between the two major blocs, the degree of co-
> orientation among allies tends, but not necessarily,
> to decline.

Hopmann based this conclusion on a content analysis of foreign policy statements by representatives of eight NATO members and eleven Communist bloc countries in the years 1950, 1955, 1963, and 1965.

A number of other authors have also discussed the impact of decreasing external threat on NATO cohesion. Marshall (in Wolfers, 1964, p. 19) concluded that growing detente was having a disintegrative effect on the alliance. Gasteyger (1967, p. 319) remarked on the decline of interest in NATO "as a consequence of detente." Orvik (1966, pp. 92-93), Harrison (1969, p. 335), and Kissinger (in Roach, 1967, pp. 10-22) have all noted the diminished military threat in Europe and its effect on NATO. In the wake of the increased level of tension generated by the Czechoslovakian crisis of 1968, Pfaltzgraff (1969, pp. 218-220) demonstrated,

NATO members increased their force levels and military capabilities and improved the planning machinery and consultation procedures of the alliance.

Calvocoressi (1966, p. 361) suggested that one cause of dissension in NATO has been the large disparity in the relative strengths of members of the alliance, and that if the stronger "minor" members of the alliance, such as Britain, France, and Canada, are not allowed to play a role in the alliance commensurate with their power and capabilities, the cohesion of the alliance will suffer (p. 360).

Osgood (1968, pp. 23-24) hypothesized that the distribution of military power in an alliance would have an important effect on the continuation or decline of the alliance. He noted the dissatisfaction of such nations as France, Germany, and Italy with the power disparity between them and the United States, and their concern over their second-class status in NATO. Wolfers (1962, p. 212) also suggested that the power discrepancy between the United States and her allies is a source of tension in the various alliances to which the United States belongs.

The relationship between external threat and alliance cohesion encountered quite often in the various studies discussed in Chapter I, then, has also been mentioned in specific analyses of these two alliances, though perhaps more often with reference to NATO than to the Warsaw Pact. In some form or other, the proposition that growing East-West detente to some extent accounts for the diminished cohesion of the two major post-war alliances has been quite frequently advanced. It will be recalled that similar findings have been encountered in such disparate

studies as small group experiments, analyses of verbal and behavioral
transaction between nation-state dyads, and studies at the level of
the international region and international system, among others. The
question of the comparability of the analytical techniques employed
in these studies aside, the convergence of the findings suggests that
changes in extent of esternal threat merit attention in a study of
alliance cohesion.

While some attention has been paid to the impact of differences
in relative power among members of an alliance, particularly to power
discrepancies between the leader of the alliance and other members,
comparatively little attention has been paid to the influence of the
absolute power of nations on alliance cohesion. We do have the
suggestion that Rumania's growing independence is largely due to
growing economic strength. And in NATO the growth in power, especially
economically and militarily, of Germany and France led to increased
demands for greater say by these two countries in the affairs of the
alliance. France's growing power, highlighted by the acquisition of
nuclear weapons, may not have been a sufficient cause of the French
decision to pursue a course independent of NATO, but it could be
argued that sufficient power to enable France to rely on her own resources
was a necessary condition for French withdrawal from the alliance.
Certainly this was at least a major part of, if not the whole, rationale
for France's development of nuclear weapons: that France had no
control over American weapons, could not be certain of American support
in the event of a nuclear attack on France, and must, therefore, be

prepared to defend herself.

A similar process may well have operated in the Warsaw Pact. Sufficient strength to have confidence in surviving on her own may have sparked the decline in commitment of, for example, Rumania to the Warsaw Pact. Aid from China to Albania enabled the Albanians to cut their ties with the Soviet Union, and Eastern Europe, without falling flat on their faces.

It seems plausible, then, that increases in national power may lead to diminished commitment to alliances on the part of those nations. Though we cannot be certain that increased power causes alliance dissension, the notion that power increases are a necessary or important condition for pursuit of an independent foreign policy would seem to be worthy of examination (Cf. Morgenthau, 1957; and Steel, 1964, pp. 34-37).

To some extent, a description of absolute national power cannot avoid tapping, as well, the concepts of relative power and status inconsistency. Taking the fifteen NATO members, for example, if we compare the relative power base differences between the U.S. and each of the other fourteen members in a given year, what we are, in effect, doing is subtracting a constant from the power base of each of the members. Looked at this way, comparing the power base relative to the U.S. of the fourteen NATO nations is the same thing as comparing their national power bases. For an individual country, however, comparing its power base relative to the U.S. for different years is not the same as comparing annual figures for that country's absolute power base, since the figures for the U.S., in this case, are not constant.

Figures measuring absolute national power also tap status inconsistency, that is, the difference between a nation's 'achieved' status (its power) and its 'ascribed' status (its prestige and the deference given to it by other nations). Tantologically, we may note that if achieved status varies but ascribed status remains constant, then measuring achieved status is the same as measuring status inconsistency. The measures of national power base employed below, then, may be said to indicate status inconsistency in the alliances to the extent that the status ascribed to members of the alliances has remained constant.

In the Warsaw Pact, member countries have advanced somewhat in ascribed status through increased military participation in the affairs of the alliance. They have, as well, become somewhat less dependent upon the Soviet Union for foreign policy guidelines. This may indicate a feedback problem: power increases may have produced, directly or indirectly, drives for greater independence which, in turn, decreased the amount of status inconsistency which could have originally been the spur to greater independence in foreign policy. Nevertheless, the alliance members do remain under the direction of the Soviet Union and any attempt to withdraw from this tutelage may be expected to be met by the same reaction as occurred in the case of the Czechoslovakian crisis of 1968. The Soviet Union remains the undisputed leader of the alliance. Similarly, demands by France and, to a lesser but still noticeable extent, Germany and Britain, for more say in NATO affairs, particularly regarding control of nuclear weapons, have been met by American intransigence.

The distinction is less clear-cut than in the Warsaw Pact since American

leadership has not been undisputed, but the U.S. remains the most

important member of the alliance with a greater measure of control over

NATO strategies and policies than the other members. In one sense, then,

the ascribed statuses of the members of the two alliances have remained

roughly the same.

A further consideration with regard to the effect of increases

in national power on a nation's relations with an alliance to which

it belongs is the different effect such increases might have in

pluralistic and authoritarian states. As O. R. Holsti and Sullivan

(1969, p. 158), among others, have noted,

> ... in a pluralistic system foreign policy elites
> operate under significant constraints against
> sudden and complete changes in policy. These
> include multiple internal and external channels
> of communication, relative freedom for divergent
> interests to make political demands and a limited
> ability of top leaders to mobilize all politically
> relevant groups and institutions in support
> of their policies.

Since there are these constraints on foreign policy changes in a

pluralistic society, which are inoperative or at least less important

in an authoritarian society, we might expect that changes in alliance

cohesion, whether as a result of increased national power, diminished

external threat, or other factors, would be more likely to occur in

authoritarian than in pluralistic systems.

This distinction suggests, first, that we might expect power

increases of alliance members and diminished external threat to have

a greater effect on the cohesion of the Warsaw Pact than on the cohesion

of NATO, since the Warsaw Pact has, clearly, the more monolithic
structure and NATO the more pluralistic structure of the two alliances.
And second, we might expect that the more authoritarian members of
each alliance will show greater evidence of diminished commitment to
their alliances under conditions of increased national power and
diminished external threat than will the more pluralistic or democratic
members of the same alliances. It is not an easy matter, of course,
to distinguish authoritarian and pluralistic nations within each of
the two alliances under consideration: all of the Warsaw Pact members
are usually regarded as authoritarian, and most of the NATO members as
pluralistic. However, in the Warsaw Pact Rumania and perhaps Hungary,
and more recently Czechoslovakia, might be regarded as at least some-
what less authoritarian than such other alliance members as East
Germany, Bulgaria, and Poland. In NATO, Portugal and Greece have been
less pluralistically structured societies than Canada, Norway, or the
Netherlands; and France under de Gaulle has often been described in
terms vaguely reminiscent of a constitutional dictatorship.

In short, there is considerable support in the literature
for the proposition that declining external threat is significantly
linked to diminished alliance cohesion. Discussions relating growth
in national power to diminished alliance cohesion are encountered less
frequently in previous studies, however, the notion that sufficient
national strength is necessary to allow for some confidence in the
viability of a policy of 'going it alone' suggests that the relationship
between national power growth and alliance cohesion may be worthy of

empirical examination. In the following chapter, then, the research
design and specific hypotheses, which guided the empirical analysis
which follows, are presented.

CHAPTER III

RESEARCH DESIGN AND HYPOTHESES

Because nation-states are understandably reluctant to

allow social scientists to conduct experiments with their foreign

policies, the data on a subject such as the cohesion of an alliance

must be either drawn from the information which is made available

or created in an analogous atmosphere, as in the simulation studies

by Brody and his associates mentioned in the introductory chapter.

When, as is the case here, the aim of the research is an examination

of the relevance of a proposition or propositions to two specific

alliances, the former research strategy is dictated.

Temporal Domain

In a study of NATO and the Warsaw Pact, the usual problems

of data collection and derivation of valid indicators of the variables

employed are present, along with the added difficulty of a truncated

temporal domain. NATO was formed in 1949, but Greece and Turkey did

not become members of the alliance until 1952, and Germany not until

1955. Accordingly, data were collected from 1949 to 1969 whenever

possible, though Greece, Turkey, and Germany will not enter into the

analysis until the dates of their entry into the alliance. France

withdrew from military participation in NATO in 1966, but did not

formally withdraw from the Treaty Organization itself and is, there-

fore, included in the analysis throughout.

Albania ceased to participate in the Warsaw Pact in 1962,

but did not formally withdraw from the alliance until 1968. Albania

must, then, be considered a member until the latter date. The Warsaw Pact was formed in 1955, in response to the entry of West Germany into NATO. As with NATO, however, data were collected from 1949 onwards whenever possible, particularly on the independent variables, for use in correlations with a time lag.

Measurement of the Variables

The dependent variable, cohesion of an alliance, has been operationally defined for purposes of the analysis below as alliance members' verbal or behavioral commitment to the alliance or attitudinal co-orientation with each other. Three indicators of cohesion have been employed for the NATO alliance: each member's troop commitments to the alliance; extent of voting agreement in the United Nations General Assembly; and a survey of the New York Times Index. For the Warsaw Pact, only the latter two indicators of cohesion are employed since Warsaw Pact members do not commit a specific proportion of their forces to the alliance as do NATO members, or at least if they do the information has not been released.

The first cohesion indicator, troop commitments to the alliance, is the weakest in terms of data availability. For the Warsaw Pact, the indicator is irrelevant; for NATO these data are only available for all alliance members in The Military Balance, published by the Institute of Strategic Studies, and only a few of the more recent issues of this publication[1] are available to the

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1 See Appendix A for information on data sources.

present author. Nevertheless, since troop commitments to the alliance seem to indicate fairly directly the members' commitments to NATO, these data are employed in the analysis to the limited extent possible.

There is an additional difficulty with the use of troop commitments as an indicator of NATO cohesion. The most satisfactory method of transforming the raw data on proportion of forces committed to the alliance into usable form would be to express those commitments as a percentage or fraction of the force goals which are periodically suggested by the alliance as a whole for each member country. This procedure, however, could not be followed. Although Britain, the U.S., and West Germany have given some indication of their force goals, other NATO members have not, so there remain three obstacles to assessment of NATO force goals (U.S. Congressional Record, January 19, 1967, p. 999):

> First, it has been the long-standing policy of the various NATO commands and of the individual NATO members to classify NATO force goals and the extent to which these goals have been met ...
> Second, to the extent that some NATO ground force goals and the contributions of NATO members are known, they are usually expressed in terms of divisions. But the number of men assigned to a division and the number who contribute support to a division vary widely ...
> Third, whereas NATO ground force goals for the centred European sector ... have been the subject of many unofficial published reports, force goals for northern Europe ... and for southern Europe ... appear to be largely unreported.

For these reasons, an alternative method was employed: the data on troop commitments were converted into the percentage of each country's armed forces which are committed to the alliance. These percentages are presented in Appendix B.

The second indicator of cohesion employed is a survey of

events, derived from the New York Times Index. These data were gathered

at two-year intervals beginning in 1950 for NATO and in 1956 for the

Warsaw Pact, in each case one year after the formation of the alliance.

Two-year, rather than one-year intervals were used for these data

because of the time and difficulty involved in gathering them. Never-

theless, it is felt that the two-year intervals should still accurately

reflect the trend in commitment of the various members to the alliances.

Leaving out the odd-numbered years means that such events as the

formation of the alliances and the entry of West Germany into NATO

are excluded from these data, but events such as the Suez crisis, the

Polish and Hungarian uprisings, the Cuban missile crisis, France's

withdrawal from NATO, and the 1968 Czechoslovakian crisis, are included.

The procedure followed in this case was to code any statement

or action by an alliance member which was directed at the alliance

or its members as either positive or negative. For example a statement

such as:

U.S.S.R. and Poland hold stronger Warsaw Pact needed ...

would be coded as positive for both the U.S.S.R. and Poland. On the

other hand, the following statement would be coded as negative for

France:

France announces withdrawal from NATO military organization ...

In this way, adequate data could be gathered for the NATO members simply

by coding statements and actions of the member countries which appeared

under the heading "North Atlantic Treaty Organization" in the Index for

each year. For many of the Warsaw Pact members, however, <u>no</u> statements

or actions were mentioned in some years under the heading "Warsaw Pact."

For this alliance, therefore, the entries under the names of each member

country were surveyed as well as entries under the "Warsaw Pact" heading.

The data generated by this procedure are reported in Appendix C. In

those cases where the number of relevant statements and actions by a

given country in a given year was less than three, no percentage was

calculated and that country was coded as having missing data on this

variable for the year(s) involved.

The third indicator of alliance cohesion employed in the

analysis is extent of voting agreement in the United Nations General

Assembly. For each alliance member, a dyadic index of agreement with

each other member of the alliance was computed, for each session of the

General Assembly, in the following manner:

$$\text{I.A.} = \frac{f + \frac{1}{2}g}{t} \times 100.$$

Where I.A. = index of agreement,

f = number of times the partners in the dyad were
in full agreement, that is, both voted the
same way,

g = number of times the dyadic partners were in
partial agreement, that is, one of them ab-
stained while the other voted either yes or no,

t = total number of votes in which both dyadic
partners participated.

This procedure yielded an index of agreement for each dyad in each

alliance for each session of the Assembly. Each country's set of dyadic

indices was then averaged for each session, giving an index of agreement

ranging from 0.0 to 100.0 between the member and the rest of the alliance

for each session. These final average indices are reported in Appendix

D. The utility of votes in the U.N. as an indicator of foreign policy

behavior should not, of course, be overestimated. Alker (in Mueller,

1969) and Russett (in Rosenbaum, 1970) have pointed out some of the

difficulties involved in discovering and analyzing voting groups in

the U.N. In this case, however, each alliance has been assumed to be

an identifiable group, and our interest has focused on the different levels

of agreement expressed by members of each group. For this purpose,

U.N. votes seem to be a useful indicator of basic policy since "U.N.

voting ... forces a country to take a public, recorded position on

many kinds of issues ..." (Russett, 1965, p. 87). It is worth noting

that an assessment of possible indicators of cohesion by Teune and Synnestvedt

(in Friedman, Bladen, and Rosen, 1970, pp. 328-330) showed that voting

alignments in the U.N. often correlate highly with other indicators of

cohesion employed in their study. They concluded (p. 328) that "the

voting patterns recorded and published by the United Nations are a

reliable indication of alignment behavior."

One independent variable whose influence on alliance cohesion

we wish to test is national power. As K. J. Holsti (1969, pp. 141-142)

and Pruitt (1967, pp. 165-168) have pointed out, it is essential to

distinguish between power in the abstract - usually stated in terms

such as 'the ability of A to influence B to do something he would not

otherwise do' - and power base, described by Deutsch (1968, p. 23) as the

"aggregate power resources of a nation" including such items as population,

GNP, area, and military potential. It is the latter conceptualization

of power which is employed in the empirical analysis in Chapter IV,

and we should be wary of drawing any inferences about the relationship

between alliance cohesion and power in the sense of influence from

these data.

Five different measures of power base are employed in the

analysis: size of military expenditures; population; crude steel

production; GNP per capita growth rate; and GNP per capita. These

indicators tap such distinct aspects of power base as military capability,

size of nation, industrial resource base, economic growth, and national

wealth. The first three indicators are measured annually from 1949 to

1969 with some missing data, particularly among the Communist countries

in earlier years. GNP per capita growth rate is measured annually

from 1959 to 1966, with the remaining years excluded because the index

numbers compiled by the United Nations from which these data are drawn

are not available in a complete, homogeneous set for the entire time

period. GNP per capita figures have been compiled for four years during

the time span studied, at five-year intervals, for the NATO countries, but

reliable figures for the Warsaw Pact members are available for only two

years: 1957 and 1965. This latter indicator, then, can be utilized only

to a limited extent.

These indicators of power base have been frequently suggested

or employed as measures of power base (Cf. Pruitt, 1967, p. 166; Russett,

1965, pp. 2-3; Deutsch, 1968, pp. 29, 31) with the exception of economic

growth rate. This component of national power is seldom used in studies

employing power base as a variable, however in a time series analysis

the rate of economic growth seems intuitively to be as important as

such national wealth measures as GNP, net material product, or GNP

per capita. Unlike the data on the indicators of cohesion and of

external threat, data on the power base indicators are readily

available in published form. For this reason, these data are not

included in the appendices. A list of the sources used is included in

Appendix A.

Four measures of external threat were employed in the analysis,

two of them derived by Corson (unpublished) and two by Hopmann (1969).

Corson has scaled the intensity of East-West conflict for the years

from 1945 to 1965 in two ways: the first is a measure of verbal

conflict intensity as found in statements by Soviet and American leaders;

the second scale measures total conflict intensity (behavioral and

verbal) by the U.S. and the U.S.S.R. for the same years. The intensity

scales themselves, on the basis of which conflict intensity was measured,

were established on the basis of judges' ratings of the importance of

nearly a hundred categories of conflict and co-operation. This procedure

yielded a scale ranging from 0 to 2500 for East-West interaction during

this time period. Actual Soviet and American statements and actions were

then coded for intensity and the results were aggregated at four-month

intervals. Since the unit of analysis employed below is the year, Corson's

data were transformed by this researcher into annual verbal and total

conflict intensity scores; these transformed data are reported in Appendix

E.

There is one important limitation of these data on conflict

intensity. Since only the scores for Soviet and American conflict

intensity are available, and not other alliance members' perceptions

of conflict intensity, it was necessary to assume that the perceived

intensity of threat was the same for each year from 1949 to 1965[2] and

was the same for each alliance member. The conflict intensity scores

were therefore a constant for each alliance member and the data could

be used only by comparing the scores for each member from year to year

with the various cohesion indicators.

This deficiency was partially compensated for by the inclusion

of the second set of threat variables, those compiled by Hopmann.

Hopmann (1969) content analyzed the perceptions of the opposing bloc

and of the opposing bloc leader held by all Warsaw Pact members and

seven NATO members: the U.S., Britain, France, Canada, Norway, Denmark

and Germany, as these perceptions appeared in the first official

document released by each country in reaction to four events. The

events considered were the outbreak of the Korean War in 1950; the

opening of the Geneva Summit Conference in 1955; the signing of the

Nuclear Test Ban Treaty in 1963; and the first day of regular American

bombing missions over North Vietnam, in 1965. Two measures from

Hopmann's data were employed in the analysis below: the percentage of

each country's perceptions of the opposing bloc which were positive;

and the percentage of each country's perceptions of the opposing bloc

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2 The first four years are excluded since the time span of this study
   begins with 1949.

leader which were positive. A low percentage of positive perceptions
was interpreted as indicating high threat perception. These figures
may be found in Appendix F.

Clearly, Hopmann's data to some extent compensates for the
main deficiency of Corson's measures in that they provide a measure
of perceptions by individual alliance members. However, these data
include only four years in our time span, though the four years
included are spread over a fifteen year period, and they include only
half the NATO members. Correlations using these data must, therefore,
be interpreted very cautiously. A second, though perhaps less telling,
limitation is that these data are measures of evaluative perceptions of
the opposing bloc and bloc leader, rather than direct measures of
threat perception. We do not know to what extent nations' evaluative
perceptions coincide with threat perceptions, so further cautions must
be exercised in light of the assumption which must be made with these
data: that evaluative perceptions are an accurate indicator of threat
perceptions.

In short, each of the indicators employed in the analysis
suffers from its own idiosyncratic deficiencies, and the number of
cases to be considered is small. On the other hand, these deficiencies
are mainly idiosyncratic ones and a variety of indicators have been
employed in an attempt to compensate for the limitations of the data:
three indicators of cohesion (two for the Warsaw Pact); five indicators
of power base; and four measures of external threat. A second saving
factor is that the only major systematic bias evident in the availability

of the data is the fairly large amount of missing data for Communist

countries in the earlier years. However, the Warsaw Pact was not formed

until 1955 and the missing data problem is less serious after the mid-

1950's. Still, the truncated temporal domain and the limitations noted

in this brief discussion of the various indicators dictate that the

correlations reported in the next chapter should be interpreted

cautiously.

Before turning to the analysis of the observed relationships

between the variables, however, it may be fruitful to restate the

general propositions posited in Chapter II in more operational terms

based on the indicators employed to measure the three variables. In

the next chapter, then, the following specific hypotheses will be

considered in discussing the two more general propositions:

Proposition One: The greater the external threat, the higher the

level of cohesion in an alliance.

Hypothesis 1: There will be a significant positive correlation
between total conflict intensity and percentage
of armed forces committed to NATO.

Hypothesis 2: There will be a significant positive correlation
between total conflict intensity and voting
agreement in the U.N.

Hypothesis 3: There will be a significant positive correlation
between total conflict intensity and support for
the alliance indicated by an analysis of events.

Hypothesis 4: There will be a significant positive correlation
between verbal conflict intensity and percentage
of armed forces committed to NATO.

Hypothesis 5: There will be a significant positive correlation
between verbal conflict intensity and voting
agreement in the U.N.

Hypothesis 6: There will be a significant positive correlation between verbal conflict intensity and support for the alliance indicated by an analysis of events.

Hypothesis 7: There will be a significant negative correlation between perception of the opposing bloc and percentage of armed forces committed to NATO.

Hypothesis 8: There will be a significant negative correlation between perception of the opposing bloc and voting agreement in the U.N.

Hypothesis 9: There will be a significant negative correlation between perception of the opposing bloc and support for the alliance indicated by an analysis of events.

Hypothesis 10: There will be a significant negative correlation between perception of the opposing bloc leader and percentage of armed forces committed to NATO.

Hypothesis 11: There will be a significant negative correlation between perception of the opposing bloc leader and voting agreement in the U.N.

Hypothesis 12: There will be a significant negative correlation between perception of the opposing bloc leader and support for the alliance indicated by an analysis of events.

Proposition Two: In an alliance of states of unequal power, the

commitment of individual members to the alliance

will decrease as their national power increases.

Hypothesis 13: There will be a significant negative correlation between rate of growth of GNP per capita and percentage of armed forces committed to NATO.

Hypothesis 14: There will be a significant negative correlation between rate of growth of GNP per capita and voting agreement in the U.N.

Hypothesis 15: There will be a significant negative correlation between rate of growth of GNP per capita and support for the alliance indicated by an analysis of events.

Hypothesis 16: There will be a significant negative correlation between GNP per capita and percentage of armed forces committed to NATO.

Hypothesis 17: There will be a significant negative correlation between GNP per capita and voting agreement in the U.N.

Hypothesis 18: There will be a significant negative correlation between GNP per capita and support for the alliance indicated by an analysis of events.

Hypothesis 19: There will be a significant negative correlation between military expenditures and percentage of armed forces committed to NATO.

Hypothesis 20: There will be a significant negative correlation between military expenditures and voting agreement in the U.N.

Hypothesis 21: There will be a significant negative correlation between military expenditures and support for the alliance indicated by an analysis of events.

Hypothesis 22: There will be a significant negative correlation between population and percentage of armed forces committed to NATO.

Hypothesis 23: There will be a significant negative correlation between population and voting agreement in the U.N.

Hypothesis 24: There will be a significant negative correlation between population and support for the alliance indicated by an analysis of events.

Hypothesis 25: There will be a significant negative correlation between crude steel production and percentage of armed forces committed to NATO.

Hypothesis 26: There will be a significant negative correlation between crude steel production and voting agreement in the U.N.

Hypothesis 27: There will be a significant negative correlation between crude steel production and support for the alliance indicated by an analysis of events.

These specific hypotheses, which relate the operational

measures of the two independent variables to the operational measures

of the dependent variable, alliance cohesion, will guide the analysis

in the following chapter. The empirical analysis is conceived as a test

of these specific propositions as they apply to NATO and the Warsaw

Pact and only indirectly as a test of the two general propositions

which are posited above. Strong support for all or almost all of the

specific hypotheses relating cohesion indicators to the indicators of

one of the independent variables might, however, be interpreted as

strong evidence in support of the more general proposition linking those

two variables. Conversely, of course, a well-established pattern

indicating lack of support for, or evidence contrary to the battery of

hypotheses linking the indicators of cohesion to the indicators of one

of the two independent variables might be regarding as evidence

supporting the rejection of the relevant general proposition.

FINDINGS

A number of alternative methods of analysis might be
employed to assess the significance of the relationships between the
data on power base and external threat and the data on cohesion of
the two alliances. The small numbers with which we shall be
dealing in an analysis of individual countries, however, precludes
the use of many statistical tools, such as the chi-square. Given
the small N, presentation of the relationships in graph form would
be appealing; however the large number of indicators employed here
would require a correspondingly large, unwieldy number of graphs to
illustrate the relationships, and the small number of cases would
often yeild a graph just as misleading as other statistics.

Correlations between indicators can be misleading as well,
when the number of cases is quite small. However, correlations do
provide a means of summarizing the findings in a reasonably small
space and the correlation coefficient employed below, Goodman and
Kruskal's gamma coefficient, can be valid with an N as small as
eleven cases. Since we are dealing with the entire "population" of
NATO and the Warsaw Pact, with occasional exceptions because of missing
data, no statistical inference can be made from significance tests
performed on the correlation coefficients. However, the significance
tests may provide some indication of whether the relationships between
the indicators are "real", that is, not due to chance, and for this
purpose the probabilities associated with the correlations are reported

whenever they reach the level of .10 or better.

For each alliance, the first procedure in the analysis was to run correlations between each indicator and all other indicators of every variable, for the alliance as a whole aggregated over the entire twenty-two year time span. No valid inference may be drawn from these correlations, of course, since the relationships in the aggregate are artificially inflated. Nevertheless, these aggregate relationships do provide a first approximation of the <u>direction</u> of the relationships in the data, for the alliance as a whole, despite the fact that the <u>magnitude</u> of those relationships is inflated and unreliable. In addition, these aggregate correlations provide an opportunity to make some assessment, however rough, of the reliability of the indicators for each variable in the analysis.

Following this preliminary assessment of the relationships between the variables and of the reliability of the indicators employed, we turn to a discussion of some individual members of each alliance. Data were collected, of course, on each member of each alliance and correlations were computed for each individual alliance member. However, an individual discussion of each country would require including well over one thousand correlations, in some thirty-five to forty tables, for NATO alone. There is, though, a more appealing alternative.

Tufte (1969) has suggested that the most effective method of data analysis is the fitting of lines to relationships between variables and then examining deviations from the lines with the aid of

graphs and scatterplots. Tufte's theme has been taken as the approach

to analysis of individual countries below, though correlations rather

than graphs and scatterplots have been used an analytical tools. That

is, those countries most loyal to the alliances, the alliance leaders

and camp-followers; and those which deviated most from the alliances,

the mavericks, were singled out for individual attention.

NATO

TABLE IIa

Aggregate Correlations Between Indicators with the
Data Rank Ordered by Year for Each Nation: NATO

Cohesion:	U.N. Votes	Analysis of Events
Troop Commitments	-.13 (32)	-.15 (29)
U.N. Votes		.10 (62)

Power Base:	GNP/Capita	Military Expenditures	Population	Crude Steel Production
GNP/Capita Growth Rate	-.04 (14)	.16 (56)	.29** (61)	.29** (59)
GNP/Capita		.39**(61)	.25* (66)	.19+ (63)
Military Expenditures			.56**(222)	.26**(212)
Population				.44**(219)

External Threat:	Verbal Conflict Intensity	Perceptions of Opposing Bloc	Perceptions of Opposing Bloc Leader
Total Conflict Intensity	.32** (270)	.32+ (28)	-.10 (19)
Verbal Conflict Intensity		-.06 (28)	.10 (19)
Perceptions of Opposing Bloc			.21 (19)

Looking first at Table II, we find reasonably good inter-relations among the indicators of power and of external threat, but some doubt is cast on the reliability of the three indicators of cohesion. Table IIa shows the intercorrelations among the indicators with the data rank ordered from year to year; Table IIb shows the same intercorrelations with the data rank ordered from country to country for each year.

TABLE IIb

Aggregate Correlations Between Indicators with the
Data Rank Ordered by Nation for Each Year: NATO

Cohesion:	U.N. Votes	Analysis of Events
Troop Commitments	.32 (10)	.03 (14)
U.N. Votes		.19+ (50)

Power Base:	GNP/Capita	Military Expenditures	Population	Crude Steel Production
GNP/Capita Growth Rate	0.0 (1)	-.04 (35)	.04 (36)	.09 (34)
GNP/Capita		.28 (16)	.13 (16)	.33 (16)
Military Expenditures			.81**(247)	.42**(233)
Population				.38**(226)

+ = P<.10
* = P<.05
** = P<.01
Numbers in parentheses are the number of cases.

In Table IIa, the various indicators of power base are all positively correlated, with the sole exception of the correlation

between GNP per capita and GNP per capita growth, which is slightly

negative. On these two indicators, however, the data are fairly skimpy

and this may partly account for the exception. The other indicators

are all quite highly correlated with each and with GNP per capita and

GNP per capita growth rate. The three indicators on which the data are

almost entirely complete, military expenditures, population, and crude

steel production, are all correlated with each other at the .01 level

of significance or better, as they are in Table IIb as well. While we

must be extremely wary of attaching any statistical significance to

these relationships, for the reasons noted above, it does seem clear

that very little doubt is cast on the reliability of the power base

indicators, particularly the latter three, for which the data are

most complete.

The indicators of external threat are mostly positively

correlated with each other, though the correlations between verbal

conflict intensity and perceptions of the opposing bloc, and between

total conflict intensity and perceptions of the opposing bloc leader,

are slightly negative, as shown in Table IIa. Total conflict intensity

is quite highly correlated with verbal conflict intensity and with

perceptions of the opposing bloc leader and positively, though not very

highly, correlated with verbal conflict intensity and with perceptions

of the opposing bloc. We can, then, have some confidence in the

indicators of external threat, though perhaps not to the same degree as

with the power base indicators.

The indicators of cohesion, however, are a different matter.

In Table IIa, we see a slight positive correlation between voting in the U.N. and the measure of cohesion drawn from an analysis of events in the New York Times Index (for purposes of brevity, the latter measure will be simply referred to below as the analysis of events), but slight negative correlations between troop commitments to NATO and the other two measures of cohesion. In Table IIb, the correlations are all positive, but only the U.N. votes - NYT indicator correlation is significant, and that only with a probability of .90 that the relationship is real.

This dilemma may be partly explained by the lack of data on troop commitments for earlier years. While U.N. voting data are available for each year up to 1967 and the analysis of events has been measured for every even-numbered year up to 1968, data on troop commitments are available only for five years in the 1962 to 1969 period. There is, then, relatively little overlap between this latter indicator of cohesion and the other two. A second factor which might explain the discrepancies is that while power base and external threat have been measured fairly directly, the cohesion indicators are comparatively indirect. That is, troop commitments, voting in the U.N., and the analysis of events can only tentatively be regarded as measures of alliance cohesion and if they are, in fact, valid indicators of cohesion, they may be measuring different aspects of alliance cohesion. For these reasons, the relationships between these indicators and the indicators of the power base and external threat variables cannot be regarded as a rigorous test of the two general propositions advanced in Chapter II. We can, of course, be more confident of the implications of the findings for the specific

operational hypotheses listed in Chapter III.

TABLE   III

Aggregate Correlations Between Cohesion and Power
Base Indicators with the Data Rank Ordered by Year
for Each Nation: NATO

Cohesion:	Troop Commitments	U.N. Votes	Analysis of Events
Total Conflict Intensity	.69* (22)	.22** (232)	-.07 (60)
Verbal Conflict Intensity	.69*	.09+ (232)	-.05 (60)
Perceptions of Opposing Bloc		-.46* (23)	
Perceptions of Opposing Bloc Leader		-.04 (15)	

+   =   P<.10
*   =   P<.05
** =   P<.01
Numbers in parentheses are the number of cases.

The aggregate correlations between the indicators of NATO

cohesion and the external threat indicators for the NATO members are

presented in Table III. Because of the limited number of years for

which the data on perceptions of the opposing bloc and perceptions of

the opposing bloc leader are available, there are enough cases to compute

correlations only between U.N. votes and these two indicators. It may

be recalled that a negative correlation was predicted between U.N. votes

and perceptions of the opposing bloc and bloc leader (supra, p. 55).

In Table III, we find a correlation of -.46, significant at the .05 level,

between U.N. votes and perceptions of the opposing bloc, but only a slight negative relationship, -.04, between U.N. votes and perceptions of the opposing bloc leader. In the aggregate, then, the hypothesized negative relationship between U.N. voting agreement and perceptions of the opposing bloc appears to be upheld, though there is no evidence to support the hypothesized negative relationship between U.N. voting and perceptions of the leader of the opposing bloc. This may be a reflection of the much-discussed detente beginning in the middle or late 1950's between the Soviet Union and the West, though once again we should be wary of drawing inferences from the aggregate correlations.

The predicted positive relationships between total conflict intensity and verbal conflict intensity and each of the indicators of cohesion (pp. 54-55, supra, hypotheses 1 to 6) are upheld by the correlations with two of the three indicators of cohesion. Troop commitments to NATO are highly correlated with both total conflict intensity and verbal conflict intensity (.69 in each case) and the correlations between U.N. voting and total conflict intensity (.22) and U.N. voting and verbal conflict intensity (.09), while smaller, are still statistically significant because of the large number of observations. Both measures of conflict intensity, however, are slightly negatively correlated with the analysis of events. The data, then, offer some evidence in support of hypotheses 1, 2, 4, and 5, which relate the two measures of conflict intensity to troop commitments and U.N. voting agreement, but not for hypotheses 3 and 6, which relate conflict intensity to the analysis of events. Since the two measures of conflict intensity

vary from year to year but are constant for each alliance member, no correlations can be computed with these two indicators with the alliance members rank ordered in a particular year.

Each of the hypotheses (pp. 55-56, hypotheses 13 to 27) relating the power base indicators to the indicators of cohesion predicted a negative correlation. All of the seven aggregate correlations between troop commitments to NATO, reported in Table IV, and the power base indicators are negative and only one of them is too small (-.09, between troop commitments and crude steel production in Table IVb) to be considered as evidence in support of the hypothesis. The correlations between the analysis of events and the power base indicators, however, are all quite small, ranging from -.15 to .16 except for the -.38 correlation between the analysis of events and GNP per capita growth

TABLE IVa

Aggregate Correlations Between Cohesion and Power
Base Indicators with the Data Rank Ordered by Year
for Each Nation: NATO

	Troop Commitments	U.N. Votes	Analysis of Events
GNP/Capita Growth Rate	-.20 (22)	.24* (58)	.05 (20)
GNP/Capita		.03 (64)	
Military Expenditures	-.32* (42)	.04 (208)	-.01 (72)
Population	-.62**(31)	.09*(228)	-.15 (63)
Crude Steel Production	-.39* (35)	.09+(215)	-.01 (67)

TABLE IVb

Aggregate Correlations Between Cohesion and Power
Base Indicators with the Data Rank Ordered by Nation
for Each Year: NATO

	Troop Commitments	U.N. Votes	Analysis of Events
GNP/Capita Growth Rate		-.18 (30)	-.38 (11)
GNP/Capita		-.05 (13)	
Military Expenditures	-.34+ (20)	.12* (208)	.03 (71)
Population	0.43+ (15)	.09 (218)	.16 (64)
Crude Steel Production	-.10 (15)	.17**(192)	-.04 (61)

+   =   P<.10
*. =   P<.05
** =   P<.01
Numbers in parentheses are the number of cases.

rate in Table IVb, and almost half of them, three out of eight, are
positive while they should be negative if the hypotheses are correct.

Similarly, eight of the ten correlations linking the power base indicators
to voting agreement in the U.N. are opposite to the predicted negative

direction, some of them significantly so. Moreover, the correlations in

Table IVa, with the data rank ordered from year to year, are contaminated

by the fact that the power base data for each country tend to slope steadily

upwards over time. In Table IVb, where this contaminating factor is con-

trolled by rank ordering the data from country to country for each year,

almost all of the negative correlations between the power base indicators

and the cohesion indicators have decreased in magnitude in comparison with

Table IVa. The correlation between the analysis of events and population,

changes from -.15 in Table IVa to +.16 in Table IVb. In short, with the

possible exception of the correlations between troop commitments to NATO

and the military expenditures, population, and crude steel production

indicators, these aggregate data do not support the hypothesized linkages

between the cohesion indicators and the power base indicators.

TABLE V

NATO Members' Rank Orderings on Cohesion Indicators
for Selected Years.

A.   Troop Commitments

	1948	1952	1956	1962	1966	1968
Belgium				3	4	4
Canada				11	9	10
Denmark				3	2	2
France				13	14	13
Germany				8	5	5
Greece				7	8	6
Iceland						
Italy				10	6	8
Luxembourg				3	10	9
Netherlands				3	2	2
Norway				3	2	2
Portugal				9	12	12
Turkey				6	7	7
United Kingdom				12	11	11
U.S.A.				14	13	

B.   U.N. Votes

	1948	1952	1956	1962	1966	1968
Belgium	10	11	2	12	4	
Canada	4.5	2	3	7	3	
Denmark	6	4	11	9	10	
France	12	8	12	14	13	
Germany						
Greece	9	12	14	11	11	
Iceland	1	5	1	8	6	
Italy			4	5	5	
Luxembourg	2	6	7	1	2	
Netherlands	4.5	1	9	2	1	
Norway	7	7	13	10	8	
Portugal			8	13	14	
Turkey	11	10	6	3	12	
United Kingdom	3	9	5	6	9	
U.S.A.	8	3	10	4	7	

C. Analysis of Events

	1948	1952	1956	1962	1966	1968
Belgium		8.5			11	5.5
Canada		8.5	2		6.5	8
Denmark		1.5			4.5	1.5
France		10	6	6	14	9
Germany			7	1	9	4
Greece		6	4		4.5	
Iceland			9		2	
Italy			1	2	8	
Luxembourg						
Netherlands		6	10		2	
Norway		1.5	8		2	1.5
Portugal				5	13	
Turkey		3			6.5	5.5
United Kingdom		6	5	4	12	3
U.S.A.		4	3	3	10	7

The aggregate data, then, suggest that the linkage between external threat and the indicators of cohesion may be a significant one or, at least, there is no evidence in the aggregate data which would lead us to reject the hypothesized linkages between perceptions of the opposing bloc and U.N. voting or between conflict intensity and the three indicators of cohesion employed. On the other hand, the expected relationships between the cohesion indicators and the power base indicators did not appear. A look at some individual NATO members may suggest some refinements to the hypotheses.

The rank orderings of each of the NATO members on each of the three indicators of cohesion are shown in Table V. The higher a nation's rank, the higher its level of cohesion. Thus France, for example, ranked lowest on both the troop commitment indicator and the analysis of events in 1968, meaning France was the nation least committed to the alliance. A quick glance at France's ranks over the years in comparison with

other NATO members reveals that France has been the "maverick" in NATO. The Netherlands, on the other hand, has ranked most consistently high on the cohesion indicators and might be termed NATO's most loyal "camp follower". These two nations, then, along with the U.S. as "leader" of the alliance, merit individual attention. It must be noted, however, that the number of cases summarized in the correlations for only one country is extremely small and inferences from them should be drawn very carefully. In some cases, the correlations are not statistically valid, that is, when the number of observations is less than 11. As long as the N is 5 or greater, these correlations are reported anyway but no probabilities may be attached to them. The troop commitment indicator does not give an N of more than 4 in any of these cases and is, therefore, excluded from the analysis. Similarly, the data on perceptions of the opposing bloc leader cover only four particular years; they, too, are therefore excluded from the analysis.

TABLE VI

Correlations of Cohesion Indicators with Indicators
of Power Base and External Threat: France

| | U.N. Votes | | | | Analysis of Events | |
	1-year lags	5-year lags			1-year lags	5-year lags
Military Expenditures	-.33+(15)	-.49*(13)	-.07 (8)	-.64(8)	-.43(8)	-.47(6)
Population	-.35*(18)	-.35+(16)	-.38+(11)	-.57(8)	-.56(9)	-.81(7)
Crude Steel	-.34+(17)	-.12 (15)	-.11 (9)	-.50(8)	-.28(9)	-.80(5)
Total Conflict Intensity	.18 (16)	-.04 (15)	.16 (10)	.10(7)	.07(8)	.24(7)
Verbal Conflict Intensity	.08 (16)	-.05 (15)	-.02 (10)	.43(7)	.07(8)	-.60(6)

+ = P<.10   ** = P<.01
* = P<.05   Numbers in parentheses are the number
                    of cases.

TABLE VII

Correlations of Cohesion Indicators with Indicators
of Power Base and External Threat: The Netherlands

	U.N. Votes			Analysis of Events		
		1-year lags	5-year lags		1-year lags	5-year lags
Military Expenditures	.36*(18)	.32+(17)	.20 (10)	.20(5)	.60(5)	
Population	.22 (20)	.40*(18)	.42+(11)	.60(5)	.60(5)	
Crude Steel Production	.16 (19)	.38*(17)	.29 (10)	.60(5)	.60(5)	
Total Conflict Intensity	.12 (18)	.13 (17)	.24 (10)	-.78(5)	-.80(5)	
Verbal Conflict Intensity	.03 (18)	.09 (17)	-.20 (11)	-.20(5)	.40(5)	

TABLE VIII

Correlations of Cohesion Indicators with Indicators
of Power Base and External Threat: The U.S.A.

	U.N. Votes			Analysis of Events		
		1-year lags	5-year lags		1-year lags	5-year lags
Military Expenditures	-.25 (17)	.10(15)	-.24(10)	-.21(8)	-.50(8)	.14(7)
Population	.15 (20)	.16(18)	.20(11)	-.21(8)	-.33(9)	-.43(7)
Crude Steel Production	.09 (19)	.00(17)	.38(10)	.14(8)	.22(9)	-.47(6)
Total Conflict Intensity	.29+(18)	.29(17)	.14(10)	-.30(7)	.14(8)	-.14(7)
Verbal Conflict Intensity	.19 (18)	.16(17)	-.13(11)	-.14(7)	-.14(8)	.20(6)

+ = P<.10
* = P<.05
** = P<.01
Numbers in parentheses are the number of cases.

The correlations between the remaining indicators for France, the Netherlands, and the U.S. are shown in Tables VI, VII, and VIII. There are some interesting differences between the correlation matrix for France, on the one hand, and the correlation matrices for the Netherlands and the U.S. on the other hand.

First, contrary to the findings suggested by the aggregate correlations, there do appear to be some negative relationships, as originally predicted, between the power base indicators and the cohesion indicators for France. In Table VI, military expenditures (-.33), population (-.35), and crude steel production (-.34) are all negatively correlated with U.N. voting at the .10 level of significance or better. When the data are lagged, that is, the power base indicators are correlated with measures of the cohesion indicators one year and five years later, these correlations remain negative. With the one-year lag, the correlations of military expenditures and population with U.N. voting increase in magnitude and remain significantly negative. The correlation between crude steel production and U.N. voting remains negative, but is no longer significant. With a five-year lag, these three correlations still remain negative, though only the U.N. voting - population correlation (-.38) is significant. Similarly, the correlations of the analysis of events with military expenditures, population, and crude steel production are all negative and quite large, and they remain large and negative with the one-year and five-year time lags, though because of the small N's these correlations cannot be said to be significant.

Turning to the Netherlands, however, we see in Table VII that

the correlations of both indicators of cohesion, U.N. voting and the
analysis of events, with the three power base indicators for which
there are sufficient data (once again, military expenditures, population,
and crude steel production) are all positive and remain positive with
the one-year and five-year time lags. The correlations between U.N.
votes and these three power base indicators, in fact, are all significantly
positive at the .10 level or better with a one-year time lag.

While the contrast between France and the U.S. is not as
glaring as that between France and the Netherlands, the difference is
still worth noting. Two-thirds of the correlations between the
analysis of events and the power base indicators of military expenditures,
population, and crude steel production in Table VIII are negative, as
hypothesized, but not highly negative considering the small N's.
Military expenditures are negatively correlated with U.N. voting for
the U.S. on the straight correlation and with a five-year lag, but not
significantly so and this correlation is positive with the one-year time
lag. All of the U.N. voting correlations with population and with crude
steel production are positive.

The second noteworthy item is that, whereas the difference
between France and the other two NATO members is quite striking when we
consider the relationship between power base indicators and the
indicators of cohesion, there is not any appreciable difference among these
three nations when we look at the linkage between the cohesion indicators
and the two indicators of conflict intensity. For France, the
correlations between both cohesion indicators and both conflict intensity

indicators, without time lags, are all positive as predicted in the hypotheses at the end of Chapter III. With a one-year lag, as may be seen in Table VI, the correlations between U.N. votes and the two conflict intensity measures are slightly negative, and with a five-year lag the correlations between verbal conflict intensity and the two cohesion indicators are negative.

The pattern is similar for the Netherlands. In Table VII, we find negative correlations between the analysis of events and both conflict intensity indicators without time lags; a negative correlation between the analysis of events and verbal conflict intensity with a one-year lag; and a negative correlation between U.N. votes and total conflict intensity with a five-year lag. None of the correlations is significant. Table VIII shows that the pattern for the U.S. without time lags and with a one-year lag is exactly the same as for the Netherlands. With a five-year lag, two of the four correlations between cohesion indicators and conflict intensity measures are negative.

In short, the pattern for all three nations is mixed and the relationships between cohesion indicators and the conflict intensity indicators are almost all not statistically significant, in contrast with the fairly strong relationships between these two variables, cohesion and conflict intensity, in the aggregate correlations discussed above. The correlations between the power base indicators and cohesion are quite strongly negative for France, again in contrast with the aggregate correlations, but positive for the Netherlands and mixed for the U.S.

It appears that the hypothesized relationships between the cohesion indicators and the power base indicators might be fruitfully pursued in the future if they are reformulated to suggest a relationship between power base indicators and cohesion for maverick or deviant members of an alliance, though not for loyal alliance members or for the leader of an alliance. On the other hand, a decline in external threat, or at least in conflict intensity, does not appear to be strongly linked with the decline in French commitment to NATO, but other alliance mavericks should be examined before rejecting the hypothesized linkages between alliance cohesion indicators and indicators of conflict intensity. It should be emphasized that these suggestions are tentative, based as they are on only three nations, and that nothing can be said here about the various indicators not considered in the analysis of France, the Netherlands, and the U.S. Further, these findings can be said to reflect on the two general propositions linking cohesion to external threat and power only to the extent that the indicators employed are accurate measures of these variables, and in the case of the cohesion and external threat variables this is questionable.

The Warsaw Pact

Analysis of the Warsaw Pact is even more difficult than NATO because of the small number of nations in the alliance. In addition, the data limitations are more severe with the Warsaw Pact members. Because there were only eight members in this alliance (seven after the withdrawal of Albania) no valid correlations could be computed by rank ordering the countries for each year. Therefore only the time

series rankings, that is, rank ordering the data from year to year for each alliance member, were done. This meant that the data on perceptions of the other bloc and perceptions of the other bloc leader were excluded from the analysis.

In addition, there are no data on troop commitments to the Warsaw Pact, leaving only U.N. votes and the analysis of events as indicators of cohesion. All of the power base indicators are still included, but two of them, GNP per capita growth rate and GNP per capita, are quite unreliable for Communist countries as Triska (1969), for example, has noted.

The unreliability of the two GNP indicators is reflected in the aggregate correlations reported in Table IX. Both of the GNP indicators of power base are very slightly correlated with the other three power base indicators, more often than not in a negative direction. Military expenditures, population, and crude steel production, however, are all strongly positively correlated with each other. The latter three indicators taken alone appear to provide an adequate indication of the power base of the members of the Warsaw Pact.

The two indicators of external threat which we are able to use for the Warsaw Pact, total conflict intensity and verbal conflict intensity emanating from the West, are negatively correlated with each other in the aggregate (-.15), though this may be more an indication of inconsistent statements and behavior by the West than of the reliability of these two indicators. The two measures of cohesion, voting in the U.N. General Assembly and the analysis of events, are positively, but not

TABLE IX

Aggregate Correlations Between Power Base Indicators
With the Data Rank Ordered By Year for Each Nation:
Warsaw Pact

	GNP/Capita	Military Expenditures	Population	Crude Steel Production
GNP/Capita Growth Rate	.60 (7)	-.16 (42)	.06 (42)	.06 (38)
GNP/Capita		-.10 (15)	-.06 (16)	-.05 (14)
Military Expenditures			.32**(96)	.32** (91)
Population				.43**(124)

+ = P<.10
* = P<.05
** = P<.01
Numbers in parentheses are the number of cases.

strongly correlated (.13). As was suggested in the discussion of the

reliability the cohesion indicators for NATO, the lack of a strong

relationship between the cohesion indicators may mean that we are

tapping different aspects of alliance cohesion, though it is not

certain that we are, in fact, measuring cohesion.

Given these difficulties with the indicators, we should, as

with the analysis of NATO, be quite wary of drawing unsupported inferences

from the correlations, particularly the aggregate correlations. Even

without this warning sign, however, the aggregate correlations reported

in Table X do not suggest that the general propositions relating the

cohesion variables should be either accepted or rejected. We may,

however, speak with somewhat more confidence about some of the specific

hypotheses offered in Chapter III.

TABLE X

Aggregate Cohesion Indicators Correlated With Power
Base and External Threat Indicators with the Data
Rank Ordered By Year for Each Nation: Warsaw Pact

	U.N. Votes	Analysis of Events
GNP/Capita Growth Rate	.11 (34)	-.03 (18)
GNP/Capita	.10 (14)	
Military Expenditures	-.25**(77)	-.02 (41)
Population	-.27**(77)	-.03 (42)
Crude Steel Production	-.02 (72)	.18 (37)
Total Conflict Intensity	-.11 (49)	.09 (16)
Verbal Conflict Intensity	.30* (49)	.09 (16)

+   =   P<.10
*   =   P<.05
** =   P<.01
Numbers in parentheses are the number of cases.

It will be recalled that the hypotheses relating the

cohesion indicators to the power base indicators predicted, in each

case, a significant negative correlation. The correlations between

the two GNP indicators and U.N. voting are both positive, suggesting

that hypotheses 14 and 17 do not hold true for the Warsaw Pact, though

as mentioned above very little confidence can be placed in these two

power base indicators.

GNP per capita growth, military expenditures, and population

are all negatively correlated with the analysis of events, but these

correlations are so close to zero that it is probably closer to the truth to say that there is no relationship, either negative or positive, between the analysis of events and these three power base indicators. Crude steel production is positively correlated with the analysis of events, while a negative correlation was expected. For all four of the linkages between power base indicators and the analysis of events, then, the aggregate correlations provide no evidence in support of the hypotheses.

There are, however, quite strong negative correlations between military expenditures and U.N. voting and between population and U.N. voting, although there is only a very slight negative correlation between U.N. voting agreement and crude steel production. Hypotheses 26, linking the latter two variables, is not supported by the aggregate correlation, then, but hypotheses 20 and 23, predicting negative correlations between U.N. voting and the military expenditures and population indicators are not rejected on the basis of the aggregate Warsaw Pact correlations.

Turning to the relationship between the conflict intensity measures and the two cohesion indicators, in Table X we find positive, but not significantly high, correlations between the analysis of events and both measures of conflict intensity, and between U.N. voting and total conflict intensity there is a small negative correlation. There is no support, then, for hypotheses 2, 3, and 6, but also insufficient evidence to reject these hypotheses with any confidence. Hypothesis 5, suggesting a strong positive correlation between U.N. voting and verbal

conflict intensity, is supported by the aggregate correlation of .30,

significant at the .05 level, though no truly valid inference can be

drawn since the aggregate correlation is an inflated one.

TABLE XI

Rank Orders of Warsaw Pact Members on Cohesion Indicators
For Selected Years

	Albania		Bulgaria		Czechoslovakia		East Germany	
	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events
1956	2	6	2	4	4	2.5		1
1960	7	8	5.5	7	1	1		4
1964	3.5	7	3.5	2	3.5	6		2
1966	1	8	4	6	4	2		2
1968		8		1		6		3

	Hungary		Poland		Rumania		U.S.S.R.	
	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events	U.N. Votes	Analysis of Events
1956	7	8	6	7	5	2.5	2	5
1960	3	6	3	4	3	4	5.2	2
1964	3.5	4	3.5	2	7	8	3.5	5
1966	4	5	4	2	7	7	4	4
1968		4		2		7		5

Proceeding in the same fashion as in the analysis of NATO,

we must look next at the individual Warsaw Pact members most closely

and least closely aligned with the alliance, and at the Warsaw Pact

"leader", the U.S.S.R. In Table XI, the rank orderings of the various members of the Warsaw Pact on the two indicators of cohesion are reported for various years. Even-numbered years are selected because data on the analysis of events were only compiled for even-numbered years. Rumania and Albania are almost equally deviant from the alliance. Rumania, however, will be analysed as the alliance "maverick" because our data for Rumania are more complete on the power base indicators than the data for Albania. East Germany is clearly a loyal member of the alliance, but since East Germany is not a member of the U.N. we

TABLE XII

Correlations of Cohesion Indicators with Indicators of Power Base and External Threat: Rumania

	U.N. Votes				Analysis of Events	
	1-year lags	5-year lags			1-year lags	5-year lags
Military Expenditures	-.56 (10)	-.32 (11)	.48 (8)	-.40(5)	-.40 (5)	
Population	-.38+(11)	-.38+(11)	-.41 (10)	-.60(5)	-.47 (6)	-.40 (5)
Crude Steel Production	-.38+(11)	-.47*(13)	-.41 (10)	-.60(5)	-.47 (6)	-.40 (5)
Total Conflict Intensity	.22 (9)	.09 (12)	.00 (10)		-.20 (5)	.20 (5)
Verbal Conflict Intensity	.67 (9)	.16 (12)	-.23 (10)		.80 (5)	-.40 (5)

+ = P<.10
* = P<.05
** = P<.01
Numbers in parentheses are the number of cases.

could do only half an analysis. Poland, however, is a U.N. member and, at least in terms of our two measures of cohesion and in comparison with

other Warsaw Pact members. Poland, then, will be treated as the "loyal camp follower," Rumania as the "maverick," and the Soviet Union as the "leader" of the Warsaw Pact.

TABLE XIII

Correlations of Cohesion Indicators With Indicators of Power Base and External Threat: Poland

		U.N. Votes			Analysis of Events	
		1-year lags	5-year lags		1-year lags	5-year lags
Military Expenditures	-.29 (10)	-.11(10)	-.14(7)	.17(6)	-.33(7)	.00(6)
Population	-.03 (12)	-.13(11)	-.22(9)	.83(6)	.44(7)	.17(6)
Crude Steel Production	.24 (12)	-.13(11)	-.22(9)	.83(6)	.67(7)	.17(6)
Total Conflict Intensity	.20 (10)	.16(10)	.06(9)	.11(5)	.17(6)	-.33(6)
Verbal Conflict Intensity	.38 (10)	.07(10)	-.22(9)	.11(5)	-.17(6)	.50(6)

TABLE XIV

Correlations of Cohesion Indicators with Indicators of Power Base and External Threat: U.S.S.R.

		U.N. Votes			Analysis of Events	
		1-year lags	5-year lags		1-year lags	5-year lags
Military Expenditures	.05 (14)	.05(11)	.43(9)	.33(6)	-.62(7)	.40(5)
Population	-.33 (12)	-.18(10)	.08(8)	-.20(5)	-.47(6)	
Crude Steel Production	.01 (14)	.13(12)	-.54(9)	-.33(9)	-.05(7)	.20(5)
Total Conflict Intensity	.09 (12)	-.14(12)	-.20(9)	-.20(5)	-.07(6)	.40(5)
Verbal Conflict Intensity	.36+(12)	.23(12)	-.31(9)	-.20(5)	-.33(6)	.60(5)

+ = P<.10
* = P<.05

** = P<.01
Numbers in parentheses are the number of cases.

Comparing these three Warsaw Pact members, the same difference in the relationship between power base and cohesion indicators appears as with France, the Netherlands, and the U.S., and the difference is almost as striking as with NATO members. For Rumania, the alliance "maverick," all but one of the correlations between cohesion and power base indicators in Table XII are negative, both with and without time lags. The sole exception is the correlation between U.N. voting and military expenditures with a five-year lag. All the correlations between U.N. voting and population and between U.N. voting and crude steel production with no time lag and with a one-year lag are significant at the .10 level of probability or better. And, with the exception of the one positive correlation, all of the correlations between the power base and cohesion indicators are at least as negative as -.38. The data for Rumania, then, appear to offer quite consistent evidence in support of the hypotheses linking U.N. votes and the analysis of events to the power base indicators.

The correlations between power base and cohesion indicators for Poland and the U.S.S.R., on the other hand, are far from uniformly negative. In Table XIII, we find a positive correlation between U.N. voting and crude steel production for Poland. All of the remaining U.N. voting - power base indicators correlations, with and without time lags, are negative, but none of them are significantly negative. The largest correlation for Poland in the negative direction is -.29, while for Rumania the smallest negative correlation is -.38. Moreover, all of the correlations between the analysis of events for Poland and

the power base indicators are positive, some of them (the correlations
with population and steel production) quite high. Though the N's
here are very small, all of the correlations in the Rumania matrix
between power base indicators and the analysis of events are negative.

There is a similar contrast between Rumania and the Soviet
Union. Only three of the nine correlations in Table XIV between U.N.
votes and power base indicators are negative, none of them significant.
Five of the eight correlations for the Soviet Union between the
analysis of events and the power base indicators are negative, but
most of them are quite small considering the N's and, to repeat, all
of the Rumania correlations with the analysis of events are negative.

To summarize, for the U.S.S.R. there is weak support for the
hypothesized negative relationships between population and both
cohesion indicators, but no support for the hypothesized negative
linkages between the cohesion indicators and military expenditures or
crude steel production. For Poland, there is some weak support for the
hypotheses linking U.N. votes to each of these three power base
indicators, but no support for the hypotheses relating the analysis of
events and the three indicators of power base. For Rumania, there is
consistent, though not highly significant in terms of probabilities,
support for all of the hypothesized negative relationships between
cohesion indicators and power base indicators. There is the same
contrast, then, between the alliance "maverick" on the one hand, and
the alliance "leader" and "camp follower" on the other hand, as in
NATO. This lends further support for the reformulation of the hypotheses

linking cohesion indicators with power base indicators suggested above in the discussion of France, the Netherlands, and the U.S.: there may be a significant negative correlation between cohesion indicators and power base indicators when alliance "mavericks" are considered, but not with loyal alliance members of alliance "leaders".

As was the case with the individual NATO members, there is no really striking relationship apparent in Tables XII, XIII, and XIV between the cohesion indicators and the two indicators of conflict intensity. It will be recalled that positive correlations between these two sets of indicators were predicted in the hypotheses in Chapter III. For Rumania, however, only two of the four correlations between the analysis of events and the two conflict intensity measures are positive (the N for the correlations without time lags is less than 5 in this case, so these correlations are not reported). All but one of the correlations between the conflict intensity measures and U.N. votes are positive, but only one of these is higher than .22 and the relationships are not significant.

In Table XIII, we find that the pattern is much the same for Poland. One of the correlations between U.N. voting and the conflict intensity measures is negative. The rest are positive, as predicted in the hypotheses, but the only correlation greater than .20 is that between the analysis of events and verbal conflict intensity, but with an N of only 6. The remaining correlations between the analysis of events and the conflict measures are uniformly low and two of them are negative.

Looking at Table XIV, in the data on the Soviet Union the correlation between verbal conflict intensity and U.N. votes is .36 which is significant but only at the .10 level, and three of the remaining five correlations between U.N. votes and the two conflict intensity measures are negative. Similarly, four of the six correlations between the analysis of events for the Soviet Union and the conflict intensity measures are negative.

As was the case with the NATO members, then, the relationships between cohesion indicators and conflict intensity measures are mixed for all three countries. However, the negative correlations are all fairly low and the N's are small, so while there is no real support for the hypotheses linking cohesion indicators and conflict intensity indicators for any of these three nations, neither is there any conclusive evidence that the hypotheses should be rejected.

The findings for both alliances, then, are similar when individual members of the alliances are analyzed. In the concluding chapter, I shall elaborate on the theoretical implications of these findings.

CHAPTER V

CONCLUSION

To summarize briefly, the aggregate correlations for the

two alliances do not suggest any significant relationships between the

cohesion variable and the power base variable, though there is some

evidence in the aggregate in support of a few of the more specific

hypothesized linkages between some of the indicators of power base

and certain indicators of cohesion such as, for example, the relation-

ships between troop commitments to NATO, on the one hand, and military

expenditures, population, and steel production on the other hand. Yet

there seems to be quite a strong negative relationship between the

indicators of cohesion and power base indicators for the mavericks

in each alliance, France and Rumania, while there is not for the more

loyal members of these two alliances. There is some evidence to

support the hypothesized relationships between alliance cohesion

indicators and indicators of external threat, in the aggregate

correlations. However, these relationships do not hold up when

individual alliance members are considered.

These findings suggest a number of questions which merit

consideration. Is there any explanation for the discrepancies

between the aggregate correlations and those for individual members

of the alliances? How much confidence can we place in the findings

reported here? How do these findings reflect on the previous studies

of alliances discussed in the introductory chapter? What are the

theoretical implications of the analysis?

It should be noted that there is no glaring discrepancy between the aggregate correlations relating power base indicators to cohesion indicators and the corresponding correlations for the Netherlands and the U.S. in NATO; only the deviant NATO member, France, demonstrates strong relationships between power base indicators and cohesion indicators. In the Warsaw Pact, the aggregate relationships are negative between cohesion indicators and power base indicators, as are the corresponding correlations for Rumania, though for the loyal alliance member, Poland, and the alliance leader, the U.S.S.R., these relationships do not appear to hold. Two factors might account, at least in part, for these discrepancies. First, for the more committed members of the alliance there is little, if any, change over time in their commitment to the alliance. The smaller the range of commitment for a nation, the smaller the possible range of relation-ships between commitment and explanatory variables. For the mavericks, however, there is a more or less steady decline in cohesion and a more or less steady rise in power base inflated by the fact that the power base variables are prone to rise in value with the passage of time. Second, the aggregate correlations are somewhat inflated, both in magnitude and in level of significance by virtue of the fact that they are aggregates, while the significance levels of the correlations for individual nations are deflated by the small N's on which those correlations are based. These same two factors may also account, at least in part, for the discrepancy between the confirmation of many of the hypothesized linkages between cohesion indicators and indicators

of external threat in the aggregate correlations, and the comparative

absence of evidence to support those linkages in the data for

individual countries.

The inflated nature of the aggregate relationships, the
small N's on which the correlations for individual nations are based,

and the fact that only three specific cases in each alliance were

singled out for individual attention, must, of course, be regarded as

limiting factors on our confidence in the results reported. With these

limitations in mind, the statistical results have been interpreted

warily, and regarded only as descriptive evidence. Statistical tests

however, while they do provide us with one criterion for deciding

whether a relationship is real, cannot be the only criterion.

Statistical significance, as Gold puts it (1969, p. 46) "is only the

minimal criterion, necessary but not sufficient" for establishing the

substantive significance of a relationship. Campbell and his associates[1]

have suggested a number of factors which may threaten the validity of an

empirical relationship. The factors most relevant to the present

research are instability of the relationship, which is the threat

to validity which is appropriately countered by statistical tests;

maturation, that is, changes occurring as a function of the passage

of time; and failure to include variables which might better, or more

validly, explain the dependent variable.

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1   Cf. Campbell and Stanley, 1964; Winch and Campbell, 1969; and
     Webb, Campbell, _et. al._, 1966.

The possible effect of maturation on the power base indicators has been mentioned above. It is, clearly, a contaminating factor for these indicators. However, this is a serious difficulty only in the aggregate correlations. Passage of time is a contaminating factor in the power base data for the Netherlands, the U.S., Poland, and the Soviet Union, just as it is for France and Rumania. It should be safe to assume that maturation has approximately the same effect on all six of these nations; the observed differences between the "mavericks" and the other alliance members examined may, then, still be regarded as "real". The conflict intensity measures of external threat are constant for each nation within each alliance and they fluctuate considerably; there are also fluctuations up and down over time in the perceptual measures of threat. These four measures do not appear to be significantly affected by maturation, though we cannot be sure that the fluctuations would be the same if time were somehow held constant. Alliance cohesion indicators may be affected by maturation; history suggests that alliances die more or less gracefully as they grow old. But this does not imply that passage of time causes alliances to whither - other factors intervene. As with the power base indicators, we may say that time has passed for all members of the alliances, and the comparisons of individual members should hold.

Other explanatory factors may, of course, intervene between alliance cohesion and power base or external threat. Many of these are mentioned in the literature discussed in the introductory chapter.

Geographical factors, cultural homogeneity, and historical
experience with isolation or collaboration may be significant.
Ideology and dependence on the U.S.S.R. have frequently been assessed
as having a significant effect on the unity of the Communist bloc or
the Warsaw Pact. Idiosyncracies of leaders such as de Gaulle, and
obligations to other international co-operative structures or
organizations are often mentioned in connection with the decline
in the cohesion of NATO. Certainly, these and other factors should
merit consideration in future studies, as they have in the past.

The analysis presented here differs from previous studies
of alliances, even those dealing specifically with NATO and the
Warsaw Pact, in that the data employed, the methods of aggregating
those data, and the manipulations performed on the data, are
different. These qualifications aside, however, some interesting
conclusions are suggested by the data.

In the aggregate correlations between power base indicators
and cohesion indicators, we find in Table IV that the only consistently
high negative correlations are with troop commitments to NATO. This
might be explained by the fact that national armed forces were fairly
small in the early post-World War II period. As the size of the
armed forces of various countries in Europe (and the U.S.) increased,
the percentage of those forces committed to NATO could be decreased
while still maintaining the same absolute number of armed forces
committed to NATO. Comparing country with country in NATO, the smaller
members of the alliance, with small armed forces, have some incentive

to commit a large proportion of their forces to the alliance, perhaps
reasoning that they can receive greater security by maintaining a
high commitment to NATO than by relying more heavily on their own
resources for defence. The stronger members of the alliance,
however, can more safely rely on their own large armies for
defence and, in the case of the U.S., Britain, and France, on
nuclear weapons. French acquisition of nuclear weapons may, in
fact, be a very potent explanatory factor in the decline of French
commitment to NATO.

In the aggregate correlations between power base indicators
and cohesion indicators for the Warsaw Pact, reported in Table X,
only the correlations of U.N. votes with military expenditures and
population are strongly negative. The general picture remains the
same as for NATO: no consistent, strong relationship between cohesion
and power base for the alliance as a whole. This is quite possibly
due to the fairly steady allegiance of the smaller members of both
alliances; it may be that while the power of smaller states has
grown since the formation of the alliances, it has not grown enough
for them to feel secure in a less dependent role. Alternatively,
however, this pattern might be interpreted as support for the
contention advanced in Chapter II above, that growth in national
power is a necessary, though not a sufficient condition for a decline
in commitment to an alliance. The smaller nations in the two alliances,
although they have increased their power, have not increased that
power to a level sufficient to allow them to feel secure in pursuing

a more independent policy. Other nations, notably France and
Germany, have done so. A similar argument can be advanced in
terms of status inconsistency: while the power of the smaller
alliance members has increased, it has not increased to the extent
that they perceive their ascribed status within the alliance to be
inconsistent with their actual power. For the larger members of
the alliances, however, the status ascribed to them within their
blocs has not kept pace with the growth of their power.

The aggregate correlations between external threat indicators
and cohesion indicators for NATO are mainly strong and in the expected
direction, with the exception of the correlations with the analysis
of events, as can be seen in Table III. However, only one of the
four aggregate correlations between conflict intensity and cohesion
indicators for the Warsaw Pact, in Table X, is both strong and in the
expected direction. For NATO, this might be regarded as evidence
in support of the general proposition that alliance cohesion declines
as external threat diminishes. For the Warsaw Pact, it may be that
the dogmatic view of the imperialist menace overrides any actual
diminution of threat emanating from the West; or that the myth if not
the reality of external conflict must be kept up in order to maintain
internal stability and solidarity; or, alternatively, that the Warsaw
Pact functions not only as an alliance but also, and perhaps even more
so, as an internal regulating mechanism for the body of Communist
states in Europe. The latter explanation is offered some support by
the course of events in Czechoslovakia in 1968.

The findings from the analysis of individual countries suggest that a potentially fruitfull line of inquiry might be to devote more attention to nonconforming alliance members as, for example, Ole R. Holsti and John Sullivan (1969) have done. While the hypothesized relationships between power base and alliance cohesion indicators are confirmed for the deviant alliance members, they are not confirmed by the data on conforming alliance members. Once again, these data suggest that a growth in national power, though to what level must remain unspecified, may be a necessary condition for a decline in commitment to an alliance, but is not a sufficient condition since increases in national power were also recorded in this period by the nations who maintained their conformity with the alliance.

If growth in power is not a sufficient condition for declining commitment to the alliances, then we might speculate on some other factors which may have combined with the increase in power to produce the decreased commitment of France and Rumania to their respective alliances. The data do not indicate a strong relationship between the measures of external threat and the measures of cohesion for the individual countries; this factor may explain part of the variance in alliance cohesion, but, at least in the cases discussed here, not the major part. It was suggested in Chapter II that the distinction between pluralistic and authoritarian systems might help to explain differences in levels of commitment to an alliance. In NATO, France has usually been regarded as more authoritarian than

either the Netherlands or the U.S. and it was France whose commitment to the alliance declined most as her power increased. In the Warsaw Pact, however, Rumania has shown less evidence of authoritarian policies than Poland or the U.S.S.R., though all three nations could be more aptly described as authoritarian than as pluralistic. It appears, then, that the distinction between pluralistic and authoritarian politics may be more germane to an analysis of an alliance with a pluralistic structure, such as NATO, than of a more monolithic alliance such as the Warsaw Pact. In NATO, the fact that France is less pluralistic than other members of the alliance allows greater scope for the influence of the idiosyncracies of the head of government, and greater scope for response to changed conditions. In the Warsaw Pact, it could be the case that growing pluralism in Rumania was necessary in order for the government to have greater freedom of action in foreign policy. It could be fruitful, in future analyses, to consider a reformulated version of the pluralist-authoritarian argument discussed here: deviation from the ideological and structural norms of the system affords members of the system greater freedom of action in foreign relations. The utility of such a reformulation, of course, remains to be seen; however, the data reported above do provide some evidence that this may be a relevant line of inquiry.

In conclusion, the findings of this study indicate that the contrast between conforming and nonconforming alliance members is an interesting one. It should be of interest, in future research, to examine alliance members who deviate from the norms of their alliance, in either direction, in a number of current and historical alliances.

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        A.C.Q. .....   Atlantic Community Quarterly
        J.C.R. .....   Journal of Conflict Resolution
        Annals .....   Annals of the American Academy of
                            Political and Social Science
        A.P.S.R.....   American Political Science Review
        J.P.R. .....   Journal of Peace Research

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APPENDIX A

NOTE ON DATA SOURCES

The data employed in the analysis were drawn from a number

of disparate sources. The troop commitment indicator of cohesion for

NATO is based on data available in The Military Balance, London,

Institute of Strategic Studies, for the years 1962-3, 1964-5, 1966-7,

1968-9, and 1969-70. The U.N. voting indices of agreement were compiled

by Avril Campbell from the raw data which were obtained from The

University of Michigan. I am indebted to her both for her generosity

in making these data available and for saving me the considerable time

and effort involved in computing the indices of agreement. The data

created from an analysis of the New York Times Index are my own

responsibility.

The data on external threat are taken from the studies by

Walter H. Corson and Philip T. Hopmann listed in the Bibliography.

The data on GNP per capita growth rate and crude steel

production are taken from The United Nations Statistical Yearbook, and

the figures on population are from The United Nations Demographic

Yearbook. William Moul kindly supplied the data on GNP per capita,

which will be published in Charles L. Taylor, et. al., World Handbook

of Political and Social Indicators, second edition, forthcoming from

Yale University Press. Finally, the data on military expenditures are

taken from the excellent compilation in the Yearbook of World Armaments

and Disarmaments, 1968-69, published in 1970 by The Humanities Press

for the Stockholm International Peace Research Institute.

APPENDIX B

PERCENTAGE OF NATIONAL ARMED FORCES COMMITTED

TO NATO BY MEMBER COUNTRIES

	1962	1964	1966	1968	1969
Belgium	100.0	100.0	096.2	098.5	098.5
Canada	069.4	066.2	061.1	045.4	045.3
Denmark	100.0	100.0	100.0	100.0	100.0
France	029.8	039.5			
Germany	093.7	092.9	093.6	095.6	092.5
Greece	098.6	070.6	066.7	094.5	094.5
Iceland					
Italy	088.5	084.4	088.9	075.4	076.2
Luxembourg	100.0	100.0	050.0	050.0	050.0
Netherlands	100.0	100.0	100.0	100.0	098.5
Norway	100.0	100.0	100.0	100.0	100.0
Portugal	093.4	034.0	014.7	012.8	012.6
Turkey	099.5	078.9	079.5	079.8	079.9
U.K.	038.9	036.1	032.5	027.3	023.2
U.S.	018.1	014.3			

Source: The Military Balance, London, Institute of Strategic Studies

ANALYSIS OF NEW YORK TIMES INDEX PERCENTAGE

POSITIVE OF ACTIONS AND STATEMENTS

NATO

	1952	1954	1956	1958	1960	1962	1964	1966	1968
Belgium	050.0	073.3		066.7	025.0		042.9	061.5	075.0
Canada	050.0	083.3	090.9	100.0	060.0		080.0	075.0	053.8
Denmark	100.0		075.0		075.0		080.0	080.0	100.0
France	032.1	056.0	068.1	052.9	036.7	033.3	014.8	010.6	029.4
Germany			065.1	065.2	072.0	080.0	073.5	063.6	080.0
Greece	066.7	060.0	080.0	016.7	066.7		075.0	080.0	
Iceland			050.0	050.0				100.0	
Italy	040.0	094.1	100.0	094.1		077.8	091.8	066.7	
Luxembourg		071.4							
Netherlands	066.7	069.2	033.3	071.4	100.0	085.7	100.0		
Norway	100.0		057.2	080.0	033.3		071.4	100.0	100.0
Portugal		075.0						060.0	
Turkey	075.0	062.5		025.0			050.0	075.0	075.0
U.K.	066.7	076.9	071.4	057.9	053.1	062.5	054.5	060.7	084.6
U.S.	067.5	079.5	082.1	073.3	046.2	072.9	074.4	062.0	061.0

APPENDIX C

PERCENTAGE POSITIVE OF ACTIONS AND STATEMENTS

WARSAW PACT

	1956 % Pos.	1958 % Pos.	1960 % Pos.	1962 % Pos.	1964 % Pos.	1966 % Pos.	1968 % Pos.
Albania	050.0	033.3	012.5		025.0		
Bulgaria	062.5	100.0	040.0	083.3	100.0	033.3	077.8
Czechoslovakia	072.7	066.7	100.0	100.0	060.0	100.0	033.3
E. Germany	092.2		066.7	100.0	100.0	100.0	069.2
Hungary	015.0	080.0	060.0	075.0	085.9	066.7	060.0
Poland	015.8	080.0	066.7	100.0	100.0	100.0	075.0
Rumania	072.7		066.7	100.0	015.8	015.4	020.0
U.S.S.R.	053.1	100.0	087.5	052.0	081.8	088.9	044.8

APPENDIX D

VOTING IN U.N. GENERAL ASSEMBLY

INDICES OF AGREEMENT

WARSAW PACT

Session	Poland	Hungary	Czechosl.	Albania	Bulgaria	Rumania	U.S.S.R.
3	97.9		98.20				98.7
4	100		100				100
5	100		100				100
6	99.0		98.0				99.0
7	99.0		99.5				99.5
8	100	1	100				100
9	100		100				100
10	100	100	100				100
11	97.57	96.82	98.58	98.63	98.63	98.17	98.63
12	99.77	99.77	98.60	99.77	99.77	99.77	99.77
13	100	100	100	100	100	100	100
14	99.10	99.85	99.85	99.85	99.85	99.85	99.85
15	99.42	99.42	99.50	99.08	99.25	99.42	99.25
16	99.88	99.88	99.88	99.30	99.88	99.88	99.88
17	99.63	99.63	99.73	99.60	99.60	99.63	99.63
18	98.43	98.43	98.43	92.30	98.43	97.30	98.43
19	91.67	91.67	91.67	91.67	91.67	50.0	91.67
20	98.57	98.57	98.57	93.45	98.57	97.60	98.57
21	99.83	99.83	99.83	100.0	99.83	99.17	99.83
22	96.97	97.83	97.38	91.67	97.38	95.07	97.38

APPENDIX D

VOTING IN U.N. GENERAL ASSEMBLY

INDICES OF AGREEMENT

NATO

Sessions	U.S.A.	Can.	U.K.	Neth.	Belg.	Lux.	France	Port.	Italy	Gre.	Nor.	Den.	Ice.	Turkey
3	86.60	88.20	89.01	88.20	85.93	89.02	77.70			85.95	86.86	87.27	89.14	83.34
4	82.28	79.56	77.73	78.37	73.21	74.34	72.08			72.34	81.54	76.15	81.92	78.31
5	80.41	82.93	78.73	82.52	76.92	78.51	80.24			76.83	80.75	82.45	80.68	78.79
6	81.34	86.34	78.85	95.15	78.85	86.64	85.61			75.94	80.26	82.92	84.20	82.92
7	87.90	88.93	85.82	89.47	82.33	87.09	87.03			81.52	87.04	87.70	87.34	83.85
8	82.82	74.38	73.93	74.35	68.45	71.13	77.39			65.08	66.32	67.05	60.42	70.30
9	70.89	78.96	76.75	79.13	77.29	79.55	78.28			52.64	72.36	74.49	65.03	79.68
10	78.18	85.41	71.15	80.88	78.14	85.97	80.02			66.18	71.40	71.40	75.34	82.39
11	86.87	88.85	88.25	86.98	88.93	87.56	83.03	87.02	88.36	75.30	81.81	84.97	89.72	87.67
12	85.05	87.82	88.43	88.89	87.53	88.91	86.85	83.30	89.79	64.85	73.41	73.36	85.45	85.82
13	83.44	83.17	79.28	84.15	78.36	82.53	78.01	74.58	83.41	72.07	66.40	66.40	77.57	82.92
14	79.37	75.03	76.86	80.52	76.74	77.82	71.47	75.37	79.83	76.59	70.88	69.24	69.49	77.94
15	86.54	83.33	84.72	86.05	80.21	85.68	80.02	75.76	85.15	82.25	73.85	73.85	82.80	82.08
16	90.06	88.16	88.12	90.24	86.23	90.35	78.86	77.85	88.23	87.46	83.44	84.35	84.41	85.91
17	90.40	88.43	89.51	91.08	83.23	91.15	77.33	78.40	90.25	85.04	85.83	86.10	87.97	90.60
18	83.05	75.89	80.59	89.55	89.05	75.89	74.75	59.08	81.71	81.46	83.87	82.75	85.80	90.38
19	92.31	92.31	92.31	92.31	92.31	92.31	53.85	53.85	92.31	92.31	92.31	92.31	92.31	92.31
20	82.07	87.36	83.65	87.92	85.99	87.55	72.25	71.89	87.45	71.16	85.45	84.11	87.13	74.20
21	86.06	86.86	83.45	88.05	86.63	87.82	75.89	59.07	86.62	81.32	84.38	82.10	86.42	75.93
22	81.45	83.85	79.92	83.55	85.01	85.25	72.30	64.29	82.47	70.86	79.25	79.89	86.73	63.00

APPENDIX E

TRANSFORMED MEASURES OF TOTAL CONFLICT INTENSITY

AND VERBAL CONFLICT INTENSITY

	Total Conflict Intensity by East	Verbal Conflict Intensity by East	Total Conflict Intensity by West	Verbal Conflict Intensity by West
1948	1767	292	1942	237
1949	683	100	1283	43
1950	367	75	1150	53
1951	467	30	1817	30
1952	450	50	1908	15
1953	383	35	1092	47
1954	283	70	683	110
1955	517	65	817	107
1956	500	125	453	75
1957	400	292	608	108
1958	450	150	583	100
1959	258	110	250	112
1960	700	275	680	147
1961	783	142	717	200
1962	1100	113	967	175
1963	300	90	275	52
1964	117	23	233	42
1965	450	80	1617	08

APPENDIX F

PERCEPTIONS OF OPPOSING BLOC AND OF OPPOSING

BLOC LEADER BY NATO AND WARSAW PACT MEMBERS

NATO MEMBERS

	Perceptions of the Communist System				Perceptions of the Soviet Union			
	1950	1955	1963	1965	1950	1955	1963	1965
United States	4 (85)	63(76)	28 (72)	7(242)		68(65)	33 (58)	
Great Britain	18 (17)	60 (20)	17 (41)	16 (32)		60(20)	68 (38)	100 (2)
France	16 (32)	53 (34)	32(116)	38 (13)		48(31)	22 (76)	29 (7)
Canada	0 (28)	34(161)	100 (13)	17 (58)		42(87)	100 (13)	0 (17)
Norway	6 (35)	56 (9)	45 (11)	14 (14)		56 (9)	100 (3)	
Denmark	0 (3)	60 (10)	100 (6)	47 (16)		50 (6)	100 (6)	
West Germany	24 (99)	45 (20)	25 (8)	30 (60)		45(20)		39 (14)

WARSAW PACT MEMBERS

	Perceptions of the West				Perceptions of the United States			
	1950	1955	1963	1965	1950	1955	1963	1965
Soviet Union	17 (59)	47 (19)	48 (83)	9(115)	17 (59)	56 (9)	43 (44)	9(115)
Albania	13 (55)	34 (41)	16(231)	4(145)	13 (55)	12(17)	11(217)	4(145)
East Germany	13(105)	42 (60)	55 (93)	13(218)	8(105)	42(50)	32 (34)	6(182)
Poland	23 (94)	63 (86)	52 (21)	10(179)	23 (94)	63(86)	27 (11)	10(179)
Hungary	9 (91)	55 (33)	9 (33)	25 (92)	6 (88)	55(11)	6 (16)	25 (92)
Rumania	16(306)	32 (31)	57 (58)	12(217)	17(219)	30(30)	20 (10)	12(215)
Bulgaria	14 (56)	58 (24)	35 (17)	11(109)	61 (49)	56(16)	21 (14)	22 (51)
Czechoslovakia	22 (98)	44 (34)	41 (66)	5(104)	26 (54)	42(33)	28 (18)	5(104)

Source: Hopmann (1969), pp. 126-127, 164-165. The
number given is the percentage of perceptions
which are positive; the numbers of perceptions
are given in parentheses.