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ABSTRACT

An analysis of the bargaining process in international arms control negotiations is possible by developing a framework of interrelated hypotheses, by delineating and practicing interactions study called "Bargaining Process Analysis," and by formulating procedural steps that bridge the gap between laboratory studies and "real world" situations. In the interactions between nations, it can be concluded that as international tensions are lessened, arms negotiations will become more task-oriented rather than affect-oriented; the more flexible the national goals, the more likely is the success of the negotiations; and the lower the key of bargaining threats, the more successful the talks. Superior to Bales' Interaction Process Analysis in this specific application is Bargaining Process Analysis which provides, for example, thematic content analysis and means for coding interactions of bargaining participants in free verbal communication both in the laboratory and in actual international negotiations. (CH)

"Trends in International Persuasion: Persuasion in the Arms Control Negotiations"

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I. INTRODUCTION

This paper represents an interim report on a project being undertaken under the auspices of the Political Science Department and the Harold Scott Quigley Center of International Studies at the University of Minnesota on "The Bargaining Process in International Arms Control Negotiations." The purposes of this overall project are three-fold.

First, theoretically, the project involves an attempt to develop a framework of inter-related hypotheses for the analysis of the bargaining process in international arms control negotiations. We are especially interested in identifying some of the major effects of the bargaining process on negotiation outcomes. In the development of this framework, we have integrated generalizations drawn from the experimental literature on bargaining and conflict with the theoretical perspectives, concepts, and insights to be found in the descriptive literature on bargaining phenomena in international politics.

Second, methodologically, this project will involve the testing of procedures for analyzing bargaining interactions, while also testing the theoretical generalizations just mentioned. Specifically, we will be employing and refining a system for analyzing bargaining interactions called Bargaining Process Analysis (Walcott and Hopmann, forthcoming). This system enables us to code bargaining behavior into theoretically meaningful categories, and it thus permits us to test generalizations about the bargaining process in settings which differ from those conventionally employed in the experimental study of bargaining and conflict, but which also resemble most clearly those settings which occur most often in "real world" negotiations.

Third, we intend in this project to begin a process of bridge-building between laboratory studies of bargaining and conflict and "real world" arms control

negotiations. Our theoretical and methodological efforts are thus directed towards the development of parallel theoretical frameworks and methodological devices for analyzing simultaneously experimental bargaining in the laboratory and arms control negotiations, specifically those in the Eighteen Nation Disarmament Conference and subsequently the Conference of the Committee on Disarmament which have met continuously in Geneva since 1962.

In this paper we propose to do the following: 1) We shall begin with a general overview of our theoretical framework, suggesting independent, intervening, and dependent variables of greatest interest to us and presenting some illustrative hypotheses of the relationships among these sets of variables. 2) We shall then proceed to a short discussion of our methodology for coding bargaining behaviors in the laboratory and in the Geneva negotiations. 3) Finally, we shall summarize briefly some of our major findings to date and indicate some major directions for our future research.

II. THEORETICAL FRAMEWORK

In our theoretical framework we have identified a set of independent variables, including factors external to the bargaining situation itself and other factors directly related to the bargaining process, a set of intervening variables including affective and task-oriented characteristics of behavior, and a set of dependent variables, involving the outcomes of negotiations. We may procede to identify briefly each set of variables and to suggest some major hypotheses linking each independent variable with outcomes, often including linkages involving the intervening variables. We have not, however, hypothesized all possible combinations of relationships within this framework, but have rather tried to identify some examples of the most basic hypotheses to illustrate our general orientation. Undoubtedly

additional and more complex relationships will emerge from the actual empirical analysis.

A. INDEPENDENT VARIABLE: THE INTERNATIONAL ENVIRONMENT

One of the classic issues in theoretical discussions relating to arms control and disarmament involves the interaction between negotiations and the state of international tensions prevailing at the time of those negotiations. In his seminal study on this subject Singer (1962) notes that there are three approaches to this problem. The "tensions-first" approach asserts that disarmament is not likely to be achieved until international tensions are resolved, since nations are not likely to trust each other to abide by any arms control or disarmament agreements so long as severe tensions continue to exist. As Singer notes, however, disarmament may not be readily achieved if one waits until tensions are first resolved.

> As long as each nation retains the capacity to wage aggressive war, mutually perceived threat will continue to flourish, and tensions will be perpetuated and exacerbated, not eliminated.
>
> (Singer, 1962, p. 176.)

A second approach contends that political settlements must precede the attainment of disarmament agreements, since armaments are only the symptom and not the cause of political conflict. As long as political conflicts threaten the security of some nations, according to the proponents of this position, nations will not enter into disarmament. Disarmament, therefore, becomes possible and meaningful only when political settlements have been reached and security for all nations has been guaranteed. The problem is, however, that armaments may themselves be a threat to national security and may thus prevent political settlements from being achieved. Thus one may be caught in a vicious cycle in which armaments prevent political settlements and in which disarmament cannot be achieved without prior political settlements.

The third approach, called by Singer the "armaments-first" approach, contends that armaments themselves contribute substantially to international tensions and to political conflict based upon concern for national security. Even though political conflicts and international tensions may have preceded the growth of armaments temporally, and even though their reduction may indeed facilitate disarmament agreements, it is not at all clear that they can be eliminated first. While tensions and conflict create a perceived need for armaments, these armaments in turn reinforce these tensions and conflicts. Recent systematic evidence even suggests that armaments may be a direct link between tensions and the onset of war (Wallace, 1972). In view of this, Singer (1962, p. 180) concludes:

> Arms control and disarmament may be extremely difficult in this tension-ridden world, but if we plan to wait for a significant reduction of those tensions or a settlement of the major political issues before we make a serious effort to negotiate arms reductions and controls, we shall be waiting for the millenium.

In addition to these three approaches summarized by Singer, there is a position which contends that external tensions may actually be functional for the attainment of agreements because it provides an incentive for an agreement and an implied threat of severe consequences if negotiations fail. This position logically parallels the argument on behalf of the contribution which "bargaining chips" may make to the attainment of agreement. Some evidence relevant to this latter approach is provided in a study by Hopmann (1972) which explored the relationship between international tensions and negotiations in the Eighteen Nation Disarmament Conference in 1962-1963 on the nuclear test ban issue. Hopmann found a positive relationship between increases in cooperation outside the negotiations among the

three nuclear powers and increased cooperation inside the negotiations among the same three powers; conversely, increased tensions were generally followed by decreasing cooperation within negotiations. While the exact structure and time lags of these relationships varied somewhat among the three countries, each conformed to the basic pattern in which changes in the external environment preceded changes in the behavior of negotiators, and the direction of the relationship was consistently the opposite of that predicted by those who argue that tensions may be functional for agreement. However, the picture was confused somewhat by reciprocal feedback effects from the negotiations back into the environment. Thus, these findings cast doubt on the arguments that tensions contribute to agreement in negotiations and support the general stance taken by Singer, but the ambiguity with regard to the directionality of relationships frustrated attempts to choose among the three alternative approaches summarized by Singer. Further complication is introduced with regard to a study by Jensen (1962), who found a curvilinear relationship between international tensions and agreement in negotiations. He concluded that concessions in Soviet-American negotiations fell off during periods of both high and low international tensions. This finding at least suggests that the actual relationship may be more complicated than most existing models would suggest.

In view of this array of plausible but largely untested theory and the conflicting and ambiguous nature of most evidence brought to bear to date, we cannot assume with confidence a clear-cut position on this issue. However, for the purposes of preliminary hypothesis-testing, we have hypothesized that increased conflict in the international environment between negotiating nations will have a negative impact on their bargaining behavior, including components such as an increase in "hard-line" bargaining strategies, an increase in negative affect, and an increase in disagreements. As we shall note shortly, these aspects of behavior

are also hypothesized to detract from the likelihood of achieving significant arms control agreements. Conversely, we hypothesize that improved interactions within the environment will be conducive to more cooperative bargaining behavior, including more "soft-line" bargaining strategies, more positive affect, and more agreement, leading to an increase in the likelihood of achieving a negotiated solution. This position is summarized by Druckman (1971, p. 112) as follows:

> A high level of system tension is likely to lead to overreactions by any nation to another nation's provocations, causing a breakdown in the negotiations; on the other hand, a low level of system tension leads to underreactions by any nation to another's provocations, facilitating negotiations or leading parties to seek mediational mechanisms for resolving their differences on such vital issues as disarmament.

We may conclude with a summary of our major hypotheses as follows:

1.10: The more the international environment changes towards a reduction of tensions, the greater the probability of a solution in negotiations and the higher the joint payoffs from a solution; conversely, the more the international system changes towards increased tensions, the lower the probability of a solution in negotiations and the less the joint payoffs from a solution.

1.11: The more international tensions are reduced, the more likely that "soft" rather than "hard" bargaining strategies will be employed and vice versa.

1.12: The more international tensions are reduced, the more likely that actors will agree rather than disagree about specific issues under negotiations and vice versa.

1.13: The more international tensions are reduced, the more likely that actors will employ positive rather than negative affect, and vice versa.

1.14: The more international tensions are reduced, the more likely that negotiations will be more task-oriented rather than affect-oriented, and vice versa.

B. INDEPENDENT VARIABLE: FLEXIBILITY OF ACTORS' GOALS

A second issue which we have examined involves the impact of the flexibility and rigidity of national goals on the bargaining behavior and outcomes of the negotiations. Specifically, we seek to determine whether allowing the negotiators considerable latitude will aid or hinder them in attaining an agreement in contrast to restricting them to inflexible bargaining positions. Once again, we are confronted with somewhat contradictory hypotheses. On the one hand, considerable infl ~ ility and specificity may contribute to agreement if it focuses attention on the most salient issues under negotiation and prevents digression ɔ less important topics of discussion (Sawyer and Guetzkow, 1965, p. 471; Druckman, 1971, p. 109). In other words, negotiators may make more and stronger commitments under this condition, and, if these can be communicated credibly, the range of available "bargaining space" may be rapidly defined, facilitating agreement. On the other hand, flexibility may enable negotiators to arrive at agreement rapidly on some issues, even if these are not central to the negotiations. While such agreements may not necessarily contribute directly to the solution of the primary issues under discussion, they may enahnce positive affect within the negotiations, facilitating agreement on primary issues. Although at present we know of no convincing evidence to support either of these positions, in stating our hypotheses we have accepted the latter set of assumptions rather than the former.

These hypotheses may be summarized as follows:

1.20: The more actors have flexible goals, the greater the probability of a solution in negotiations and the greater the joint payoffs from a solution; conversely, the more actors have inflexible goals, the less the probability of a solution in negotiations and the less the joint payoffs from a solution.

1.21: The more actors have flexible goals, the more they will adopt "soft" rather than "hard" bargaining strategies and vice versa.

1.22: The more actors have flexible goals, the more likely they will agree rather than disagree about specific issues under negotiation, and vice versa.

1.23: The more actors have flexible goals, the more likely they will employ positive rather than negative affect, and vice versa.

1.24: The more actors have flexible goals, the more likely that negotiations will be task-oriented rather than affect-oriented, and vice versa.

C. INDEPENDENT VARIABLE: ROLE VARIABLES

In this instance, we propose to consider the various roles performed by different actors involved in negotiations. Actors in negotiations may be considered to fall into either the category of "major" actor or "minor" actors. A "major" actor is defined as one whose assent to any proposed agreement is essential if the agreement is to be meaningful. In discussions concerning MIRV warheads, for example, the United States and the Soviet Union may be considered to be the major actors. A significant agreement could be concluded against the wishes of any actors except these two, whereas nonagreement by either of the major actors would clearly amount to effective nullification of the effect of any proposed agreement.

A "minor" actor is simply any actor who is not a major actor. This is a heterogeneous category, including actors whose assent might be deemed highly desirable though not essential (e.g., the United Kingdom or the Chinese People's Republic in

the above example), as well as actors whose assent is probably of little or no importance (e.g., Portugal). Our major theoretical interest here is focused on the role which minor actors may play in mediating disputes between the major actors and suggesting possible grounds for agreement. While many mediating techniques are possible, we generally believe that in those cases where minor actors play an active leadership role, they are more likely to be able to mediate effectively between major actors and help them reach solutions. Therefore, we hypothesize:

1.30: The more minor actors in negotiations play an active leadership role the greater the probability of a solution and the higher the joint payoffs from a solution.

D. INDEPENDENT VARIABLE: PERSONALITY CHARACTERISTICS

Most research on the effect of personality variables on negotiations has focused upon the role of authoritarianism. In general, this has been found to detract from the willingness to reach agreement. Sawyer and Guetzkow (1965) summarize the findings in this area by noting that authoritarianism may be functional for negotiations, however, if the situation demands inflexibility; on the other hand, if the situation requires considerable flexibility, then authoritarian negotiators may be detrimental to the attainment of objectives. Since we have suggested that inflexibility itself is dysfunctional in most cases, we have made the same assumption about authoritarianism in formulating our most general hypothesis. A similar argument has also led us to assume that negotiators whose value systems primarily emphasize nationalism rather than internationalism are also likely to be less effective in reaching agreements. These hypotheses may be summarized briefly:

1.41: The more authoritarian the personality of negotiators, the less the probability of a solution to negotiations and the less the joint payoffs of any

solution.

1.42: The more nationalistic the negotiators, the less the probability of a solution to negotiations and the less the joint payoffs of any solution.

E. INDEPENDENT VARIABLE: BARGAINING STRATEGY

Rational Theories of Bargaining

We may begin our discussion of this independent variable by examining some general models of the bargaining process based upon assumptions of rational choice; we shall then procede to evaluate experimental evidence concerning the empirical application of these models to an analysis of bargaining behavior.

Rational theories of the bargaining process procede from the assumption that actors seek to maximize their gains and minimize their losses in a conflict of interest, so that the purpose of bargaining is to identify positions in which conflicts of interest may be resolved in such a way that no party receives an unacceptable loss and in which each party maximizes gains to the greatest extent possible consistent with the first principle. The central concept in such theories is "bargaining space," that area in which the minimum acceptable positions of all actors overlap. This concept has been developed most extensively by Boulding (1962, Chapter 1). As Boulding notes, static models of bargaining identify the minimum acceptable position of two actors, and then they take the space between these two minimum points as the bargaining space within which agreement is possible. Such a simple model for two actors in a conflict of interest situation is depicted in Figure 1. The vertical axis represents the payoffs to each of the actors relative to no agreement; these are represented as either gains (above the zero point) or losses (below the zero point). The horizontal axis represents solutions or outcomes on a particular issue or set of issues, which, for the purposes of this illustration, are assumed to form a continuum. We may then draw curves represent-

ing the payoffs for each actor at any point along the solution line, namely the lines A---A' and B---B'. For actor A, point a' represents his most preferred position and point a represents his minimum position. Similarly, for B, point b' represents his preferred position while b represents his minimum acceptable position. Therefore, a solution is possible only if some points on the line a---a' coincide with some points on the line b---b'. If this is the case, as it is in Figure 1, then a solution is possible at any point along the line b---a, since any solution between these points represents some gain relative to no agreement for both parties. Outside of this space no agreement is possible since at least one of the actors would prefer no agreement to an agreement at any such point.

Within these limits point E may represent a temporary equilibrium point, which is Pareto-optimal and which may represent some "fair" solution. However, this is not likely to be a stable equilibrium. This is so because each actor can move toward its preferred position, namely to the right for actor B and to the left for actor A, and thereby increase its payoffs at the expense of the other actor. As long as A, for example, does not move to the left of point b, it may be able to increase its payoffs and still achieve an agreement, since B may still prefer some gain (though now a reduced gain) to no gains which would result from the failure to reach agreement. Therefore, A has an incentive to move to the left as far as possible without passing point b, while B has a similar incentive to move to the right without passing point a. Thus bargaining and conflict is likely to occur even if a mutually profitable agreement is possible, since actors may still come into conflict over the division of the gains. Of course, in many real bargaining situations each actor may not be aware of the minimum position of the other actor, so there may be some danger of stalemate if A, for example, miscalculates and moves too far to the left, beyond point b, so that no agreement may be reached.

Figure 1: A Model of Bargaining Space for Two Actors with Overlapping Positions

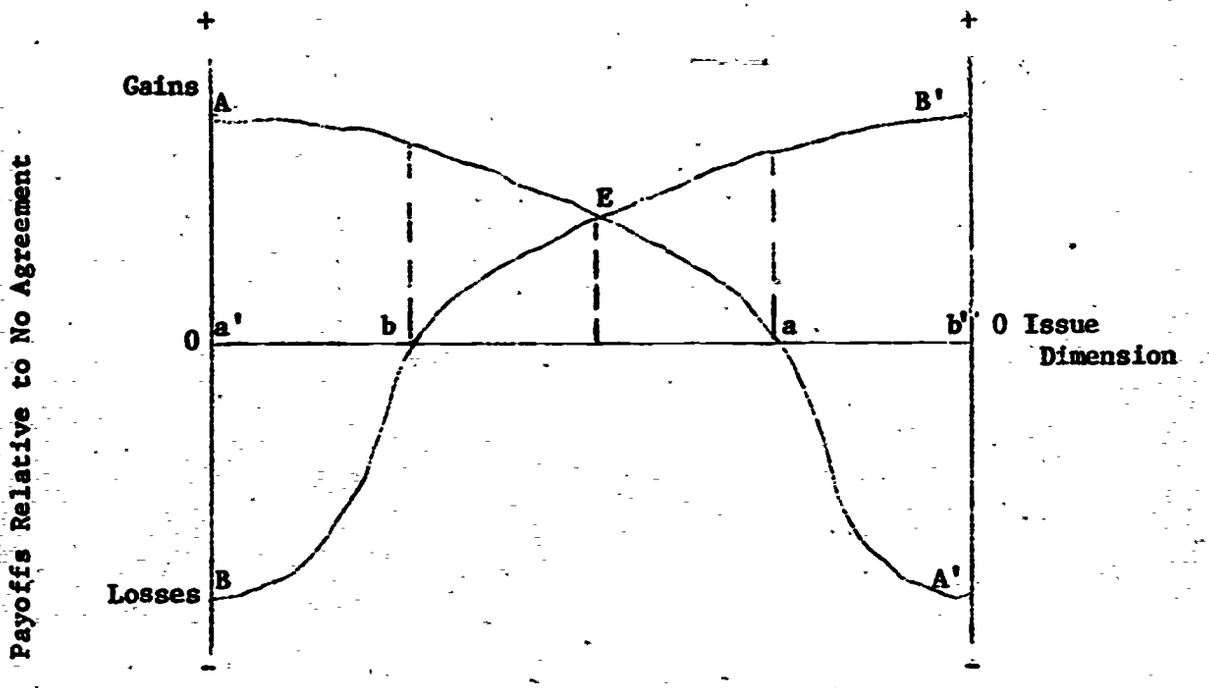
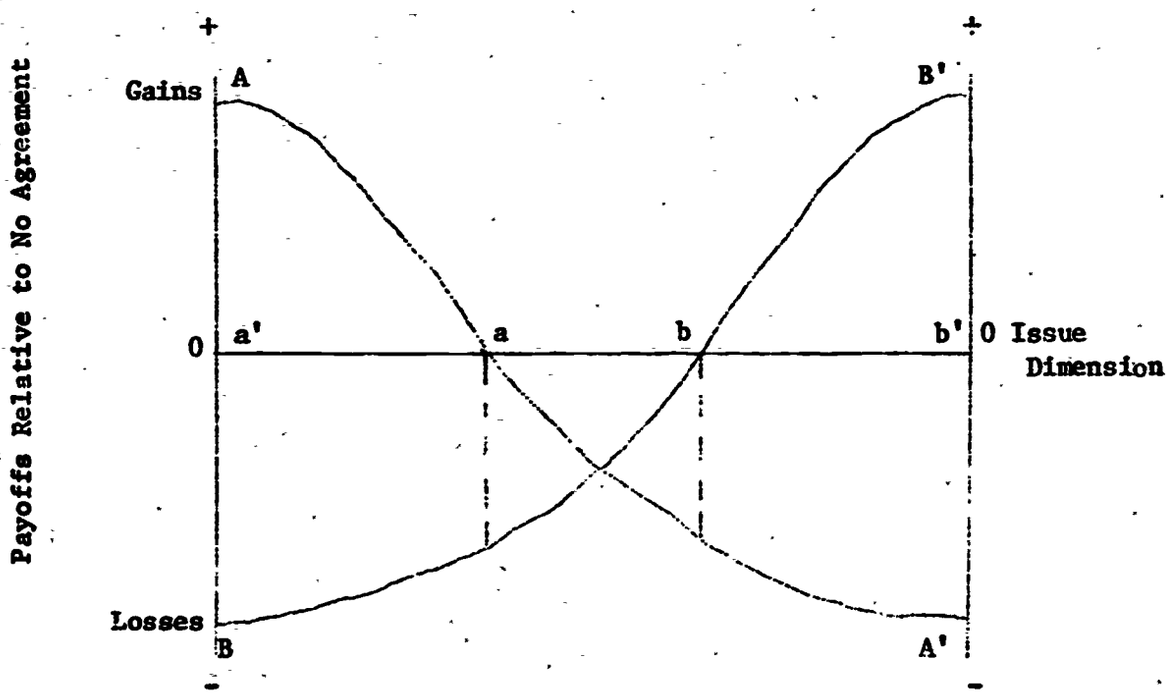


Figure 2: A Model of Bargaining Space for Two Actors Without Overlapping Positions



We shall discuss this point in more detail shortly.

Of course, not all issues are susceptible to this kind of mutually profitable solution. Figure 2 illustrates a case where the intersection of the payoffs for the two actors falls below the neutral point. In this case, A's minimum acceptable position at point a represents a loss for actor B, and B's minimum acceptable solution at point b represents a net loss for actor A. In other words, lines a---a' and b---b' do not overlap in Figure 2. Therefore, there are no solution in this case where both parties can gain, so no agreement is likely to result.

On the basis of this reasoning, we may divide the bargaining process into two analytically distinct stages (though they are not necessarily sequentially distinct in all cases). The first of these may be called the "Issue Definition" phase, and this involves the identification of those issues or sets of issues which fall into the class of negotiations diagrammed in Figure 1 as distinct from those which fall into the situation depicted in Figure 2. In other words, this stage involves the separation of those issues on which agreement is possible in principle from those on which agreement is not possible without a modification of utilities by at least one of the parties. Once negotiable issues have been separated from non-negotiable issues, the second phase commences, called the "Bargaining" phase. This process involves maneuvering within the range of possible agreements on all issues falling into the first class to identify a point of final solution. In both phases, of course, the parameters of the bargaining space may be modified through a change in utility for one or both actors. Therefore, as Boulding emphasizes (1962, Chapters 2-4), in more dynamic models the range of possible agreement and the point of equilibrium may change over time as a result of a variety of variables which affect calculations of gains and losses.

Our first independent variable, bargaining strategy, is thus primarily relevant to our model as a tool which actors may employ to attempt to influence and

modify the cost-gains calculus of other actors in negotiations. Strategic elements may be used by individual actors either to bring about a convergence in bargaining positions for which there was previously no perceived overlapping bargaining space (during the "issue definition" phase) and to improve their own position within available bargaining space (during the "bargaining" phase). The most extensive theoretical exploration of these strategic tools is found in Schelling's (1960, Chapters 2-5) classic work on conflict and bargaining. Schelling particularly emphasizes the role of three strategic tools, namely, commitments, threats, and promises.

A commitment is generally used by an actor in negotiations to establish a firm position beyond which he will not compromise, in order to try to maximize his payoff in the bargaining. In order to do so, actor A may attempt to commit himself to a position which it believes is just inside of B's range of acceptability, that is as close to the right of point b as possible in Figure 1. This is difficult, however, since A must make a subjective estimate of B's utilities in order to estimate the location of point b. Once such an estimate has been made A will try to commit himself to the right of b and to convince B that he cannot retreat from that solution without great loss. Thus, for example, he may try to convince B that he is committed at his own minimum position, so that point a is just to the right of point b. If he is successful in this, then he may persuade B that no agreement is preferable to any further concessions, so that B will then have no choice but to settle at that point, since it is preferable to no agreement for him too. If B is not fully convinced of this, however, it may call A's bluff. Then A is forced into a choice between a compromise, with the credibility and strength of his commitments weakened, or he may have to settle for no agreement even though he would otherwise have been willing to accept a settlement at a position farther to the right with somewhat less favorable payoffs to himself. In other words, an indivi-

dual actor's decision to maximize its own gain requires the ability to convince the other actor that it is fully committed to its position and cannot compromise under any circumstances. The paradox is that this firm commitment runs "the risk of establishing an immovable position that goes beyond the ability of the other to concede, and thereby provokes the likelihood of stalemete or breakdown (Schelling, 1960, p. 28)." This may be particularly true if A misjudges B's minimum acceptable position and commits itself to a position to the left of point b, that is outside of the range of acceptable solutions. In this case, B in fact prefers no agreement to an agreement at the point where A has commited itself, so no agreement is likely to result even though a solution was theoretically available. In short, commitments may enable one actor to maximize his payoffs, but they also entail the risk that no agreement may be achieved even though a mutually profitable agreement was possible.

A second strategic element which comes into play in bargaining situations is the use of threats. A threat may be used by an actor to get another participant to accept a solution favorable to himself through modifying his utilities. In other words, the threatener attempts to make the alternative of no agreement less attractive to the other party(ies) by threatening additional losses associated with no agreement. In terms of the diagrams in Figure 1 and 2, A may threaten losses to B associated with no agreement; it thereby moves the curve B---B' in a northeasterly direction, and thereby widens the payoff possibilities for A, and reduces the losses relative to no agreement for B in reaching a solution in the left-hand segment of the diagram.

The paradox of the threat situation is that the threatener must bind himself to carry out the threat if the desired action on the part of the other actor is not carried out, or else the threat will not be credible. Yet he must also communicate to the threatened party that the threat involves some cost to himself so that the threat

ener would have no immediate cause to carry out the threat and would be likely to refrain from doing so if the desired alternative were accepted. Thus, the threat requires that the initiator convince the recipient that, if he responds as desired, there will be no execution of the threat; on the other hand, if he does not so respond, the threat will almost certainly be carried out (Schelling, 1960, pp. 35-36).

Promises are logically similar to threats in that they attempt to modify the utilities of the recipient in order to increase the value attached to the position favored by the promiser. Thus, in terms of the diagrams in Figures 1 and 2, A may promise B some reward associated with a particular point of agreement which would increase B's gains relative to no agreement. Like the threat, this would tend to shift the curve B---B' in a northeasterly direction, thereby increasing B's gains for a solution which was otherwise more preferred by A, that is in the left segment of the diagram. Thus, a promise is an offer by one party that, if the other party (ies) behaves in the desired fashion, then it will receive some reward for doing so. Like the threat situation, the initiator must convince the recipient that he will actually carry out his promises if the desired behavior ensues. He must also convince the recipient that the promises involve some loss to him so that he would not be likely to carry them out anyway.

In addition to these three strategic tools, bargaining strategy may include a variety of other possible moves along the solution line, which are not primarily designed to modify utilities. These include initiations, accommodations, and retractions. An initiation is simply a proposal by one actor of a solution point along the issue dimension line. This may have different effects, depending on whether or not it is accompanied by a commitment to that position. Assuming that it does not imply a commitment, however, it may have the effect of clarifying

issues and getting bargaining under way on a particular issue. An accomodation is a movement by one actor along the issue dimension toward a position preferred by the other party(ies). Thus, in Figure 1, A could make an accomodation to B by moving its bargaining position toward the right along the issue dimension axis. This kind of a move is likely to create an impression of flexibility and "good will," although it may also be perceived as weakness which can be taken advantage of. Finally, a retraction is a movement by one actor along the issue dimension from a previous position to a new position farther away from the position preferred by the other party(ies). In Figure 1, a retraction by A would involve a movement toward the left along the issue dimension axis. Since such a retraction is likely to reduce the gains or increase the losses relative to no agreement for the other party (party B in Figure 1), this is likely to impede the process of agreeing on a solution.

We have identified six components of bargaining strategy. For some purposes of conceptualization, we have collapsed these into two broad categories of bargaining strategy, although we always retain the capability to analyze each of these components individually. First, "soft bargaining strategies" refer to strategies which are characterized primarily by the use of initiations, accomodations, and promises. In other words, these may be viewed as primarily positive movements in which one actor seeks to increase the relative gains for other actors in order to enhance the prospects of agreement. Second, "hard bargaining strategies" refer to the primary employment of retractions, threats, and commitments. Unlike "soft" strategic elements, these components tend to increase losses for the party relative to its more desired outcomes. This independent variable, therefore, deals with the degree to which actors employ primarily "soft" versus "hard" bargaining strategies. Having defined these concepts theoretically in terms of a "rational" model of the

bargaining process, we may next turn to an examination of some experimental studies of interdependent decision-making under conditions of conflict, which have also influenced the development of specific hypotheses.

Experimental Studies of Bargaining

The experimental literature on bargaining has become very large in recent years and is difficult to summarize briefly. Therefore, we will focus only on a brief summary of that literature which deals most directly with this independent variable

The literature on bargaining strategy tends to be somewhat confused due largely to the different operational definitions of strategy which have been employed in the literature. However, most of the studies provide operationalizations which can be loosely categorized in terms of our dichotomization of this variable into "soft" and "hard" strategies. Much of the debate in this literature has centered around the preferability of one or other of these clusters of bargaining strategies in leading to outcomes of agreement. Recent experimental findings, however, tend to suggest that more complex relationships need to be examined and that neither "hard" strategies nor "soft" strategies pursued consistently are likely to produce successful outcomes. For example, studies by Bixenstine and Wilson (1963) and Bixenstine, Potash, and Wilson (1963) indicate that cooperative as opposed to competitive behavior in dyadic, mixed-motive interactions is sensitive to changes in strategy. Specifically, they find that overall end-session cooperativeness is enhanced by starting with a hard-line strategy and then softening it as compared with either consistent softness or consistent hardness. Conversely, starting in a cooperative mode, then turning competitive, produces more competition than a purely competitive strategy pursued consistently. Similar findings are reported by Teger (1970), but contradictory results are reported Komorita and Mechling (1967). Druckman (1971) has suggested that these apparently divergent findings may be reconciled;

yet it is evident that there is presently no consensus in this area of investigation. Nevertheless. the cumulative problem definitions and research findings in this area are obviously important in the development of theories of bargaining and need to be investigated further, within a more comprehensive theoretical framework which enhances similarities with the referent system, i.e., with the "real world."

Hypotheses

Our major hypothesis is based on the assumption that outcomes will be affected by the employment of "soft" and "hard" bargaining strategies. Our general assumption is that, in the long run, softer bargaining strategies are more conducive to agreement than are more hard-line strategies. This general position is qualified however, by the indication in some experimental research just noted that change in bargaining behavior may be most relevant, especially that a change from hard to soft bargaining strategies is most likely to enhance the prospects for agreement. In these hypotheses, we shall also consider the effects of some of the components of these loosely aggregated categories of "hard" and "soft" strategy, namely the role of commitments, threats, and promises. These hypotheses may be summarized as follows:

2.10: The greater the degree to which the trend in bargaining strategy over time changes from "hard" (retractions, commitments, and threats) to "soft" (initiations, accomodations, and promises) behaviors, the higher the probability of a solution at the end of negotiations and the greater the joint payoffs to all parties; conversely, the greater the degree to which the trend in bargaining strategy over time changes from "soft" to "hard" behaviors, the lower the probability of a solution at the end of negotiations and the less the joint payoffs to all parties.

2.111: The greater the use of commitments throughout negotiations, the less the probability of a solution at the end of negotiations and the less

the joint payoffs to all parties.

2.112: The greater the use of threats throughout negotiations, the less the probability of a solution at the end of negotiations and the less the joint payoffs to all parties.

2.113: The greater the use of promises throughout negotiations, the higher the probability of a solution at the end of negotiations and the more the joint payoffs to all parties.

2.121: "Soft" bargaining strategies will tend to generate positive affect; conversely, "hard" strategies will tend to generate negative affect.

2.131: "Soft" bargaining strategies will tend to generate agreement in task behavior; conversely, "hard" bargaining strategies will tend to generate disagreement in task behavior.

2.141: "Soft" bargaining strategies will tend to make the bargaining process more task-oriented; conversely, "hard" bargaining strategies will tend to make the bargaining process more affective-oriented.

F. INDEPENDENT VARIABLE: EFFECTS OF SANCTIONS

Our second independent variable internal to the bargaining process is the use of sanctions. This refers simply to whether or not actors are provided with the means to carry out threats, one of the primary components of the "hard" bargaining strategy.

The literature on the role of sanctions in the bargaining process is clearly extensive, although for the most part the literature deals more with conflict of interest situations rather than a full bargaining process since the only forms of communications ordinarily permitted involve nonverbal signalling. This creates problems for generalizing much of the research on sanctions to the "real world," as we shall discuss more extensively later. The seminal research on this topic was

conducted by Deutsch and Krauss (1960 and 1962). Their findings tended to indicate that the possession of the capability to inflict sanctions on one's opponent, and therefore the possession of a capability to threaten credibly, decreased the probability of successful and mutually profitable conflict resolution.

Subsequent research in this general area has been prolific. Tedeschi and Horai (cited in Druckman, 1971) note over 40 relevant experiments in their recent review of the literature. However, as is often the case, theoretical and operational dissimilarities among the various studies inhibit the additive development of theory. Recent work, such as that of Tedeschi, Bonoma, and Novinson (1970), Swingle and MacLean (1971), and Morrison et al (1971) either directly disputes or suggests additional, complex qualifications to the original Deutsch and Krauss findings. In short, no reliable consensus exists even at the level of the most primative propositions. However, the question of threat and the ability to employ sanctions is clearly central to any systematic investigation of bargaining, and the proliferation of hypotheses and operational representations of the phenomenon provide a rich source of insight and suggestion. These have thus been of some limited assistance in developing hypotheses about the impact of sanctions, as well as the threat to impose sanctions, on the outcomes of the bargaining process.

The literature concerning the effects on bargaining of the existence of a capability to inflict sanctions tends to produce mixed results. In stating our hypotheses we have relied most heavily on the findings of Deutsch and Krauss (1960 and 1962), although we are quite aware, as noted previously, that these results have frequently been contradicted in the experimental literature and may not be applicable to bargaining where extensive verbal interaction takes place. Since these hypotheses have provided the foundation for most research in this area, however, we have taken them as our starting point. We have not specified below the

role of intervening variables in interacting with the sanctions variable, largely because we assume that such interactions will be complex, including extensive feedback relationships to the bargaining strategy variables dealt with above. We have, therefore, hypothesized that sanctionswill generally detract from agreement in bargaining, especially when they are possessed by all parties in the negotiations. We have further noted that the division of payoffs will probably depend upon whether or not the ability to inflict sanctions is possessed by one or more actors. These hypotheses may be stated as follows:

2.20: The possession by actors in a bargaining situation of the capability to inflict sanctions will reduce the probability of achieving a solution at the end of negotiations and reduce the joint payoffs to all actors.

2.21: The possession of the capability to inflict sanctions by one actor will slightly reduce the probability of achieving a solution at the end of negotiations and will tend to create an uneven distribution of payoffs, with the actor possessing the capability to inflict sanctions receiving highest payoffs.

2.22: The possession of the capability to inflict sanctions by all actors will substantially reduce the probability of achieving a solution at the end of negotiations and will reduce the joint payoffs to all actors.

In summary, the hypotheses presented above include a number of fairly simple relationships involving the effects of bargaining behavior on negotiation outcomes, with affective and task-oriented behavior serving as interveing variables. These hypotheses will guide our overall research effort by identifying relevant variables and specifying the basic relationships to be investigated. At present it is difficult to develop more complex hypotheses, largely because there is little theoretical basis in the previous literature on which to develop such hypothesized relationships. Indeed, many of the hypotheses included above are based on prior

research and are intended to clarify relationships where previous findings have been either ambiguous or contradictory.

G. INTERVENING VARIABLES: TASK AND AFFECT

We have also included a set of intervening variables, which are hypothesized to relate these independent variables to the outcomes. These intervening variables include affect, task behavior, and "style," defined as the ratio of task-oriented to affected-oriented behavior. In previous sections we have considered some of the effects which our independent variables are likely to have on these intervening variables; in this, section, therefore, we will consider only the effects of these intervening variables on outcomes, that is on the dependent variable.

Relationships Between Affect and Behavior: Models of Cognitive Consistency and Dissonance

Throughout the bargaining process, changes in behavior are likely to have a systematic impact on the attitudes of actors, which will in turn affect their future behavior. Models of cognitive balance, consistency, and dissonance provide a foundation for an analysis of the role of attitudes in intervening between behaviors and outcomes. These kinds of models may be divided into two categories, those involving intra-personal consistency and dissonance and those involving inter-personal balance.

The intra-personal components of an individual's attitudes have been divided into three categories (Rosenberg and Hovland, 1960, p. 3): 1) affect, including verbal statements of feelings and and emotions; 2) cognition, including verbal statements of belief; and 3) behavior, entailing verbal statements concerning overt behavior. In most general terms, the intra-personal models assume that there will be approximate consistency among these three components, such that a change in one will tend to produce a change in the others. Rosenberg (1960, pp. 50-51) has

found that inconsistency between affect and cognition renders attitudes unstable, which in turn generates consistent changes in either affective or cognitive components. Inconsistency between these two components (often lumped together under the term attitude) and behavior has been found to produce tension or dissonance (Festinger, 1957; Brehm, 1960) for the individual which tends to lead to a change in either attitudes or behaviors. Once again the theory does not specify which component is most likely to change, only that a change in one component is likely to produce a change in the other. When applied to a bargaining situation, for example, the theory of cognitive dissonance would suggest that conciliatory behavior on the part of one negotiator, even if intended only as a propaganda gesture to an outside audience, might create over time pressure for this actor to assume more positive attitudes toward the other party. If this happens for both actors so that their attitudes tend to converge, in the long run one would expect their behavior to be more conciliatory, with greater reciprocation in response to the conciliatory moves of the other. That is, under these conditions behavior may then be characterized by increasing consensus leading toward agreement on a final solution. Conversely, of course, threatening behaviors may increase negative affect, which in turn would tend to enhance retractions, thereby leading the negotiating parties farther apart and away from a solution.

At the level of inter-personal relations there are at least three variants of this consistency and balance model which may be relevant to the bargaining situation. The first approach emphasizes a high degree of reciprocity in attitudes among actors within negotiations. This argument contends essentially that, if one party perceives itself as the object of hostility from another, it will tend to express hostility toward the other. Applied to a dyadic relationship, this implies that, "if x expresses hostility toward y, then y will express hostility toward x..." (Zinnes, 1968, pp. 86-87). Hopmann (1972, p. 230) has found that such reci-

procity tended to characterize attitudes in arms control negotiations leading up to the Partial Nuclear Test Ban Treaty.

A second approach is taken by Heider (1946) who suggests than an individual's attitudes towards other individuals will be a function of their common attitudes towards some third person or object. The relationships within such a triad may be defined essentially as positive or negative, and balance within a triad is obtained when zero or two bonds connecting the actors are negative, as is the case in the four possible balanced triads diagrammed in Figure 3. Therefore, if actor P likes object X and it also perceives that the other actor, O, likes the same object, then it tends to feel positively towards the other actor. This relationship does not apply, however, to possession relationships such as those where P and O both desire to possess X, so that they come into conflict.

Figure 3: Four Balanced Triads

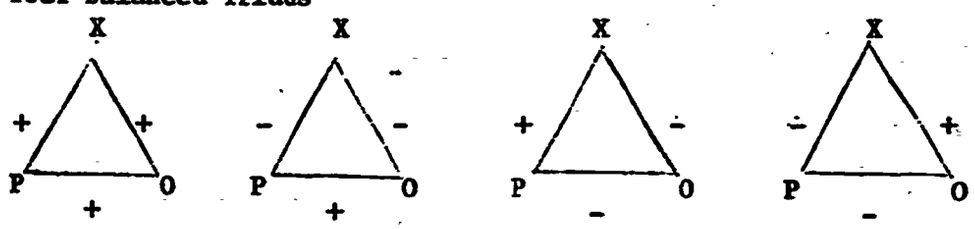


Figure 4: Four Consistent Dyadic Interactions

Conversely if P perceives that their attitudes diverge, then its attitude toward O is likely to be negative. This then suggests that actors' affect toward one another will be a function of their joint perceptions of their common orientations toward third actors or events.

A third formulation involves an actor's perceptions of dyadic relationships, either between two other actors or between itself and another actor (Osgood, 1960). In this model a distinction is made between attitudes which are properties of the actors and the perceived relationship between two actors. The fundamental assertion of the model is that there are pressures for consistency among these three elements, that is the evaluation of A, the relationship between A and B, and the evaluation of B. As in the Heider model, a consistent relationship is defined as one in which there are zero or two negative signs. Thus, if A and B are evaluated alike, then the relationship between them is likely to be perceived as positive; conversely, if one is positive and the other is negative, then the relationship is likely to be negative. These consistent dyads are diagrammed in Figure 4. This formulation suggests that an actor's perception of his relationship toward another will be a function of his perception of properties of that other actor; if his behavior toward that actor is consistent with his attitudes as predicted by the theory of cognitive dissonance, then changes in behavior may result from changing evaluations of properties of other actors or of perceptions of their behavior towards the first actor. This is based on the assumption that attitudinal inconsistency will tend over time to produce attitude change, and that attitude change will eventually influence behavior change.

All of the above models of balance and consistency apply only when the following scope conditions are met: 1) the cognitive relationship must be salient for all actors involved; 2) when two or more actors are involved, the relationship must be jointly relevant for all; and 3) all cognitive components must be interdependent and must remain in tact.

If these conditions apply, then all of these simple models taken together suggest that various attitudinal and behavioral components of the bargaining process are likely to be consistent in order for cognitive balance to be maintained and

dissonance to be reduced. In addition, these models suggest a basic mechanism through which the attitudes and eventually the behavior of negotiators may change within the bargaining process. These models will then provide linkages between the independent variables of "soft" and "hard" bargaining strategies, positive and negative affect, and eventually the outcomes of the negotiation process.

There are, of course, limitations to these models. They are based upon a number of simplifying assumptions and assume a variety of scope conditions noted above which may not always pertain in the "real world." Since these models have primarily been tested with small groups, their application outside of the laboratory remains uncertain. Nevertheless, in a model of bargaining based upon extensive verbal communications, these attitudinal variables are clearly important components of the process and must be analyzed in any systematic attempt to develop and test theories of bargaining.

Relationship Between Task-Oriented and Strategic Behavior

Task-oriented behavior has been defined by Verba (1961, p. 144) as instrumental, goal-oriented group activity "directly connected with the group's external task." In the case of the bargaining situation with a conflict of interest, the identification of mutually acceptable solutions becomes the primary external activity of the group, as opposed to internal activities such as maintaining group structure and satisfaction of emotional needs of group members. Bales (1950, p. 351) has suggested that task-oriented behavior consists of two general categories, namely questions (asking for orientation, opinions, or suggestions) and answers (giving suggestions, opinions, or orientations). We have modified the Bales categorization somewhat by breaking out two sub-categories of socio-emotional behavior, namely agreement and disagreement, and including these as components of task-oriented behavior. This decision seems to be justified in a situation such as that with which we are dealing where the group is essentially characterized by conflicts of

interest rather than as a cooperative, problem-solving group. In a conflict of interest situation, agreement and disagreement are an essential aspect of dealing with the central task, namely finding acceptable solutions and eliminating effectively and instrumentally unacceptable solutions. Furthermore, these two sub-categories seem quite different from the other components of Bales' socio-emotional categories. Bales' categorization of positive reactions includes showing solidarity and tension release, as well as agreement; negative reactions include showing tension and antagonism along with disagreement. It is our assertion that, at least in the bargaining context, factors like solidarity, antagonism, and tension are more affective than agreement and disagreement and need to be distinguished conceptually.

Having made these distinctions, we assert theoretically that task-oriented group behavior will be instrumental in identifying negotiable issues (i.e., bargaining space) and in clarifying bargaining positions and utilities assigned to various possible outcomes by all parties. As such, it will mediate between the strategies selected by the various actors and the attainment of final solutions.

Relationship Between Task-Oriented and Affect-Oriented Behavior

One final relationship which we propose to investigate is the relative proportion of task-oriented versus affective-oriented behavior within the bargaining process. The general finding of most small group research tends to suggest that some overall balance between these two categories will be most effective in achieving group goals (Verba, 1961, p. 146). However, most of the experiments in which this relation has been investigated have involved groups with essentially cooperative tasks, so that maintaining group member satisfaction through socio-emotional behavior has been an important component of goal attainment. In a conflict of interest, bargaining situation, however, a good deal of affective behavior

is likely to be negative in character, partially as a result of the basic distrust between actors and of the essentially individual motivation of the participants. In such a case affective behavior might seem at best to be substantially irrelevant to the business at hand and at worst, especially when associated with the employment of threats and sanctions, to impede progress. Conversely, we would expect a high proportion of task-oriented behavior, where the actors remain relatively impersonal towards one another, to be associated with progress towards a solution.

In general these intervening variables are hypothesized to affect outcomes of the negotiation process in the following manner:

3.10: The greater the agreement relative to disagreement in task behavior, the greater the probability of achieving a solution to the negotiations and the greater the joint payoffs, and vice versa.

3.20: The greater the positive relative to negative affect, the greater the probability of achieving a solution to the negotiations and the greater the joint payoffs, and vice versa.

3.30: The greater the ratio of task-oriented behavior to affective-oriented behavior, the greater the probability of a solution to negotiations and the greater the joint payoffs of any solution, and vice versa.

H. DEPENDENT VARIABLE: BARGAINING OUTCOMES

The dependent variable for our project involves an analysis of the outcomes of the bargaining process. Conceptually we will evaluate outcomes in three different manners. First, we will deal with the dichotomous outcome of whether or not the actors are able to identify and agree upon basic solutions to the problems under negotiation. In other words, our concern here is with the question of whether or not the actors can identify an overlapping bargaining space and agree

upon a solution at some point within that bargaining space. Second, we will deal with the level of payoff to each of the actors and therefore to the group as a whole. Our concern here will be with whether or not the actors can maximize their joint payoffs versus arriving at solutions based on a lowest common denominator where neither profits substantially. Third, we will analyze the distribution of payoffs. Our interest here will be in observing the conditions which tend to produce relatively equitable distributions of payoffs versus highly unequal outcomes. In the latter case we will also analyze those factors within the bargaining process which will affect the distribution by permitting one player to profit at the expense of another; in other words, we are interested in determining what characterizes the bargaining behavior of highly successful individual negotiators versus unsuccessful individuals.

III. METHODOLOGY

A. GENERAL METHODOLOGICAL CONSIDERATIONS

The research which we propose to undertake in this experiment builds on a good deal of experimental work done previously, primarily by social psychologists interested in various aspects of the bargaining process. Since our primary interest, however, is in the development of a theory of bargaining applicable to political phenomena, especially phenomena such as international negotiations, we must give careful attention to the development of a methodology which will enable us to make some inferences from our experiments to the referent world of interest to us. In this respect, there are several shortcomings of most of the research in experimental situations which we intend to try to overcome.

First, the operational definitions of various aspects of bargaining strategy have often been of dubious relevance to phenomena such as arms control negotiations. For example, the variables of "soft" and "hard" bargaining strategy have

normally been measured by a process in which experimental subjects select a "cooperative" or "uncooperative" choice in a game setting characterized by a 2 x 2 matrix of choices. A "hard" strategy thus amounts to a sequence of uncooperative plays by an actor, while a "soft" strategy is the opposite, with numerous variations possible between these extremes. This is not an intrinsically unreasonable approach to operationalizing these variables. But one can justifiably wonder whether they are closely analagous to the same concepts which are employed in the literature on international negotiations.

Second, the systems for providing payoffs are also quite different in these experiments from those generally prevailing in "real-world" negotiations. In most matrix games payoffs occur after each interaction; that is, each player wins or loses something (e.g., money) after each choice in the game. But in the across-the-table negotiating situation the payoff, in the form of an agreement or no agreement, occurs only after all the moves have been made and is a single distribution of utilities reflecting the cumulative effect of all previous moves. It would seem plausible to suggest that such a difference in the impact of a single move could imply important differences in the ultimate impact of a sequence of such moves or strategies.

Third, communications in the matrix game are quite different from those in a face-to-face situation. In fact in most matrix games communication per se is not permitted and all communications is presumed to be tacit. In other words, each move may be construed by an adversary as indicating a predisposition or a reaction to prior moves. In the face-to-face situation, in contrast, the full spectrum of verbal as well as non-verbal communication is possible, thus permitting greater precision and complexity and increased opportunity for subtlety.

In short, we have developed a research design which attempts to develop a full scale operationalization of the bargaining process where unrestricted verbal

1) Initiations: Actor advances a substantially new proposal or states his own substantive position for the first time.

2) Accomodations: Actor concedes a point to another, retracts a proposal in the face of resistance, or expresses a willingness to negotiate or compromise his own stated position.

3) Retractions: Actor retracts a previously made initiation or accomodation or modifies a previously stated position so as to make the position clearly less agreeable to another.

B) Strategic Behavior: Behavior designed to affect the behavior of other actors in the negotiations, but not implying a substantive change of position on the part of the initiator.

1) Commitments: Actor takes a position or reiterates it with a clear statement that it will not change under any circumstances and/or declares his own position non-negotiable.

2) Threats: Actor offers or predicts negative consequences (sanctions or withholding of a potential reward) if another does not behave in a stated manner.

3) Promises: Actor offers or predicts positive consequences (reward or withdrawal of sanction) if another behaves in a stated manner.

C) Task Behavior: Behavior primarily designed to promote business-like discussion and clarification of issues.

1) Agreements: Actors accepts another's proposal, accepts a retraction or accomodation, or expresses substantive agreement with another's position.

2) Disagreements: Actor rejects another's proposal, refuses a concession or retraction, or disputes a substantive (including factual) issue.

3) Questions: Actor requests information, inquires as to another's position,

communications are permitted and where payoffs are cumulative. This requires primarily a capacity to code and analyze verbal communications taking place within the bargaining process. Therefore, we have developed a measuring instrument called "Bargaining Process Analysis" (Walcott and Hopmann, forthcoming), which represents a substantial modification of the system employed by Bales (1950) for coding verbal interactions in a bargaining situation.

Bales' system for coding interactive behavior in groups, called Interaction Process Analysis, includes categories such as positive and negative socio-emotional reactions and task behavior such as asking questions and providing answers. We have concluded, however, that the Bales system does not adequately enable one to analyze explicitly political interactions involving bargaining in conflict situations. The Bargaining Process Analysis System (BPA) thus represents our present attempt to measure the processes of bargaining and conflict in the context of small group interactions. The BPA is drawn from two major sources. The bargaining variables are taken primarily from the conceptual schemes of Schelling (1960), with modification and elaboration reflecting the influence of thematic content analysis instruments previously utilized in the study of arms control negotiations (Jensen, 1968, and Hopmann, 1972). The contextual variables, that is the measure of everything that isn't coded as a bargaining variable, are mainly borrowed from Bales. The BPA is thus quite obviously a special purpose instrument, tailored directly to the theoretical variables identified previously. It is also designed for use in performing thematic content analysis of written transcripts of actual international negotiations in addition to its primary use in the laboratory.

The operational definitions of the categories in the system are as follows:

A) Substantive Behavior: Behaviors directly associated with the subject matter of the negotiations.

reaction or intention, or requests clarification or justification of a position.

4) Answers: Actor supplies information, reiterates a previously stated position, or clarifies or justifies a position.

D) Affective Behavior: Behavior in which actors express their feelings or emotions towards one another or toward a situation.

1) Positive Affect: Actor jokes or otherwise attempts to relieve tension, attempts to create feelings of solidarity in the group, or expresses approval or satisfaction.

2) Negative Affect: Actor becomes irritable or otherwise shows tension, criticizes another in general terms, expresses disapproval or dissatisfaction with group performance or with the situation.

E) Procedural Behavior: Behavior designed to move the discussion along, but which does not fit into any of the above categories.

1) Subject Change: Attempts to divert discussion from one substantive topic to another.

Each of these categories may require some explication. Category A includes substantive behavior which refers to actions involving the substantive issues under discussion, that is actions which represent the taking or moving of an actor's position along the issue dimension in Figure 1. This includes making a proposal on a specific issue, backing down from a proposal or position (accomodation), and toughening a position (retraction). These differ from agreement and disagreement in category C in that they involve an actual taking or modification of a position rather than the statement of position on an issue. Category A differs from category B, strategic behavior, in that it represents the statement of a specific position of an actor rather than behavior intended to manipulate the

utilities or the perceived probabilities of various outcomes of other actors. In other words, substantive behavior represents the taking of a specific position on an issue, whereas strategic behavior involves the taking of actions to modify the utilities and expected outcomes of the other actor. As noted previously, however, these may be combined into one general category which taps the process of arriving at positions and agreements with respect to specific issues under negotiation. Thus, the independent variable of "soft" versus "hard" bargaining strategies is comprised of a combination of categories A and B.

Categories C and D, Task Behavior and Affective Behavior, are essentially borrowed from the Bales system, with the modifications noted earlier. Thus they do not have their basis in a theory specifically dealing with the bargaining process. However, they do comprise an operational measurement of the intervening variables in our model of the effects of bargaining on negotiation outcomes.

Category E, Procedural Behavior, is simply a residual category. In previous experiments we have found that interactions occasionally occur which cannot be sensibly coded into any of the usual categories in the system. While there are generally few such interactions, it seems useful to categorize them as procedural, especially if they are intended to change the subject or to move negotiations along.

The system of Bargaining Process Analysis has thus provided a means for coding the interactions of actors bargaining with free verbal communication. As will be discussed in more detail shortly, this has thus provided a technique for measuring a substantial portion of the variables of theoretical interest to us in this study.

In short, the basic feature of our research has been to apply this device for coding behaviors in several experimental studies of the bargaining process and to

the verbatim texts of the Eighteen Nation Disarmament Conference - Conference of the Committee on Disarmament from 1962-1971. This technique has enabled us to measure all relevant aspects of the bargaining process. Other variables have been measured, very briefly, as follows:

1) The International Environment:

a) Experimentally, this change has been induced by the experimenters in the form of a news bulletin, announcing a change towards reduced or increased international tensions compared to the conditions prevailing in the original "scenario."

b) In the real world, interactions among negotiating nations reported in the press of all involved countries are scaled on a 30-point scale of action from cooperation to conflict (Moses et al., 1967).

2) Flexibility of Actor Goals:

a) Experimentally, this has been controlled by an experimental confederate playing the role of a "Foreign Minister" who would enforce strict adherence to goals (inflexible condition) or permit considerable deviation from basic goals (flexible conditions).

b) In the real world, efforts are being made to get at this variable through in-depth interviews of negotiators, although this is often difficult to tap reliably.

3) Role Variables:

a) Experimentally, roles are assigned by the "scenario" for the experiment.

b) In the real world, these are simply coded by the authors according to the importance of the actor in negotiations on any given issue.

4) Personality Variables:

a) Experimentally, these are measured by brief personality tests administered to participants prior to their participation in the experiment.

b) In the real world, we have made no attempt to date to measure this variable.

5) Outcomes: These are measured through a simple coding of whether or not agreement was achieved, and the level of agreement is rated according to scales of importance developed by the authors; in some experimental studies financial rewards will be manipulated to determine final payoffs.

IV. RESULTS TO DATE

In this section we shall provide a brief summary of some of our major findings to date. None of these findings should be interpreted as definitive or as our final conclusion on the subject. Rather they are presented here in summary form only to illustrate some of the kinds of results which we hope to be able to identify in more detail when we have completed our research.

A. EFFECTS OF THE INTERNATIONAL ENVIRONMENT.

Hopmann's (1972) study of the Partial Test Ban negotiations has, as noted above (pp. 4-5) produced findings generally supportive of the hypotheses we have formulated. Specifically, he found that increased cooperation among negotiating parties outside the negotiations led to (or at least was associated with) enhanced cooperation within the negotiations (1.10), and, conversely, that increased conflict in the external environment tended to be followed by increased disagreement within the negotiations. In terms of the particular sub-hypotheses stated above (pp. 6-7) Hopmann found evidence of a relationship between changes in the external environment and incidence of agreement versus disagreement (1.12), and, allowing for some differences in operationalization, "soft" versus "hard"

bargaining strategies (1.11).

Hopmann and Walcott's experimental study (1972), which in many salient respects simulated the circumstances of the Partial Test Ban negotiations, produced additional evidence tending in a similar direction. In this experiment, the external environment was controlled, and three environmental conditions were created via changes introduced midway in the negotiations: benign (increased cooperation), malign (increased tension), and neutral (no change). In general, the malign condition tended to affect the negotiations to a significant extent, in directions consistent with our hypotheses. Statistically significant differences emerged from comparisons between the malign condition and both the benign and the neutral conditions. However, the benign and neutral conditions did not produce effects that differed from one another to a statistically significant degree.

Specifically, in the above experiment, the malign environmental condition was seen to adversely affect the probability of a successful solution to the negotiating "problem" (1.10), to produce "harder" bargaining strategies (at least when compared to the neutral condition) (1.11), to produce increased proportions of disagreement to agreement (1.12), and to produce a greater ratio of negative to positive affect (1.13). Hypothesis 1.14, which predicts increasingly affective interactions as the environment worsens, was not supported.

Thus our preliminary investigation of the effects of the external environment has produced a highly consistent set of findings, with both the "real world" (in Geneva) and the experimental laboratory revealing basically the patterns we expected to find.

B. EFFECTS OF ACTORS' GOALS

Our laboratory experiment (Hopmann & Walcott, 1972) employed flexibility vs. inflexibility of actor goals as a control variable. Two conditions were

created: mutual flexibility, and mutual inflexibility, in an attempt to maximize the observable impact of this variable. The results obtained were somewhat disappointing: only one of our hypotheses was confirmed. Goal flexibility did tend to produce "soft" rather than "hard" bargaining strategies (1.21). However, the results were non-significant with respect to all other predicted relationships.

C. ROLE VARIABLES

Both our "real world" and experimental studies have furnished some preliminary evidence regarding the effects of role, specifically the minor actor role. The Test Ban study reveals an intriguing pattern wherein the minor actor (Britain) appears to be more responsive to both external and within-negotiation occurrences than are the major actors. The theoretical status of this finding is, however, ambiguous, and it does not bear directly upon any hypothesis we have formulated.

Our minor-actor hypothesis (1.30) does, however, receive impressive support from data generated in the laboratory. It appears from these findings that the conclusion of a satisfactory agreement in negotiations involving two major actors and one minor actor is heavily dependent upon the behavior of the minor actor. Specifically, the minor actor must be active, and must generally secure the trust and respect of the major actors. Our data suggest, as well, that the minor actor will do well to maintain independence of either of the major actors.

D. PERSONALITY CHARACTERISTICS

Of the potentially huge array of personality characteristics that might be investigated (and the two included in our hypotheses), we have thus far dealt with only one: nationalism/internationalism. Our experimental subjects were pretested with a modified internationalism scale (Helfant, 1952), though they were assigned to groups randomly, without regard to test scores. While a few rather weak relationships emerged between internationalism and other appects of the bar-

gaining process, our overall conclusion must be that these variables mattered rather less than expected. Indeed, they simply do not appear to have been important either to outcomes or to processes. Clearly, though, such a preliminary finding could be attributed either to faulty operationalization of the variables involved, or to an unfortunate choice of variables. At present, we are really not in a position to comment upon such possibilities.

E. BARGAINING STRATEGY

Both the Test Ban and the experimental studies provide support for the central hypothesis, that "soft" strategies are conducive to agreement, whereas "hard" stragegies are not (2.10). The Test Ban study strongly points to the role of reciprocity: "soft" strategies tend to beget "soft" strategies, and likewise "hard" strategies.

The laboratory experiment provides specific support for one additional hypothesis: the use of commitments is seen to impede successful negotiation (2.111). Data pertinent to the remaining hypotheses in this section have not yet been completely analyzed.

F. EFFECTS OF SANCTIONS

Thus far, we have generated no data relevant to the hypotheses involving sanctions. An examinatinn of this phenomenon is, in fact, our next project.

G. TASK AND AFFECT

Two of the hypotheses presented in this section are supported by findings from the experimental study. Both high ratios of positive to negative affect (3.20) and of agreement to disagreement (3.10) are found to be significantly related to negotiating success. Each of these findings is, additionally, consistent with the patterns which emerged from the Test Ban study.

The relationship between attention to task behavior and the probability of success (3.30) was not found to be significant in the experimental study. A

possible explanation for this (apart from the possibility that there may simply be no such relationship) is that all of our experimental runs were highly task-oriented as compared to the results of most reported small group experiments. Thus there was little variation in degree of task orientation, and little opportunity for a relationship to emerge.

CONCLUSIONS

Once again, it should be stressed that our results to date are of a preliminary nature. While they may eventually become part of a cumulation of evidence in which we may have confidence, they do not occupy that status at present. Our research to date has been exploratory, tentative, and unavoidably crude in both conceptual and methodological particulars. However, we must admit that these results are extremely encouraging in at least two respects.

First, and perhaps most obvious, is the fact that our hypotheses have tended to fare rather well under scrutiny. This amounts to more than just the usual preference for "positive" results over "negative" results (when in fact the latter may at times be more important). At this stage of this type of project, it is unusually important to develop confidence that at least you are on the right track theoretically. Thus far, our findings have tended to engender that kind of confidence.

Second, and probably more important, we have come to have comparable faith in our methodology. On the one hand, the BPA has proven itself to be enormously productive of data: data, moreover, which tend to lie in patterns intelligible within our conceptual and theoretical framework. Since a large part of the problem of studying bargaining processes is finding some way to record them systematically, this experience with BPA is highly encouraging. At the same time, we have also had success with what might be considered the most dubious aspect of our methodology:

the employment of laboratory experimentation to supplement our "real-world" data. While the argument over the valid uses of laboratory findings is too long and involved to occupy us here, suffice it to say that the tendency of our laboratory findings to corroborate both our "real-world" findings and our hypothetical speculations reinforces our confidence in the worthwhileness of this part of the enterprise. At least the bridge we are trying to build hasn't collapsed as yet.

This is an ongoing project. Our immediate plans are (1) to look at the effect of sanctions as well as strategy in a dyadic laboratory exercise, and (2) to continue analysis of "real-world" arms control negotiations, this time employing the BPA as a content-analysis instrument. At the same time, we expect to continue the process of refining and elaborating our theoretical framework and, as appropriate, refining our methods as well. The Good Lord willing and the grants don't stop, that is.

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