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Power and Polarity in the International System

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INTRODUCTION

I will limit myself in this paper to discussing those theoretical and empirical works which focus on:

1. The measurement of power in international politics;
2. Assessing aspects of the distribution of power; and
3. Testing power-oriented theories or approaches, including those with propositions about the polarity of the international system.

Clearly each of these tasks requires careful theorizing if it is to be performed in a convincing manner. I will discuss only those theoretical works, however, which have had a direct impact on empirical studies. The general purpose of this exercise is to find out what has been learned to date and to isolate important questions for further research.

ISSUES OF MEASUREMENT

The study of power in international politics, despite its deep roots in history and theory, has been held back by the lack of reliable and valid measurement strategies. There are three main approaches to measurement. Measurement can proceed in terms of (1) resources or capabilities; (2) control over other actors; or (3) structural power (the ability to establish the rules of the game). Most of the strictly quantitative work on the measurement of power uses the first, while a growing number of descriptive case studies use the second and third.

Capabilities

Resources or capabilities are measured in terms of control over certain types of stocks or flows which in theory can be converted into actualized power. Indicators of military capabilities, for example, include the size of the armed forces, amount of defense expenditures, numbers of various types of weapons, and so forth. Indicators of more generalized capabilities include the population size of a country, its area, its national product, energy consumption, and levels of production of basic goods like iron and steel.¹

Although there is a reasonably high level of correlation among different indicators of military and generalized capabilities, there is enough variation across the different indicators, especially at the high ends of the scales, to pose problems for putting forth an overall index of capabilities. One solution, adopted by Cline,² is to compute a weighted sum of the different indicators. Cline's work has been criticized because his index is overly sensitive to his subjective weighting scheme.³ Another somewhat more defensible solution, adopted by Rummel, is to use factor analysis to arrive at a factor score which is an indicator of the underlying "dimension" which causes the capability indicators to covary.⁴ One useful result from this research is that energy consumption can be used as a proxy variable for other generalized capability indicators. This finding is limited, however, to the post-World War II period and may not be valid for earlier periods.

In the past few years an increasing number of attempts to measure issue-specific capabilities have appeared in the literature. For example, Keohane and Nye use measures of naval power and of international currency reserves as indicators of capabilities in ocean and international monetary affairs respectively;⁵ Knudsen devised indicators for capability in the area of ocean shipping.⁶ The idea of measuring capabilities in a specific area of international affairs is not new, of course. Many historians were careful to distinguish between sea power and land-based power.⁷ Others separate military from economic capabilities. What is new about the more recent works in this field is the attempt to obtain quantitative measures of capabilities which relate to a finite cluster of goals or objectives pursued by contemporary states. One suspects that this is at least partially the result of the "proliferation of issues" in contemporary world politics, which in itself may be a result of the

diffusion of power which some scholars believe has occurred in the past few years.⁸

This is not the place for a detailed definition of what comprises an "issue" or, as it is sometimes called, an "issue-area." An issue-specific capability, however, can be defined as control over a set of resources which are likely to be converted into influence over outcomes of a very limited sort, certainly not over the ultimate fate of nation-states. Thus, a given share of votes in the International Monetary Fund would certainly be considered a capability in the issue-area of international monetary affairs, but it could never be a generalized capability.

A key criticism of the attempt to measure power as capabilities is that its utility depends on the often unstated assumption that capabilities can be converted into actualized power. While a number of theorists acknowledge the need to examine carefully the nature of the conversion process itself, they all appear to believe that it is feasible to use capability scores as predictors of actualized power.⁹ Only a few works to date, therefore, have focused on the question of whether and to what degree a higher level of capability translates into greater control over other actors or over outcomes.

Singer and Small, in their analysis of wars between 1815 and 1965, found that the greater the generalized capabilities of the initiator of a war relative to the other party, the more likely the initiator would win the war.¹⁰ This result is weakened by the fact that it was possible for Singer and Small to identify both the initiator and the winner of a war in less than half of the cases. Ferris came up with similar results in a study of wars between 1850 and 1966.¹¹ The existing evidence, while admittedly spotty, seems to support the idea that a reasonably efficient if imperfect conversion process operates in the case of conventional interstate warfare.

A number of more recent conventional wars, such as those between the Arabs and Israelis in 1948, 1956, and 1967, call into question the idea of an automatic or direct conversion process for generalized capabilities, since the victors scored lower on indicators of generalized capability than the defeated. Organski and Kugler have examined the effect of weighting generalized capabilities by the ability of the state to extract resources from the citizenry, measured in terms of what they call the "tax effort."¹² Although the weighting scheme they propose seems somewhat arbitrary, still it is clear that a successful generalization of the capabilities

approach will require a similar attempt to control for the strength of the state.

There is also some question about the utility of the generalized capabilities approach in predicting the outcomes of insurgency wars. If nations like France and the United States could not triumph over insurgency movements in Algeria and Indochina, is there any way to salvage the generalized capabilities approach without losing one of its most attractive features (i.e., its simplicity)? Mack suggests some reasons why the conversion process seems not to work very well in insurgency wars, the most provocative of which is the inability of nations with greater generalized capabilities to maintain a high level of support from their citizens during this kind of warfare.¹³

As we get away from the question of explaining the outcomes of violent conflicts, the assumption of the existence of an efficient conversion process becomes more questionable. In alliance politics, superiority in generalized capabilities often does not translate into achievement of desired outcomes. Neustadt documents this in his study of the Skybolt missile case; Steinbruner does the same in his research on the Multilateral Force.¹⁴ Studies of the relations between the United States and smaller allies like Taiwan and South Vietnam,¹⁵ and Canada and Australia,¹⁶ provide further evidence. Of course, there is a much older tradition of works in this vein. Diplomatic historians of the period prior to World War I comment frequently, for example, on the inability of Germany to restrain its weaker alliance partner, Austria-Hungary. The question which this research raises, therefore, is: If capabilities do not provide good explanations or predictions of outcomes, then what does?

Control Over Other Actors

The actualized power which we have been talking about above is consistent with the notion of power put forth by Dahl¹⁷ and clarified and defended by Nagel.¹⁸ There are also important parallels between the work of Dahl and Nagel on the one hand and that of Lasswell and Kaplan.¹⁹ The basic idea is to find situations in which two or more actors have differing preferences with respect to possible outcomes and then to observe systematically how well the actual outcomes conform to the preferences of the various actors. If one actor is consistently able to obtain its preferred outcomes, then that actor has more power. Since other actors prefer other outcomes, at least in some situations, then the actor which consistently obtains its preferred outcomes has some power over the other

actors. Nagel and Baldwin argue that this sort of power analysis is basically descriptive and that one should not infer from evidence of power/relationships in one set of situations that similar relationships will hold in other "issue-areas" or "policy/contingency frameworks" or, indeed, in the same issue-area in the future.²⁰ The relative scarcity of work of this sort greatly simplifies the following summary at the same time that it suggests a potential area for further research.

The utility of force, coercion and threats (one set of mechanisms for converting capabilities into actualized power) has received a great deal of attention from theorists, but not very much from empirical researchers. One question of particular interest is the use of military threats by countries which are not normally considered great powers. Knorr argues that, contrary to his earlier writings about the declining utility of military force in a nuclear age, many Third World countries are not as unwilling to use military means to obtain desired results as are the superpowers or the affluent industrialized countries. This, in his view, helps to account for the commonly reported finding that the overall level of warfare in the international system has not declined since World War II. Knorr argues that this is the case because force still has important payoffs, and that factors which constrain the use of force by developed countries, such as fear of nuclear war and a general decline in the militarism of their societies, do not necessarily constrain developing countries.²¹

Another question of increasing interest is the use of various forms of economic leverage to replace or supplement the use of military force. Research on the use of oil power, food power, and technological power has proliferated. Christensen, for example, studies the feasibility of using control over the production and exporting of grain products to obtain political advantages, focusing specifically on the United States. She argues that food power is difficult to use for two main reasons: (1) its potential effects may be greatest for those countries which the United States does not need to influence, and (2) the domestic political costs of using food power may be too high.²² Moran asserts that the potential power that might conceivably be derived from control over technology and sources of investment capital is often blocked in practice by the ability of host states to adopt techniques which increase their bargaining power.²³ Some work has been done on the use of "economic sanctions" which falls more or less in this category. Wallenstein shows that collective economic sanctions are often ineffective because of the lack of unanimity among sanctioners and the ability of the

sanctioned to absorb the costs imposed by the sanctions.²⁴ Knorr obtained similar results with a broader sample of cases.²⁵ Most of the work in this area concludes with cautious statements about the limited convertibility of economic resources into actualized power. Few deny, however, the role that economic capabilities play in strengthening bargaining positions or in creating and maintaining long-term relationships of dependency and interdependence.

Structural Power

Partly as a result of the limited applicability of the capabilities and control over actors' approaches to problems of explaining the evolution of the international economy, a number of scholars began to think about the ability of certain actors to structure the rules of the game, which is what Christensen calls "structural power."²⁶ Clearly, this sort of power also involves the ability to affect specific other actors, but the emphasis here is on the ability to establish the rules and set the agenda for all actors in a given system. This leads to a focus on "regimes," sets of rules, norms, and procedures which help to order a given area of international affairs.

Gilpin and Krasner argue that international economic regimes are established by imperial or hegemonic powers and tend to fall apart as the system moves from domination by a single country to a more pluralistic structure.²⁷ Evidence on behalf of this perspective has been mustered by a variety of scholars, the primary examples being the construction of world economic systems by Holland, Britain, and the United States, and the subsequent collapse of these systems during transitional periods (such as the Great Depression). The most interesting aspect of the Gilpin/Krasner approach is the proposition that the distribution of power in the system makes it possible under certain circumstances for a single actor to establish a regime which is in its own interest. This regime, in turn, establishes the rules of the game for a certain period of time, rules which may not be altered by other actors without damaging the regime itself. Although Gilpin and Krasner have been criticized for not providing an adequate set of criteria for establishing the existence of a hegemonial power and for overemphasizing the role of power shifts in determining the collapse of the world economy during the Depression, their general approach has already had a great deal of influence on the way scholars think about the relations between international politics and the international economy. In the next section I will review some more recent

attempts to generalize from this approach and to provide alternative explanations.

POLARITY AND THE DISTRIBUTION OF POWER IN INTERNATIONAL SYSTEMS

It is useful to distinguish three ways of conceptualizing about the distribution of power. The concentration of power refers to the degree to which power is concentrated in a relatively small number of states. Polarity refers to the number of autonomous centers of power in the international system, which is a function of the distribution of power only among major actors. Polarization is the process by which a power distribution is altered through alignment and coalition formation.

The Concentration of Power

If we regard the concentration of power to be a major concern, we face the immediate question, concentrated by what standard? One answer is, of course, by the standard of perfect equality. The greater the departure of a given distribution of power from a distribution in which the power of each actor is identical, the more concentrated is power. Measuring concentration of power against this standard involves the use of well-known indices like the Gini index, the log function or CON.²⁸

Singer, Bremer and Stuckey use the CON index in their attempt to explain variation in levels of warfare among major powers in the 19th and 20th centuries. They find that higher levels of concentration, and changes in the direction of higher levels, tend to go along with a lower incidence of warfare in the 20th century and a higher incidence of warfare in the 19th. The former relationship is weaker than the latter.²⁹ It is not entirely clear how to interpret these results beyond stating the obvious (i.e., that the 20th century differs from the 19th in this respect).

It seems both possible and desirable to pursue the question of whether the distributions of certain capabilities are becoming more or less concentrated. Russett does this for a number of indicators.³⁰ To my knowledge, no one has tried to update Russett's work on this subject. Also, it would be useful to see more work on explaining the existing distribution of capabilities using more sophisticated null hypotheses than that of perfect equality. Zinnes, for example, discusses some reasons why one might want to test the null hypothesis that the distribution of capabilities

is log normal. If this is so, then according to Gibrat's Law, there is no relationship between the amount of capabilities each state possesses and the growth rate of capabilities. Thus, statements about the "rich getting richer" would not apply to distributions which fit the null hypothesis of log normality.³¹

Polarity

International systems vary according to the distribution of capabilities among units whose functions are similar. Members of alliances, for example, tend to follow policies that differ depending on whether their world is bi- or multipolar. And all students of international politics seem to agree that expected international outcomes vary with changes in the number of great powers, while disagreeing about what variations are to be expected.³²

Polarity, as Waltz suggests, has been the subject of a great deal of theorizing, much more so than any other aspect of the distribution of power. The conventional notion of polarity involves an ordinal scale ranging from unipolarity to multipolarity with bipolarity in between. One power in a preponderant position results in a unipolar system, two bipolar, three or more multipolar. Unipolarity is normally associated with the concept of hegemony, although that term also connotes a form of dominance by a single country which is somewhat less direct than imperial rule. Multipolarity is frequently seen as a prerequisite for the operation of a balance of power system. The main theoretical question connected with polarity is: Does the polarity of the system affect important international outcomes?

That this is a major theoretical question is evident from the extensive and prolonged attention paid to it. The question of the comparison of bipolar and multipolar systems was raised by Kaplan,³³ one of the first scholars to pinpoint the new distribution of power in the post-World War II era as a major departure distinguishing it from previous eras. An active debate on the question of whether bipolar or multipolar systems were more stable, or conducive to peace, began in the early 1960s between Kenneth Waltz and Karl Deutsch and J. David Singer.³⁴

Waltz argued that bipolarity was more conducive to "stability," meaning for him the absence of major conflicts, because it increased the level of competition between the two power blocs while it decreased the uncertainty of bloc leaders about the power of the opponent and reduced the amount of

calculation needed to preserve order. Bipolarity increased the stakes which the bloc leaders had in the status quo, thus leading them to a greater degree of caution and conservatism. Waltz argued that bipolarity tended to reduce the number of neutral states, because the greater the number of neutral states, the greater the uncertainty of the calculations of bloc leaders. Waltz assumed implicitly that bipolarity would become less conducive to stability if there were sudden shifts in the alignments of minor powers. Finally, Waltz argued that the dynamics of the bipolar system would involve crisis diplomacy, rather than power-balancing wars, competition in nonmilitary matters (space races, economic competition, etc.) and only minor shifts in alignment.

Deutsch and Singer argued that multipolarity was more conducive to peace because, although it increased uncertainty and the amount of calculation to be performed by major powers, it also decreased the intensity of conflict between actors when latent conflict became manifest. Since multipolarity made it possible to form a variety of coalitions to deter any given aggressor, there would be little need for crisis diplomacy or deterrent threats.

This debate involved notions of bipolarity and multipolarity which combined elements of what are called polarity and polarization here. For Waltz, a bipolar system is one in which two competing and cohesive blocs, with bloc leaders who are much stronger than the others, maintain themselves over a period of years. For Deutsch and Singer, a multipolar system resembles a classical balance of power, in which three or more major actors of roughly equivalent power are involved in constantly shifting alliances. Since we have defined polarity here to refer only to the distribution of power among major actors with no presumption about the degree of polarization among those actors, we can examine the bipolarity/multipolarity debate in a manner which does justice to the original formulators only if we examine the effects of both polarity and polarization on international outcomes.

A number of works use subjective estimates of the polarity of international systems to test the propositions put forth during the bipolarity/multipolarity debate. Michael Haas reports that, using such a subjective measurement, bipolar systems are less likely to experience major power wars, but when wars occur they are likely to be more intense than those in multipolar systems.³⁵ Rosecrance estimates polarity in different historical periods to attempt to arrive at some conclusions on this and other matters.³⁶ Ernst Haas discusses the

effects of polarity on the operation of international organizations, focusing on the International Labor Organization.³⁷ All of these studies, however, are vulnerable to the criticism that subjective measures do not seem to produce reliable estimates of polarity.³⁸

Nye and Modelski have attempted to sharpen the definition of polarity in such a way as to increase the reliability of measurement while not losing the essence of the concept.³⁹ Since their definitions of polarity rely on the distribution of capabilities indicators rather than measures of actualized power, the validity of their observations may still be questioned. There is also some arbitrariness in the way in which one goes from a distribution of capabilities to a polarity assignment, which may be inevitable. Thus, Nye and Modelski have found reliable but not necessarily valid ways to estimate polarity.

In a recent study of regime changes in ocean affairs and in the international monetary system, Keohane and Nye found that changes in polarity (in this case measured in more subjective terms) with respect to issue-specific capabilities explained changes in regimes better than changes in polarity estimated in terms of generalized capability. But neither generalized nor issue-specific polarity was helpful in explaining regime changes after 1967.⁴⁰ This study is a good example of the use of polarity for explanatory purposes and will probably become a model for future research.

Polarization

Polarization is a process in which actors align themselves with others in attempts to form protective or transformative coalitions. The degree of polarization is the extent to which mutually exclusive subsets of actors with internally friendly and externally hostile relationships form as the result of the polarization process at some given point in time. We have seen how some theorists assumed that bipolar systems would tend to be highly polarized while multipolar systems might be less so, but such an assumption is not logically necessary. A number of studies seem to suggest that the association between polarity and the degree of polarization is very imperfect.⁴¹ If this is so then the degree of polarization may have independent explanatory power.

The most direct approach to the measurement of the degree of polarization is first to estimate the degree of friendliness or hostility in bilateral relations of all actors, usually governments, in the system, and then to estimate how the overall pattern of relations

differs from a perfectly polarized one. One method for performing the latter task is to use a measure taken from the theory of signed directed graphs (also known as the theory of structural balance): the number of relations which would have to be changed in order to produce a perfectly polarized system. More refined measures can also be used.⁴²

Bueno de Mesquita relies on information about formal alliances to measure both the degree of polarization (tightness) and the polarity (size) of major power international systems.⁴³ In a later study, he reports that increases in the degree of polarization are correlated with the incidence and duration of warfare in the international system even though decreases in "tightness" do not always reduce the incidence of war. Bueno de Mesquita also points to the interesting finding that increases in tightness preceded 84 percent of the major wars in his sample.⁴⁴ Ostrom and Aldrich, using Bueno de Mesquita's estimates of polarity (size) and performing a probit analysis, find that no existing theory can account for the effects of size on the probability of major power war.⁴⁵

Goldmann uses both alliances and trade relationships to estimate the degree of polarization in East-West relations, focusing specifically on members of NATO and the Warsaw Treaty Organization. The degree of polarization in trade relationships declined markedly during the 1960s, while polarization in alliance patterns remained relatively high. Goldmann tries to use changes in the degree of polarization to explain changes in tension, and vice versa, with only limited success.⁴⁶

Our interest in the concept of polarization springs from its potential for explaining important international outcomes, independently of the related concept of polarity. Rosecrance argues, for example, that the contemporary international system offers opportunities to decrease polarization that should not be missed because a high degree of polarization increases the probability of major power confrontations and war.⁴⁷ The implications of this line of research for assessing the desirability of detente and other forms of East-West rapprochement are obvious.

CONCLUSIONS

All of the concepts discussed in this paper have demonstrated some utility in explaining important outcomes. Thus, it is reasonable to ask for a concluding section to deal with the question of "targets of opportunity" for future research. The

first recommendation that I would make is that a great deal more effort go into formulating models and theories which incorporate these concepts, but which produce a richer set of testable propositions than normally have been considered in the power-oriented approaches. One way to do this is to follow the lead of Zinnes and her associates in building formal models which produce provocative theoretical results.⁴⁸ Another way, pioneered by Keohane and Nye, is to self-consciously compare power-oriented approaches to explaining international outcomes with alternative approaches.⁴⁹

While there is room for more work on the military and generalized capabilities of international actors, the most productive work in the past has focused on the distribution of capabilities, and the resulting polarity of the system, in specific issue-areas. Approaches which rely on subjective weighting schemes to produce power indices probably do not merit further scholarly attention. In any case, future work on capabilities should focus more on theoretical questions and, in that way, go beyond mere measurement.

It will be worthwhile to pursue questions related to the impact of the concentration of power, polarity and the degree of polarization on international outcomes. This is one way of making the capabilities approach to the measurement of power more meaningful and useful. In any case, there is a great need for improvement in the methods for defining and operationalizing concepts related to the distribution of power. In particular, the notion of polarity seems much less promising for future research because of its typological nature and because of the limited payoffs on research to date. A concept of polarity which converts it into an ordinal or continuous variable, capable of handling the complications introduced by varying degrees of polarization, would be more useful than existing ones.⁵⁰ More work needs to be done on the degree of polarization as an independent variable in its own right. Finally, the historical and spatial boundaries of previous research can be pushed outward by future research. Taken together, these steps may enhance our understanding of the origins of international war.

NOTES

1. The following is a partial list of relevant works: Ray Cline, World Power Assessment 1977 (Boulder, CO: Westview Press, 1977); Robert Cox and Harold Jacobsen (eds.), The Anatomy of Influence (New Haven: Yale University Press, 1974); Klaus Fucks,

- Formeln zur Macht (Stuttgart: Deutsche Verlags-Anstalt GmbH, 1965); Oskar Morgenstern, Klaus Knorr and Klaus Heiss, Long-Term Projections of Power (Cambridge, MA: Ballinger, 1973); Rudolph J. Rummel, The Dimensions of Nations (Beverly Hills: Sage, 1972).
2. Cline, World Power Assessment.
 3. David Baldwin, "Power Analysis and World Politics: New Trends Versus Old Tendencies," World Politics, 31 (January 1979), pp. 172-173.
 4. Rummel, Dimensions of Nations.
 5. Robert Keohane and Joseph Nye, Power and Interdependence (Boston: Little, Brown, 1977), pp. 139-146.
 6. Olav Knudsen, Politics of International Shipping (Lexington, MA: Lexington Books, 1973); see also John King Gamble, Jr., Global Marine Attributes (Cambridge, MA: Ballinger, 1973).
 7. See, for example, Ludwig Dehio, The Precarious Balance (New York: Vintage, 1962).
 8. Kenneth Oye, "The Domain of Choice," in Kennedy Oye, Donald Rothchild and Robert J. Leiber (eds.), Eagle Entangled (New York: Longmans, 1979).
 9. For examples, see Hayward Alker, "On Political Capabilities in a Schedule Sense," in H. Alker, K. Deutsch and A. Stoetzel (eds.), Mathematical Approaches to Politics (San Francisco: Jossey-Bass, 1973); Kjell Goldmann, "Notes on the Power Structure of the International System," Cooperation and Conflict, 12 (1977), pp. 1-20; Hans Morgenthau, Politics Among Nations (New York: Knopf, 1947), Ch. 9.
 10. J. David Singer and Melvin Small, The Wages of War (New York: Wiley, 1972), pp. 370-371.
 11. Wayne Ferris, The Power Capabilities of Nation-States (Lexington, MA: Lexington Books, 1973), p. 64.
 12. A. F. K. Organski and Jack Kugler, "Davids and Goliaths: Predicting the Outcomes of International Wars," Comparative Political Studies, 11 (1978), pp. 141-180.
 13. Andrew Mack, "Why Big Nations Lose Small Wars: The Politics of Asymmetric Conflict," World Politics, 27 (1975), pp. 175-200.
 14. Richard Neustadt, Alliance Politics (Boston: Little, Brown, 1971); John Steinbruner, The Cybernetic Theory of Decision (Princeton: Princeton University Press, 1974).
 15. Robert Keohane, "The Big Influence of Small Allies," Foreign Policy, No. 2 (1971), pp. 161-182.
 16. Keohane and Nye, Power and Interdependence, Ch. 7.
 17. Robert Dahl, "The Concept of Power," Behavioral Science, 2 (1957), pp. 201-215; Robert Dahl, "Power," in International Encyclopedia of the Social Sciences, 12 (New York: Free Press, 1968).

18. Jack Nagel, The Descriptive Analysis of Power (New Haven: Yale University Press, 1975).
19. Harold Lasswell and Abraham Kaplan, Power and Society (New Haven: Yale University Press, 1950).
20. Baldwin, "Power Analysis," p. 167; Jack Nagel, "Description and Explanation in Power Analysis," in T. Burns and W. Buckley (eds.), Power and Social Control (Beverly Hills: Sage, 1976).
21. Klaus Knorr, "On the International Use of Military Force in the Contemporary World," Orbis, 20 (1977), pp. 5-27; Klaus Knorr, "Is International Coercion Waning or Rising?", International Security, 1 (1977), pp. 92-110.
22. Cheryl Christensen, "Food and National Security," in K. Knorr and F. Trager (eds.), Economic Issues and International Security (Lawrence, KS: Regents Press of Kansas, 1977).
23. Theodore Moran, Multinational Corporations and the Politics of Dependence (Princeton: Princeton University Press, 1974).
24. Peter Wallenstein, "Characteristics of Economic Sanctions," Journal of Peace Research, 5 (1968), pp. 248-267.
25. Klaus Knorr, The Power of Nations (New York: Basic Books, 1975), Ch. 6.
26. Cheryl Christensen, "Structural Power and National Security," in Knorr and Trager, Economic Issues.
27. Robert Gilpin, U.S. Power and the Multinational Corporation (New York: Basic Books, 1975); Stephen Krasner, "State Power and the Structure of International Trade," World Politics, 28 (1976), pp. 317-347.
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41. Jeffrey Hart, "Symmetry and Polarization in the European International System, 1870-1879: A Methodological Study," Journal of Peace Research, 11 (1974), pp. 229-244; Brian Healy and Arthur Stein, "The Balance of Power in International History: Theory and Reality," Journal of Conflict Resolution, 17 (1973), pp. 33-61; Richard Rosecrance, Alan Alexandroff, Brian Healy and Arthur Stein, Power, Balance of Power, and Status in Nineteenth Century International Relations (Beverly Hills: Sage, 1974).
42. Hart, "Symmetry," pp. 234-236.
43. Bruce Bueno de Mesquita, "Measuring Systemic Polarity," Journal of Conflict Resolution, 19 (1975), pp. 187-216.
44. Bruce Bueno de Mesquita, "Systemic Polarization and Occurrence and Duration of War," Journal of Conflict Resolution, 22 (1978), pp. 241-267.
45. Charles Ostrom and John Aldrich, "The Relationship Between Size and Stability in the Major Power International System," American Journal of Political Science, 22 (1978), pp. 743-771.
46. Kjell Goldmann, Tension and Detente in Bipolar Europe (Stockholm: Esselte Studium, 1975).
47. Richard Rosecrance, "American Influence in World Politics," in R. Rosecrance (ed.), America as an Ordinary Country (Ithaca: Cornell University Press, 1976).
48. See, for example, Dina Zinnes, John Gillespie and G. S. Tahim, "A Formal Analysis of Some Issues in Balance of Power Theories," International Studies Quarterly, 22 (1978), pp. 323-356.

49. Keohane and Nye, Power and Interdependence; for an intelligent and constructive critique of this work, see Olav Knudsen, "Capabilities, Issue-Areas, and Inter-State Power," unpublished manuscript, Institute of Political Science, University of Oslo, Norway.

50. Although Bueno de Mesquita has done this to some extent, the general validity of his operationalizations seems doubtful, given his stress on formal alliances as indicators of polarization.