THE EFFECT OF THREAT UPON INTERPERSONAL BARGAINING

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A bargain is defined in Webster's Unabridged Dictionary as "an agreement between parties settling what each shall give and receive in a transaction between them"; it is further specified that a bargain is "an agreement or compact viewed as advantageous or the reverse." When the term "agreement" is broadened to include tacit, informal agreements as well as explicit agreements, it is evident that bargains and the processes involved in arriving at bargains ("bargaining") are pervasive characteristics of social life.

The definition of bargain fits under sociological definitions of the term "social norm." In this light, the experimental study of the bargaining process and of bargaining outcomes provides a means for the laboratory study of the development of certain types of social norms. But unlike many other types of social situations, bargaining situations have certain distinctive features that make it relevant to consider the conditions that determine whether or not a social norm will develop as well as those that determine the nature of the social norm if it develops. Bargaining situations highlight the possibility that, even where cooperation would be mutually advantageous, shared purposes may not develop, agreement may not be reached, and interaction may be regulated antagonistically rather than normatively.

The essential features of a bargaining situation exist when:

1. Both parties perceive that there is the possibility of reaching an agreement in which each party would be better off, or no worse off, than if no agreement were reached.
2. Both parties perceive that there is more than one such agreement that could be reached.
3. Both parties perceive each other to have conflicting preferences or opposed interests with regard to the different agreements that might be reached.

Everyday examples of bargaining include such situations as: the buyer-seller relationship when the price is not fixed, the husband and wife who want to spend an evening out together but have conflicting preferences about where to go, union-management negotiations, drivers who meet at an intersection when there is no clear right of way, disarmament negotiations.

In terms of our prior conceptualization of cooperation and competition (Deutsch, 1949) bargaining is thus a situation in which the participants have mixed motives toward one another: on the one hand, each has interest in cooperating so that they reach an agreement; on the other hand, they have competitive interests concerning the nature of the agreement they reach. In effect, to reach agreement the cooperative interest of the bargainers must be strong enough to overcome their competitive interests. However, agreement is not only contingent upon the motivational balances of cooperative to competitive interests but also upon the situational and cognitive factors which facilitate or hinder the recognition or invention of a bargaining agreement that reduces the opposition of interest and enhances the mutuality of interest.1

These considerations lead to the formulation of two general, closely related propositions about the likelihood that a bargaining agreement will be reached.

1. Bargainers are more likely to reach an agreement, the stronger are their cooperative interests in comparison with their competitive interests.
2. Bargainers are more likely to reach an agreement, the more resources they have available for recognizing or inventing potential bargaining agreements and for communicating to one another once a potential agreement has been recognized or invented.

From these two basic propositions and additional hypotheses concerning conditions that determine the strengths of the cooperative and competitive interests and the amount of available resources, we believe it is possible to explain the ease or difficulty of arriving at a bar-

1 Schelling in a series of stimulating papers on bargaining (1957, 1958) has also stressed the "mixed motive" character of bargaining situations and has analyzed some of the cognitive factors which determine agreements.
gaining agreement. We shall not present a full statement of these hypotheses here but turn instead to a description of an experiment that relates to Proposition 1.

The experiment was concerned with the effect of the availability of threat upon bargaining in a two-person experimental bargaining game. Threat is defined as the expression of an intention to do something detrimental to the interests of another. Our experiment was guided by two assumptions about threat:

1. If there is a conflict of interest and one person is able to threaten the other, he will tend to use the threat in an attempt to force the other person to yield. This tendency should be stronger, the more irreconcilable the conflict is perceived to be.

2. If a person uses threat in an attempt to intimidate another, the threatened person (if he considers himself to be of equal or superior status) would feel hostility toward the threatener and tend to respond with counterthreat and/or increased resistance to yielding. We qualify this assumption by stating that the tendency to resist should be greater, the greater the perceived probability and magnitude of detriment to the other and the less the perceived probability and magnitude of detriment to the potential resister from the anticipated resistance to yielding.

The second assumption is based upon the view that when resistance is not seen to be suicidal or useless, to allow oneself to be intimidated, particularly by someone who does not have the right to expect deferential behavior, is to suffer a loss of social face and, hence, of self-esteem; and that the culturally defined way of maintaining self-esteem in the face of attempted intimidation is to engage in a contest for supremacy vis-à-vis the power to intimidate or, minimally, to resist intimidation. Thus, in effect, the use of threat (and if it is available to be used, there will be a tendency to use it) should strengthen the competitive interests of the bargainers in relationship to one another by introducing or enhancing the competitive struggle for self-esteem. Hence, from Proposition 1, it follows that the availability of a means of threat should make it more difficult for the bargainers to reach agreement (providing that the threatened person has some means of resisting the threat). The preceding statement is relevant to the comparison of both of our experimental conditions of threat, bilateral and unilateral (described below), with our experimental condition of nonthreat. We hypothesize that a bargaining agreement is more likely to be achieved when neither party can threaten the other, than when one or both parties can threaten the other.

Consider now the situations of bilateral threat and unilateral threat. For several reasons, a situation of bilateral threat is probably less conducive to agreement than is a condition of unilateral threat. First, the sheer likelihood that a threat will be made is greater when two people rather than one have the means of making the threat. Secondly, once a threat is made in the bilateral case it is likely to evoke counterthreat. Withdrawal of threat in the face of counterthreat probably involves more loss of face (for reasons analogous to those discussed in relation to yielding to intimidation) than does withdrawal of threat in the face of resistance to threat. Finally, in the unilateral case, although the person without the threat potential can resist and not yield to the threat, his position vis-à-vis the other is not so strong as the position of the threatened person in the bilateral case. In the unilateral case, the threatened person may have a worse outcome than the other whether he resists or yields; while in the bilateral case, the threatened person is sure to have a worse outcome if he yields but he may insure that he does not have a worse outcome if he does not yield.

METHOD

Procedure

Subjects (56) were asked to imagine that they were in charge of a trucking company, carrying merchandise over a road to a destination. For each trip completed they made $.60, minus their operating expenses. Operating expenses were calculated at the rate of one cent per second. So, for example, if it took 37 seconds to complete a particular trip, the player’s profit would be $.60 — $.37 or a net profit of $.23 for that particular trip.

Each S was assigned a name, Acme or Bolt. As the “road map” (see Figure 1) indicates, both players start from separate points and go to separate destinations. At one point their paths cross. This is the section of road labeled “one lane road,” which is only one lane wide, so that two trucks, heading in opposite directions, could not pass each other. If one backs up
the other can go forward, or both can back up, or both can sit there head-on without moving.

There is another way for each S to reach the destination on the map, labeled the "alternate route." The two players' paths do not cross on this route, but the alternate is 56% longer than the main route. Ss were told that they could expect to lose at least $.10 each time they used the alternate route.

At either end of the one-lane section there is a gate that is under the control of the player to whose starting point it is closest. By closing the gate, one player can prevent the other from traveling over that section of the main route. The use of the gate provides the threat potential in this game. In the bilateral threat potential condition (Two Gates) both players had gates under their control. In a second condition of unilateral
threat (One Gate) Acme had control of a gate but Bolt did not. In a third condition (No Gates) neither player controlled a gate.

Ss played the game seated in separate booths placed so that they could not see each other but could see the experimenter (E). Each S had a “control panel” mounted on a 12” X 18” X 12” sloping-front cabinet (see Figure 2). The apparatus consisted essentially of a reversible impulse counter that was pulsed by a recycling timer. When the S wanted to move her truck forward she threw a key that closed a circuit pulsing the “add” coil of the impulse counter mounted on her control panel. As the counter cumulated, S was able to determine her “position” by relating the number on her counter to reference numbers that had been written in on her road map. Similarly, when she wished to reverse, she would throw a switch that activated the “subtract” coil of her counter, thus subtracting from the total on the counter each time the timer cycled.

S’s counter was connected in parallel to counters on the other S’s panel and on E’s panel. Thus each player had two counters on her panel, one representing her own position and the other representing the other player’s. Provision was made in construction of the apparatus to permit cutting the other player’s counter out of the circuit, so that each S knew only the position of her own truck. This was done in the present experiment. Experiments now in progress are studying the effects of knowledge of the other person’s position and other aspects of interpersonal communication upon the bargaining process.

The only time one player definitely knew the other player’s position was when they had met head-on on the one-way section of road. This was indicated by a traffic light mounted on the panel. When this light was on, neither player could move forward unless the other moved back. The gates were controlled by toggle switches and panel-mounted indicator lights showed, for both Ss, whether each gate was open or closed.

The following “rules of the game” were stated to the Ss:

1. A player who started out on one route and wished to switch to the other route could only do so after first reversing and going back to the start position. Direct transfer from one route to the other was not permitted except at the start position.

2. In the conditions where Ss had gates, they were permitted to close the gates no matter where they were on the main route, so long as they were on the main route (i.e., they were not permitted to close the gate while on the alternate route or after having reached their destinations). However, Ss were permitted to open their gates at any point in the game.

Ss were taken through a number of practice exercises to familiarize them with the game. In the first trial they were made to meet head-on on the one-lane path; Acme was then told to back up until she was just off the one-lane path and Bolt was told to go forward. After Bolt had gone through the one-lane path, Acme was told to go forward. Each continued going forward until each arrived at her destination. The second practice trial was the same as the first except that Bolt rather than Acme backed up after meeting head-on. In the next practice trial, one of the players was made to wait just before the one-way path while the other traversed it and then was allowed to continue. In the next practice trial, one player was made to take the alternate route and the other was made to take the main route. Finally, in the bilateral and unilateral threat conditions the use of the gate was illustrated (by having the player get on the main route, close the gate, and then go back and take the alternate route).

The Ss were told explicitly, with emphasis, that they did not have to use the gate. Before each trial in the game the gate or gates were in the open position.

The instructions stressed an individualistic motivational orientation. Ss were told to try to earn as much money for themselves as possible and to have no interest in whether the other player made money or lost money. They were given $4.00 in poker chips to represent their working capital and told that after each trial they would be given “money” if they made a profit or that “money” would be taken from them if they lost (i.e., took more than 60 seconds to complete their trip). The profit or loss of each S was announced so that both Ss could hear the announcement after each trial. Each pair of Ss played a total of 20 trials; on all trials, they started off together. In other words each trial presented a repetition of the same bargaining problem. In cases where Ss lost their working capital before the 20 trials were completed, additional chips were given them. Ss were aware that their monetary winnings and losses were to be imaginary and that no money would change hands as a result of the experiment.

Subjects

Sixteen pairs of Ss were used in each of the three experimental conditions. The Ss were female clerical and supervisory personnel of the New Jersey Bell Telephone Company who volunteered to participate during their working day. Their ages ranged from 20 to 39, with a mean of 26.2. All were naive to the purpose of the experiment. By staggering the arrival times and choosing girls from different locations, we were able to insure that the Ss did not know with whom they were playing.

Data Recorded

Several types of data were collected. We obtained a record of the profit or loss of each S on each trial. We also obtained a detailed recording of the actions taken by each S during the course of a trial. For this purpose, we used an Esterline-Angus model AW Operations Recorder which enabled us to obtain a “log” of each move each S made during the game (e.g., whether and when she took the main or alternate route; when she went forward, backward, or remained still; when she closed and opened the gate; when she arrived at her destination).

RESULTS

The best single measure of the difficulty experienced by the bargainers in reaching an agreement is the sum of each pair’s profits (or

We are indebted to the New Jersey Bell Telephone Company for their cooperation in providing Ss and facilities for the experiment.

We are indebted to M. J. R. Healy for suggestions concerning the statistical analysis of our data.
losses) on a given trial. The higher the sum of the payoffs to the two players on a given trial, the less time it took them to arrive at a procedure for sharing the one-lane path of the main route. (It was, of course, possible for one or both of the players to decide to take the alternate route so as to avoid a protracted stalemate during the process of bargaining. This, however, always resulted in at least a $.20 smaller joint payoff if only one player took the alternate route, than an optimally arrived at agreement concerning the use of the one-way path.) Figure 3 presents the medians of the summed payoffs (i.e., Acme's plus Bolt's) for all pairs in each of the three experimental conditions over the 20 trials. These striking results indicate that agreement was least difficult to arrive at in the no threat condition, was more difficult to arrive at in the unilateral threat condition, and exceedingly difficult or impossible to arrive at in the bilateral threat condition (see also Table 1).

Examination of Figure 3 suggests that learning occurred during the 20 trials: the summed payoffs for pairs of Ss tend to improve as the number of trials increases. This suggestion is confirmed by an analysis of variance of the slopes for the summed payoffs over the 20 trials for each of the 16 pairs in each of the 3 experimental treatments. The results of this analysis indicate that the slopes are significantly greater than zero for the unilateral threat (p < .01) and the no threat (p < .02) conditions; for the bilateral threat condition, the slope does not reach statistical significance (.10 < p < .20). The data indicate that the pairs in the no threat condition started off at a fairly high level but, even so, showed some improvement over the 20 trials; the pairs in the unilateral threat condition started off low and, having considerable opportunity for improvement, used their opportunity; the pairs in the bilateral threat condition, on the other hand, did not benefit markedly from repeated trials.

Figure 4 compares Acme’s median profit in the three experimental conditions over the 20 trials; while Figure 5 compares Bolt’s profit in the three conditions. (In the unilateral threat condition, it was Acme who controlled a gate and Bolt who did not.) Bolt’s as well as Acme's outcome is somewhat better in the no threat condition than in the unilateral threat condition; Acme's, as well as Bolt's, outcome is clearly worst in the bilateral threat condition (see Table 1 also). However, Figure 6 reveals that Acme does somewhat better than Bolt in the no threat condition. Thus, if threat-potential exists within a bargaining relationship it is better to possess it oneself than to have the other party possess it. However, it is even better for neither party to possess it. Moreover, Figure 5 shows that Bolt is better off not having a gate even when Acme has a gate: Bolt tends to do better in the unilateral threat condition than in the bilateral threat condition.

The size of the absolute discrepancy between the payoffs of the two players in each pair provides a measure of the confusion or difficulty in predicting what the other player was going to do. Thus, a large absolute discrepancy might indicate that after one player had gone through the one-way path and left it open, the other player continued to wait; or it might indicate that one player continued to wait at a closed gate hoping the other player would open it quickly but the other player did not; etc. Figure 7 indicates that the discrepancy between players in the no threat condition is initially small and remains small for the 20 trials. For the players in both the bilateral and unilateral threat conditions, the discrepancy is initially relatively larger; but it decreases more noticeably in the unilateral threat condition by the tenth trial and, therefore, is consistently smaller than in the bilateral condition.

By way of concrete illustration, we present a
synopsis of the game for one pair in each of three experimental treatments.

No Threat Condition

**Trial 1.** The players met in the center of the one-way section. After some back-and-forth movement Bolt reversed to the end of the one-way section, allowing Acme to pass through, and then proceeded forward herself.

**Trial 2.** They again met at the center of the one-way path. This time, after moving back and forth deadlocked for some time, Bolt reversed to “start” and took the alternate route to her destination, thus leaving Acme free to go through on the main route.

**Trial 3.** The players again met at the center of the one-way path. This time, however, Acme reversed to the beginning of the path, allowing Bolt to go through to her destination. Then Acme was able to proceed forward on the main route.

**Trial 5.** Both players took the main route, meeting at the center of the one-way section. Acme immediately closed her gate, reversed, and took the alternate route. Bolt waited at the gate for about 10 seconds, then reversed and took the alternate route to her destination.

**Trial 10.** Both players took the main route and met in the center. Acme closed her gate, reversed, and took the alternate route. Bolt remained waiting at the closed gate. After Acme arrived at her destination, she opened the gate and Bolt completed her trip.

**Trial 15.** Acme took the main route to her destination and Bolt took the alternate route.

**Trials 17–20.** Both players took the main route and met in the center. Bolt waited a few seconds, then reversed to the end of the one-way section allowing Acme to go through. Then Bolt proceeded forward to her destination.

Other typical patterns that developed in this experimental condition included an alternating pattern similar to that described in the no threat condition, a dominating pattern in which Bolt would select the alternate route leaving Acme free to use the main route unobstructed, and a pattern in which Acme would close her gate and then take the alternate route, also forcing Bolt to take the alternate route.

Bilateral Threat Condition

**Trial 1.** Acme took the main route and Bolt took the alternate route.

**Trial 2.** Both players took the main route and met head-on. Bolt closed her gate. Acme waited a few seconds, then closed her gate, reversed to “start,” then went forward again to the closed gate. Acme reversed and took the alternate route. Bolt again reversed, then started on the alternate route. Acme opened her gate and Bolt reversed to “start” and went to her destination on the main route.

**Trial 3.** Acme took the alternate route to her destination. Bolt took the main route and closed her gate before entering the one-way section.

**Trial 5.** Both players took the main route and met head-on. After about 10 seconds spent backing up and going forward, Acme closed her gate, reversed, and took the alternate route. After waiting a few seconds, Bolt did the same.
Trials 8-10. Both players started out on the main route, immediately closed their gates, reversed to "start," and took the alternate route to their destinations.

Trial 15. Both players started out on the main route and met head-on. After some jockeying for position, Acme closed her gate, reversed, and took the alternate route to her destination. After waiting at the gate for a few seconds, Bolt reversed to "start" and took the alternate route to her destination.

Trials 19-20. Both players started out on the main route, immediately closed their gates, reversed to "start," and took the alternate routes to their destinations.

Other patterns that emerged in the bilateral threat condition included alternating first use of the one-way section, one player's dominating the other on first use of the one-way section, and another dominating pattern in which one player consistently took the main route while the other consistently took the alternate route.

**DISCUSSION**

From our view of bargaining as a situation in which both cooperative and competitive tendencies are present and acting upon the individual, it is relevant to inquire as to the conditions under which a stable agreement of any form develops. However, implicit in most economic models of bargaining (e.g., Stone, 1958; Zeuthen, 1930) is the assumption that the cooperative interests of the bargainers are sufficiently strong to insure that some form of mutually satisfactory agreement will be reached. For this reason, such models have focused upon the form of the agreement reached by the bargainers. Siegel and Fouraker (1960) report a series of bargaining experiments quite different in structure from ours in which only one of many pairs of Ss were unable to reach agreement. Siegel and Fouraker explain this rather startling result as follows:

Apparently the disruptive forces which lead to the rupture of some negotiations were at least partially controlled in our sessions . . . .

Some negotiations collapse when one party becomes incensed at the other, and henceforth strives to maximize his opponent's displeasure rather than his own satisfaction . . . . Since it is difficult to transmit insults by means of quantitative bids, such disequilibrating behavior was not induced in the present studies. If subjects were allowed more latitude in their communications and interactions, the possibility of an affront-offense-punitive behavior sequence might be increased (p. 100). (Quoted by permission of McGraw-Hill)
In our experimental bargaining situation, the availability of threat clearly made it more difficult for bargainers to reach a mutually profitable agreement. These results, we believe, reflect psychological tendencies that are not confined to our bargaining situation: the tendency to use threat (if the means for threatening is available) in an attempt to force the other person to yield, when the other is seen as obstructing one's path; the tendency to respond with counterthreat or increased resistance to attempts at intimidation. How general are these tendencies? What conditions are likely to elicit them? Answers to these questions are necessary before our results can be generalized to other situations.

Dollard, Doob, Miller, Mowrer, and Sears (1939) have cited a variety of evidence to support the view that aggression (i.e., the use of threat) is a common reaction to a person who is seen as the agent of frustration. There seems to be little reason to doubt that the use of threat is a frequent reaction to interpersonal impasses. However, everyday observation indicates that threat does not inevitably occur when there is an interpersonal impasse. We would speculate that it is most likely to occur: when the threatener has no positive interest in the other person's welfare (he is either egocentrically or competitively related to the other); when the threatener believes that the other has no positive interest in his welfare; and when the threatener anticipates either that his threat will be effective or, if ineffective, will not worsen his situation because he expects the worst to happen if he does not use his threat. We suggest that these conditions were operative in our experiment; Ss were either egocentrically or competitively oriented to one another and they felt that they would not be worse off by the use of threat.

Everyday observation suggests that the tendency to respond with counterthreat or increased resistance to attempts at intimidation is also a common occurrence. We believe that introducing threat into a bargaining situation affects the meaning of yielding. Although we have no data to support this interpretation directly, we will attempt to justify it on the basis of some additional assumptions.

Goffman (1955) has pointed out the pervasive significance of "face" in the maintenance of the social order. In this view, self-esteem is a socially validated system that grows out of the acceptance by others of the claim for deference, prestige, and recognition that a person presents in his behavior toward others. Since the rejection of such a claim would be perceived (by the recipient) as directed against his self-esteem, he must react against it rather than accept it in order to maintain the integrity of his self-esteem system.

One may view the behavior of our Ss as an attempt to make claims upon the other, an attempt to develop a set of shared expectations as to what each was entitled to. Why then did the Ss' reactions differ so markedly as a function of the availability of threat? The explanation lies, we believe, in the cultural interpretation of yielding (to a peer or subordinate) under duress, as compared to giving in without duress. The former, we believe, is perceived as a negatively valued form of behavior, with negative implications for the self-image of the person who so behaves. At least partly, this is so because the locus of causality is perceived to be outside the person's voluntary control. No such evaluation, however, need be placed on the behavior of one who "gives in" in a situation where no threat or duress is a factor. Rather, we should expect the culturally defined evaluation of such a person's behavior to be one of "reasonableness" or "maturity," because the source of the individual's behavior is perceived to lie within his own control.

Our discussion so far has suggested that the psychological factors which operate in our experimental bargaining situation are to be found in many real-life bargaining situations. However, it is well to recognize some unique features of our experimental game. First, the bargainers had no opportunity to communicate verbally with one another. Prior research on the role of communication in trust (Deutsch 1958, 1960; Loomis, 1959) suggests that the opportunity for communication would have made reaching an agreement easier for individualistically-oriented bargainers. This same research (Deutsch, 1960) indicates, however, that communication may not be effective between competitively oriented bargainers. This
possibility was expressed spontaneously by a number of our Ss in a post-game interview.

Another characteristic of our bargaining game is that the passage of time, without coming to an agreement, is costly to the players. There are, of course, bargaining situations in which lack of agreement may simply preserve the status quo without any worsening of the bargainers' respective situations. This is the case in the typical bilateral monopoly case, where the buyer and seller are unable to agree upon a price (e.g., see Siegel & Fouraker, 1960). In other sorts of bargaining situations, however, (e.g., labor-management negotiations during a strike, internation negotiations during an expensive cold war) the passage of time may play an important role. In our experiment, we received the impression that the meaning of time changed as time passed without the bargainers reaching an agreement. Initially, the passage of time seemed to place the players under pressure to come to an agreement before their costs mounted sufficiently to destroy their profit. With the continued passage of time, however, their mounting losses strengthened their resolution not to yield to the other player. They comment: "I've lost so much, I'll be damned if I give in now. At least I'll have the satisfaction of doing better than she does." The mounting losses and continued deadlock seemed to change the game from a mixed motive into a predominantly competitive situation.

It is, of course, hazardous to generalize from a laboratory experiment to the complex problems of the real world. But our experiment and the theoretical ideas underlying it can perhaps serve to emphasize some notions which, otherwise, have an intrinsic plausibility. In brief, these are that there is more safety in cooperative than in competitive coexistence, that it is dangerous for bargainers to have weapons, and that it is possibly even more dangerous for a bargainer to have the capacity to retaliate in kind than not to have this capacity when the other bargainer has a weapon. This last statement assumes that the one who yields has more of his values preserved by accepting the agreement preferred by the other than by extended conflict. Of course, in some bargaining situations in the real world, the loss incurred by yielding may exceed the losses due to extended conflict.

**SUMMARY**

The nature of bargaining situations was discussed. Two general propositions about the conditions affecting the likelihood of a bargaining agreement were presented. The effects of the availability of threat upon interpersonal bargaining were investigated experimentally in a two-person bargaining game. Three experimental conditions were employed: no threat (neither player could threaten the other), unilateral threat (only one of the players had a means of threat available to her), and bilateral threat (both players could threaten each other). The results indicated that the difficulty in reaching an agreement and the amount of (imaginary) money lost, individually as well as collectively, was greatest in the bilateral and next greatest in the unilateral threat condition. Only in the no threat condition did the players make an overall profit. In the unilateral threat condition, the player with the threat capability did better than the player without the threat capability. However, comparing the bilateral and unilateral threat conditions, the results also indicate that when facing a player who had threat capability one was better off not having than having the capacity to retaliate in kind.

**REFERENCES**


(Early publication received July 20, 1960)