NEGOTIATION AND MEDIATION

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INTRODUCTION

This chapter presents an overview of the behavioral literature on negotiation and mediation. Negotiation and mediation are procedures for resolving opposing preferences between parties. Negotiation involves discussion between the parties with the goal of reaching agreement. There is no limit to the number of parties ("disputants") who can take part in negotiation, but two-party negotiations are the kind most often studied. Mediation is a variation on negotiation in which one or more outsiders ("third parties") assist the parties in their discussion. Since mediation is a special case of negotiation, and since the negotiation literature is more voluminous, we treat the topic of negotiation first.

Opposing preferences are found in all social arenas, from relations between children on the playground to international relations. Hence a theory of negotiation and mediation is essential for understanding topics as diverse as marital decision making, industrial relations, interoffice coordination, corporate mergers, group decision making, and international relations.

Other Procedures for Dealing with Opposing Preferences

Negotiation and mediation are two of four main procedures for dealing with opposing preferences. A third procedure is struggle—which can take the form of physical combat (military battles, strikes), wars of words (shouting matches), political contest (vying for allies), or taking unilateral advantage (theft, slipping out of the house unobserved by one’s spouse). Struggle sometimes culminates in an agreement of sorts, in which the parties accommodate to each other without discussion of the issues. Schelling (1960) calls the process of moving to such an agreement "tacit bargaining." The fourth procedure is arbitration (adjudication, decision by the boss), in which a third party makes a binding decision about the controversy.

How do these procedures compare with one another? Negotiation has two main advantages over struggle as a means of resolving opposing preferences. One is that it is usually less costly. Struggle often requires heavy expenditure of resources (e.g. bombs, wear and tear on the vocal cords, embarrassment) and endangers the relationship between the parties; negotiation is usually
more benign. The other advantage is that negotiation makes it easier to find and adopt a mutually acceptable solution and thus to end the controversy. Words are flexible and subtle and allow joint projection into the future, while struggle followed by tacit bargaining is often a clumsy procedure.

Given these advantages of negotiation, why is struggle so popular? There are several reasons. Communication may be difficult, because the parties cannot meet or do not understand each other when they do. Trust levels may be so low that the parties dare not enter into an explicit agreement. One party may be too proud to concede or too angry to do anything that favors the other’s welfare. It takes two to negotiate, but either party can decide to go the route of struggle, forcing the other to adopt the same approach.

In addition, it is common for one or both parties to believe that they can achieve more through struggle than through negotiation. This outlook often produces alternation between negotiation and struggle. For example, a labor negotiation may fail, leading to a strike in which the two parties test their relative strengths, followed by more negotiation. The first negotiation fails because each party believes that it can succeed in a manner that will allow it to dictate the terms. The second negotiation succeeds because the struggle phase has clarified the two parties’ relative capacity to withstand a strike. The option agreed upon in the second negotiation is likely to reflect this relative capacity.

Negotiation also has some distinct advantages over arbitration. Arbitrators often fail to find mutually acceptable solutions, thereby endangering the relationship between the parties. Furthermore, arbitration (e.g. court) tends to be expensive and risky. Nevertheless, people often opt for arbitration, because they view their cause as just and believe that the arbitrator will rule in their favor.

Part of the job of the mediator is to make negotiation more viable and thus reduce the likelihood that the parties will turn to struggle or arbitration (Ury et al 1988). Among the tools of successful mediators are procedures for correcting the defects just mentioned: shuttling between parties who cannot or will not meet, interpreting statements made by parties who do not understand each other, encouraging trust or suggesting agreements that do not require trust, allowing a proud party to concede to the mediator instead of the other party, reminding the parties about the costs of struggle or adjudication, and casting doubt on the likelihood that the other party can be pushed into further concession or that a judge will rule in one’s favor.

THE STUDY OF NEGOTIATION

There are three main traditions in the study of negotiation. The first consists of books of advice to negotiators, which have been written for many centuries. Earlier books addressed international (de Callières 1716; Nicolson 1964)
or industrial (Peters 1955) negotiators. More recent books have targeted managers (Lax & Sebenius 1986) or negotiators in general (Filley 1975; R. Fisher & Ury 1981; Lewicki & Litterer 1985; Murnighan 1991; Zartman & Berman 1982). A second, rather different tradition has involved the construction of mathematical models of rational negotiation and mediation by economists and game theorists (Harsanyi 1956; Nash 1950; Zeuthen 1930; see Young 1975; Roth 1985, and Kagel & Roth 1991). These models are both descriptive, in the sense of specifying the parameters within which negotiators operate or some of the dynamics of negotiation behavior, and prescriptive, in the sense of recommending rational policies. Many of them are provocative; but they also tend to be narrow, involving only a few variables and making highly restrictive assumptions. Two theorists in the same tradition have retained the careful rational analysis but have taken a broader and more realistic view of the task of negotiators and the options open to them (Raiffa 1982; Schelling 1960).

The third or behavioral tradition, which has its theoretical roots in the mathematical model tradition, began with three analyses of the behavior of labor negotiators (Douglas 1962; Stevens 1963; Walton & McKersie 1965). This tradition has placed a heavy emphasis on empirical research in both the laboratory and the field. The first general overview of this research was published by Rubin & Brown (1975), and a number of summaries and books of readings have appeared more recently (Bazerman & Lewicki 1983; Druckman 1977; Kremenyuk 1991; Lewicki et al 1986; Lewicki et al 1991; Morley & Stephenson 1977; Neale & Bazerman 1991; Pruitt 1981; Putnam & Pool 1987; Putnam & Roloff 1991; Sheppard et al 1990; Smith 1987; Thompson 1990b; Wall 1985; Zartman 1978). Unlike those in the other two traditions, writers in the behavioral tradition have emphasized description (including explanation and prediction) rather than prescription. However, their theories and findings are rich enough to yield many prescriptions (Pruitt 1986), which we highlight throughout this chapter and comment on in a special section at the end.

In addition to the behavioral studies of negotiation, there have been studies of two other settings that involve opposing preferences: the prisoner's dilemma (see Pruitt & Kimmel 1977) and several varieties of social dilemmas (see Messick & Brewer 1983). The subjects have usually not been allowed to communicate in these studies; hence, they have usually engaged in struggle and tacit bargaining. But a few studies have examined the effect of communication, i.e. of negotiation (Brechner 1977; Dawes et al 1977; Deutsch 1958; Edney & Harper 1978; Voissem & Sistrunk 1971; Wichman 1972). These studies show, in support of a point made earlier, that negotiation encourages the development and implementation of mutually acceptable options.
ISSUES, LIMITS, AND OUTCOMES IN NEGOTIATION

The Nature of Issues

The topics under consideration in negotiation can usually be divided into one or more issues requiring separate decisions by the parties. When several issues are related, they are often discussed at the same time, in what can be called an “issue group.”

There is nothing sacred about the issues with which a negotiation starts; indeed, it is often necessary to reconceptualize the initial issues to reach agreement. For example, an issue between Production and Sales of whether to alter the production schedule to accommodate an impatient customer might be reconceptualized as the issue of how to preserve the integrity of the production schedule while accommodating the customer.

When there are a large number of interrelated issues, as in many international negotiations, it is often expedient to negotiate an abstract formula or thumbnail sketch of the overall agreement first and later fill in the details (Zartman 1977). The formula provides order and coherence to discussions of the specific issues, which might otherwise be examined sequentially with little attention to their interrelationships. Specialized subcommittees are often involved in negotiating the finer details.

Options, Limits, and Outcomes

The possible outcomes of a negotiation can be understood in terms of the joint utility space shown in Figure 1a. (A similar diagram is used in most mathematical models of negotiation.) The points in this space correspond to the options available for settling an issue or issue group, the solid points referring to options that are known at the beginning of negotiation and the hollow points to options that can be devised with some creative thinking. The axes give the utility (e.g. monetary value, level of happiness) to each party of the options shown. Assume that at the start of negotiation, party Y is advocating option 1 while X is advocating option 5. An example might be a negotiation over a new car with the dealer (X) asking a price of $12,000 and the customer (Y) offering $10,000. Options 2, 3, and 4 are various prices between these two figures. Options 6, 7, and 8 are possible mutually beneficial solutions in which the dealer adds extras (accessories, treatments, or maintenance policies, etc) that benefit the customer more than they cost the dealer.

The negotiation can end in four possible ways: 1. No agreement. The utility of this to each party is shown by the point marked “NA.” 2. Victory for one party, either option 1 or option 5. 3. A simple compromise (options 2, 3, or 4). A compromise is defined as some middle ground on an obvious dimension connecting the two parties’ initial offers (Pruitt 1981). 4. A win-win (“integrative”) agreement (options 6, 7, or 8) in which the parties achieve higher
joint benefit than they could with a compromise agreement (see Follett 1940; Pruitt 1981; Walton & McKersie 1965). It is generally believed (e.g. Pruitt 1981) that win-win agreements are longer lasting and more beneficial for the relationship between the parties than simple compromises. However, a recent study of community mediation (Pruitt et al 1991b) found no correlation between level of joint benefit and the extent of compliance with the agreement or improvement in the parties’ relationship.

The dashed lines in Figure 1a stand for the two parties’ limits (also called “reservation prices”), those levels of benefit below which they will not concede. Options that are above and to the right of these lines are said to be “viable” in the sense of being mutually acceptable. Figure 1a shows a situation in which several known alternatives are viable. Agreement is likely to be reached in such a situation (Ben-Yoav & Pruitt 1984a; Carnevale & Lawler 1986; Pruitt & Lewis 1975); but it is not inevitable, because one or both parties may become locked into an unrealistic demand through a defect in strategy or understanding of the other party’s constraints (Bartos 1974).

Figure 1b shows a contrasting situation in which the limits are so high that none of the obvious options are viable; but there are some viable win-win options just over the horizon if the parties will use their imaginations. In our example, the customer is not willing to pay the dealer’s minimal price; but there are two possible packages of extras that are sufficiently attractive to the customer to warrant paying a price that will give the dealer an acceptable profit. Such situations are said to have “integrative potential” (Pruitt & Rubin 1986; Walton & McKersie 1965).

Research (Bazerman et al 1985; Ben-Yoav & Pruitt 1984a; Carnevale & Lawler 1986; Huber & Neale 1986; Neale & Bazerman 1985; Pruitt & Lewis 1975) shows that when the negotiators are motivated by self-interest, agreement is less likely to be reached in the situation shown in Figure 1b than in that shown in Figure 1a; apparently creativity is not always forthcoming in negotiation. The likelihood of agreement may also increase in situation 1b if the parties are motivated by a concern about both parties’ outcomes, and if
agreement is reached, higher limits may produce greater joint benefit (Carneval & Lawler 1986; Pruitt & Lewis 1975; Ben-Yoav & Pruitt 1984b).

Figure 1C shows a situation in which the parties' limits are so high that there are no viable options. The only way to reach agreement in such a situation is for limits to decline on one or both sides.

**Determinants of Limits**

It is usually asserted (e.g. R. Fisher & Ury 1981; Neale & Bazerman 1991; Raiffa 1982) that rational negotiators will place their limits at the value of no agreement—i.e. will concede no lower than the best alternative to negotiated agreement (sometimes called the “BATNA”). Limits are indeed influenced by the value of no agreement (Kelley et al 1967; Smith et al 1982), but there are many other influences as well, including instructions from constituents (Ben-Yoav & Pruitt 1984a).

Ethical principles and principles of fairness are important sources of limits. Such principles can be either helpful or harmful with respect to reaching agreement, depending on whether they are shared by the negotiating parties. If the parties share the same principle of fairness and it is clearly applicable to the situation, agreement should be particularly easy to reach, for two reasons: (a) both sides are likely to view the same option as correct; and (b) both sides are likely to view that option as inevitable, since the other side cannot be expected to accept anything less (Schelling 1960). Research supports this reasoning. Faster and/or more reliable agreements have been shown in settings where one option clearly provided equal outcome to the two parties (Benton & Druckman 1973; Lamm & Rosch 1972; Liebert et al 1968; Pruitt & Syna 1985) or was equidistant from their starting point so that they would reach it through equal concessions (Joseph & Willis 1963). These findings suggest that the principles of equal division and equal concession have broad appeal to negotiators. Another principle that structures negotiation agreements is that pay should be proportional to the amount of work done (Messe 1971)—a variant of the equity principle (Deutsch 1975).

However, negotiators often disagree about the proper principles or how to apply them. This is likely to make it hard to reach agreement, because each party digs in its heels to defend its own interpretation. The situation is likely to resemble that shown in Figure 1c, with neither party willing to concede to an option acceptable to the other. The disruptive impact of principles has been shown in an experiment by Druckman et al (1988), in which negotiators became rigid when they were shown how to derive their positions from principles espoused by their groups, and in a field study on community mediation by Pruitt et al (1991b), which found that parties who prominently mentioned principles tended to be hostile and rigid and to fail to reach agreement. Such dynamics have led Kolb & Rubin (1991) to advise mediators to "be wary when matters of principle, not pragmatics, are the central issues."
Disagreements about principles are particularly likely to occur when two (or more) universally acceptable principles point to different options. What typically happens is that each party shows a partisan bias toward the principle(s) that favor(s) its own interests, creating or reinforcing a clash. Such dynamics have been demonstrated in negotiation settings where principles of equal outcome and equity point in different directions (Komorita 1984; Lamm & Kayser 1978) and those where principles of equal outcome and equal concession do the same (Hamner & Baird 1978). The interpretation of the equal concession principle is also subject to a partisan bias, since negotiators tend to view the other party’s concessions as smaller than their own.

MOTIVATION AND STRATEGY IN NEGOTIATION

Two traditions of thought underlie most empirical research on negotiation. One is a motivation and strategy tradition, which predicts the outcomes of negotiation from the strategies chosen by the negotiators and predicts strategic choice from negotiator motivation. The other is a cognitive tradition, which predicts negotiation outcomes from the negotiators’ perceptions and their information-processing procedures. We discuss the motivation and strategy tradition first because it is the earlier and more voluminously reported approach.

Strategic Choice

Three main strategies have attracted the most attention in this research:

1. Concession making (also called “yielding”) involves reducing one’s demands or aspirations to accommodate the other party.
2. Contending involves trying to persuade the other party to yield. Specific tactics that implement this strategy include threats and commitments not to concede.
3. Problem solving involves trying to locate options that satisfy both parties’ goals. The host of problem-solving tactics includes active listening, providing information about one’s own priorities, and brainstorming in search of solutions. Problem solving is a major route—though not the only route—to the development of win-win solutions.

These strategies are somewhat incompatible because they require different mind-sets and may have contradictory effects on the other party (Kelley 1966; Lax & Sebenius 1986; Pruitt 1991). Nevertheless, all three strategies are often needed to achieve agreement. This creates a dilemma, which is resolved by various methods of isolating the strategies from each other (Pruitt 1991;
These include rapid sequencing (e.g. concede-contend-concede-contend), moving through stages (e.g. contending followed by problem solving), arena shielding (e.g. contending at the negotiation table while problem solving in unofficial meetings on the side), personnel shielding (e.g. the black-hat/white-hat routine in which one team member takes a contentious approach while the other engages in problem solving), and issue shielding (e.g. standing firm on some issues while showing a willingness to problem-solve on others).

The three strategies are alternative ways of moving toward agreement. Hence (assuming that agreement is sought) if conditions reduce the likelihood of using one strategy, the other two become more likely. If two of these strategies are ruled out, the use of the third becomes virtually certain.

The three strategies just listed will be taken up one by one after discussing motivational orientations and the dual-concern model, which is the chief theory of negotiator motivation.

**Motivational Orientations**

It is possible to distinguish four mutually exclusive “motivational orientations” that appear to have a large impact on negotiator behavior (see Deutsch 1958; Kuhlman et al 1986; Messick & McClintock 1968): 1. Individualistic orientation—exclusive concern about one’s own outcomes; 2. altruistic orientation—exclusive concern about the other parties’ outcomes; 3. cooperative orientation—concern about both parties’ outcomes; 4. competitive orientation—desire to do better than the other party.

The individualistic orientation has tended to dominate research and thinking on negotiation. All of the mathematical models of negotiation assume an individualistic orientation, and in much of the experimental research subjects have been instructed to be concerned only with their own outcomes. This has led to the development of a one-sided theory, because many negotiators in reality are cooperatively or competitively oriented. An altruistic orientation is probably less common.

**The Dual Concern Model**

Three of the orientations just listed occupy regions in a two-dimensional diagram, the “dual-concern” model, which makes predictions about strategic choice. This model, which is shown in Figure 2, is an extension of Blake & Mouton’s (1979) conflict grid (see also Filley 1975; Rahim 1986; Thomas 1976). It views self-concern (concern about own outcomes) and other-concern (concern about the other party’s outcomes) as dimensions that run from weak to strong. These dimensions are regarded as independent, rather than as opposite ends of the same dimension as was previously thought (Thomas 1976).
High self-concern coupled with low other-concern—the individualistic orientation—is assumed to produce use of a contentious strategy. High other-concern and low self-concern is assumed to produce concession making. High self-concern and high other-concern is assumed to produce problem solving. Low self-concern and low other-concern is assumed to produce inaction, the absence of strategy.

PSYCHOMETRIC EVIDENCE  The dual-concern model fits data from both psychometric and experimental studies. The psychometric tradition views strategic preferences as individual differences in “conflict style.” The studies in this tradition, which begin with Ruble & Thomas (1976), typically factor-analyze self-reports about the use of various strategies in conflict situations. As predicted by the model, a two-dimensional solution is always found, with the largest distances between contending and yielding and between problem solving and avoidance (van de Vliert & Prein 1989). The only consistent discrepancy from the model is that yielding and inaction are closer to each other than shown in Figure 2.

These studies often include a “compromise” strategy, which seeks a solution in which both parties make concessions. In Blake & Mouton’s (1979) original formulation, compromise was in the middle of the figure, equidistant from the other four strategies. But factor analysis usually locates it between yielding and problem solving, at a considerable distance from contending and inaction (van de Vliert & Prein 1989). This suggests that a preference for compromise results from moderate self-concern coupled with high other-concern.
EXPERIMENTAL EVIDENCE Four experiments on negotiation behavior show
the value of the dual-concern model for understanding the effects of environ-
mental variables (Carnevale & Keenan 1990; Pruitt et al 1983; Ben-Yoav &
Pruitt 1984a,b). All employed a 2 × 2 design in which self-concern and
other-concern were independently manipulated. High self-concern was pro-
duced either by giving the negotiators a negative rather than a positive frame
(Study 1), requiring them to achieve an ambitious profit target (Studies 2 and
3), or making them accountable to powerful constituents (Study 4). High
other-concern was produced either by telling the bargainers that they would
have to cooperate on a future task (Studies 3 and 4), giving them instructions
to care about the other’s outcomes (Study 1), or giving them a gift and thus
putting them in a positive mood (Study 2). Similar results were achieved in all
four studies. The combination of high self-concern and low other-concern (the
individualistic orientation) produced heavy use of contentious tactics (threats,
positional commitments, and strong arguments for one’s own advantage). The
combination of high self-concern and high other-concern produced high levels
of joint benefit (i.e. win-win solutions), suggesting that some form of prob-
lem solving was prominent in that condition. Both results are implied by the
dual-concern model. However, there was no evidence of greater concession
making under the combination of low self-concern and high other-concern.

PERSPECTIVE ON THE DUAL CONCERN MODEL Thompson (1990b) has
criticized the dual-concern model (and the evidence supporting it) on six
points. The first is that “its predictions are limited to situations in which
negotiators have the same bargaining orientation” (p. 524). While this is true
of all the experiments supporting this model, the model itself concerns the
origins of a single disputant’s behavior. The second criticism is that the model
does not specify the nature of the problem solving that occurs under high
self-concern and high other-concern. While this is true, a study by Carnevale
& Isen (1986) suggests that this problem solving takes the form of systematic
trial and error. All subjects in this study were given ambitious profit targets
producing high self-concern, and mood was manipulated. Subjects who were
in a good mood (and hence presumably had high concern for the other party)
proposed more new ideas, conceded more often on low-priority items, and
more often asked the other party to react to their proposals than those who
were not in a good mood. The result was the discovery of win-win solutions.
Thompson’s third criticism is that the model fails to explain “how negotiators
who are presumably highly concerned with their opponents’ welfare (e.g.
partners in romantic relationships) fail to reach mutually beneficial outcomes”
(p. 524). The model actually does explain this phenomenon, arguing that high
concern with the other’s welfare in the absence of self-concern leads to rapid
concession making and failure to find win-win solutions. Self-concern is
sometimes low in romantic relationships because of fear that conflict will hurt the relationship (Fry et al 1983). The fourth criticism is that the “experimental manipulations used to induce concern for the other party also contain unintentional cues about the variable-sum structure of the task” (pp. 523–24). It is hard to see how giving the negotiators a gift before the negotiation or telling them that they will be cooperating in a future task can provide such structural information. Thompson’s fifth criticism is that the model fails to account for the fact that negotiators sometimes develop win-win solutions when they have little or no concern with the other party’s outcomes, and the sixth criticism is that the model ignores important negotiator goals such as the “desire to reach a fair outcome” (p. 524).

The latter two criticisms say in sum that the dual-concern model is not a comprehensive theory of strategic choice. This is a valid point. The model was designed as a heuristic device rather than as a comprehensive theory, and there are many relevant phenomena it does not cover. For example, the model ignores the competitive motive altogether. No research on the impact of the competitive motivation on negotiation has been reported, but evidence from prisoner’s dilemma research (Kuhlman & Marshello 1975) suggests that this orientation encourages a contentious strategy.

The dual-concern model also fails to explain how and why people so often shift from one strategy to another during negotiation. It is our view that the dual-concern model indicates a negotiator’s preferred strategy but that practical considerations often deflect negotiators from their preferences. An example would be two negotiators who are cooperatively oriented but, after a bit of exploration, conclude that there is no integrative potential in their situation. Problem solving is impractical so they must turn to either contending or concession making if they wish to reach agreement. Pruitt (1991) has postulated that cooperatively oriented negotiators in such a situation will compare needs with one another, and the one with the stronger needs will hold firm (contending) while the one with the weaker needs will concede. Such a policy will lead to high joint benefit across a series of negotiations in which there is variety in the relative strengths of the two parties’ needs. Evidence supporting these postulates was found by Beggs et al (1989).

In addition, individualistically oriented subjects may prefer a contentious approach, but they are often pushed into concession making by contentious behavior from the other party or by a recognition that the other party cannot possibly accept what they are demanding. They may be pushed instead into problem solving if they cannot concede and the other party will not budge. In such a situation, neither contending nor yielding is feasible, and the only strategy left is problem solving, which will be embraced out of practical necessity rather than concern about the other party’s outcomes.

The latter reasoning may underlie a progression of two stages that has often
been observed in real-life negotiations (Douglas 1962; Morley & Stephenson 1977). The first stage involves a combination of contending and concession making, while the second stage involves heavy problem solving. What may happen in the first stage is that the parties—both individualistically oriented—use contentious tactics effectively enough to persuade each other to make all of the easy concessions. By the end of this stage, concession making and contending are no longer viable strategies. The only remaining strategy is problem solving, which is adopted in desperation, for strictly individualistic reasons. The transition between these stages may well involve a sense of "hurting stalemate" (Touval & Zartman 1985).

Research on Concession Making

Much of the early research on negotiation concerned the antecedents and consequences of various patterns of concession making. Most studies were laboratory experiments on negotiation about a single issue (e.g. options 1–5 in Figure 1) by subjects with an individualistic orientation. Underlying this research was a demand-concession model that viewed negotiators as starting at a particular level of demand and then conceding (reducing their demand) more or less rapidly until they reached one another’s positions or negotiation was broken off. For example, the dealer in Figure 1a might start at $12,000 (option 1) and then concede after a considerable period of time to $11,500 (option 2) and eventually to $11,000 (option 3), stopping there. In the context of the options shown in Figure 1a, this would be a “high” initial demand and a “slow” rate of concessions.

CONCESSION PATTERNS AND NEGOTIATION OUTCOMES This research supports three reasonable conclusions about the effect of a single party’s demand level and rate of concession on the outcome of negotiation. One is that higher initial demands and slower concessions make agreement less likely and less rapidly reached (Bartos 1974; Benton et al 1972; Hamner 1974; Harnett & Vincelette 1978). The second conclusion is that lower initial demands and faster concessions produce smaller outcomes for the party employing them and larger outcomes for the other party, if agreement is reached (Bartos 1974; Benton et al 1972; Chertkoff & Conley 1967). The third conclusion, which can be derived from the first two, is that there is an inverted U-shaped relationship between level of demand and level of outcome. Negotiators who start with high demands and concede slowly often fail to reach agreement, which usually leads to inferior outcomes. Those who start with low demands and concede rapidly usually reach agreement on the other party’s terms, also yielding inferior outcomes. Those between these extremes ordinarily achieve better outcomes. Three studies have shown this curvilinear relationship (Benton et al 1972; Hamner 1974; Harnett & Vincelette 1978). A
fourth study (Bartos 1974) failed to find it, probably because most negotiators reached an agreement.

ANTECEDENTS OF CONCESSION PATTERNS Research on the impact of negotiator limits has shown that higher limits produce higher initial demands and slower concession making (Holmes et al 1971; Kelley et al 1967; Schoeninger & Wood 1969; Smith et al 1982; Yukl 1974a,b). As mentioned earlier, this leads to slower agreements and fewer agreements (Bazerman et al 1985; Ben-Yoav & Pruitt 1984a; Huber & Neale 1986; Neale & Bazerman 1985; Pruitt & Lewis 1975). One qualification on this finding is that a limit has greater impact on demand the closer it is to demand. Thus, an increase in a seller’s limit from $8,000 to $9,000 will have more impact on his or her demand if that demand is in the $10,000 range than if it is in the $12,000 range. This means that limit has a larger impact on demand at later stages of negotiation, when enough concessions have been made to bring demand level into the range of limit (Holmes et al 1971; Kelley et al 1967; Yukl 1974b).

Findings on negotiator aspirations—i.e., goals—are similar to those on limits. Higher aspirations produce higher demands (Hamner & Harnett 1975; Holmes et al 1971; Yukl 1974a,b), smaller concessions (Hamner & Harnett 1975), and slower agreements (Kahan 1968). Furthermore, when agreement is reached, higher aspirations produce larger profits for the individual negotiator (Holmes et al 1971; Siegel & Fouraker 1960). Level of aspiration interacts with limit, in that limit has a larger impact on demand when aspirations are lower (Smith et al 1982). This is probably because lower aspirations mean that limit and demand are closer to each other.

Yielding is also affected by time pressure. Time pressure may be due to the cost or risk involved in continued negotiation or the closeness of a perceived deadline at which negotiation must terminate. In negotiation about a single issue, time pressure produces lower demands, faster concessions, and faster agreement (Hamner 1974; Hamner & Baird 1978; Komorita & Barnes 1969; Pruitt & Drews 1969; Pruitt & Johnson 1970; Smith et al 1982; Yukl 1974a). Evidence gathered by Yukl (1974a) suggests that these effects may be mediated by level of aspiration. Time pressure also interacts with limit, in that limit has a larger impact on demand under greater time pressure (Pruitt & Drews 1969). This is probably because limit and demand are closer to each other under greater time pressure.

Negotiator hostility tends to constrain yielding and make it hard to reach agreement (Pruitt et al 1991b). This is particularly common when the hostility is based on a perception that the other party has acted unfairly or exploitatively, violating our rights (Gruder 1971; Michener et al 1975). This may be because yielding is seen as rewarding a disliked other or because hostility produces a competitive orientation.
Negotiators often represent other people, who can be called their "constituents." Their aim, in such roles, is ordinarily to please these constituents (Gruder & Rosen 1971; Wall 1975). Hence, if they believe that their constituents are anxious to win, they will tend to be unyielding and take a long time to reach agreement; but if they believe that their constituents stress cooperation and agreement, they will tend to be yielding and move quickly toward agreement (Benton & Druckman 1974; Tjosvold 1977). In the absence of information about constituent preferences, representatives tend to view their constituents as more anxious to win than they themselves are (Gruder 1971; Pruitt et al 1978), a belief that is often accurate (Walton & McKersie 1965). Such representatives are usually less yielding and take longer to reach agreement than do individual negotiators (Benton 1972; Benton & Druckman 1973; Druckman et al 1972).

Representatives are especially anxious to please their constituents when they are either accountable to these constituents or feel insecure about their standing in the group. Such circumstances lead them to be unyielding and make it harder to reach agreement. Accountability was produced in these studies by giving the constituents power over negotiators' outcomes (Bartunek et al 1975; Benton 1972; Ben-Yoav & Pruitt 1984b; Carnevale et al 1981; Neale 1984) or by making it clear that the constituents would receive information about the outcome of the negotiation (Gruder 1971; Klimoski 1972; Klimoski & Ash 1974). Insecurity was produced by giving the negotiators low status in their organizations (Hermann & Kogan 1968; Kogan et al 1972) or making them feel distrusted by their constituents (Frey & Adams 1972; Wall 1975, 1976). Two studies in which accountability effects were not shown (Frey & Adams 1972; Gruder & Rosen 1971) employed what appeared to be weak manipulations.

Constituent surveillance of the negotiation also tends to reinforce perceived constituent preferences. If negotiators think their constituents favor conciliation, surveillance will push them toward concession making (Organ 1971; Pruitt et al 1986). But surveillance is more likely to enhance negotiator toughness (Benton 1975; Carnevale et al 1979; Druckman et al 1972; Klimoski & Ash 1974), especially under conditions of high negotiator accountability (Sharma et al 1991). Indeed, with constituents (or journalists reporting to them) in the room, negotiators tend toward heroic grandstanding. Hence, to reach agreement, it is often necessary to move into executive session with only the chief negotiators in attendance.

The effects described in this section are compelling and consistent, but their generality must be called into question. Many appear specific to conditions in which the negotiators seek to maximize their own interests—i.e. are individualistically oriented. Four studies have shown that these effects disappear when negotiators are concerned about the other party's welfare as well
as their own—i.e. are cooperatively oriented. The tendency for high limits to induce rigidity disappeared when the negotiators were married to each other (Schoeninger & Wood 1969) or expected to have to work together in the future (Ben-Yoav & Pruitt 1984a); time-pressure effects disappeared when negotiators were cooperatively oriented (Carnevale & Lawler 1986); and accountability effects disappeared when negotiators expected to have to work together in the future (Ben-Yoav & Pruitt 1984b). Thus the demand-concession model with which we started this section may be inappropriate when there is a cooperative orientation. Rather than starting at a particular level of demand and gradually conceding toward the other party, cooperatively oriented negotiators tend to seek options that maximize both parties’ gains. In other words, they engage in problem solving, as predicted by the dual-concern model.

REACTIONS TO THE OTHER PARTY’S CONCESSION PATTERNS  There are two opposing reactions to the other party’s demands and concessions: matching and mismatching. Matching occurs when one demands more if the other’s demands are larger or concedes more rapidly the faster the other concedes. Mismatching occurs when one demands more if the other’s demands are smaller or concedes more rapidly the slower the other concedes.

These reactions tend to be found at different points in the negotiation cycle. Mismatching is found at the beginning of negotiation. People tend to respond with moderate demands when the other is initially tough and to demand a lot if the other is initially conciliatory (Chertkoff & Conley 1967; Liebert et al 1968; Pruitt & Syna 1985; Yukl 1974b). This pattern can be interpreted as “tracking” behavior (Pruitt 1981)—an effort to place one’s demands at a reasonable distance from the other’s limit, so that they are realistic but do not give the other too much hope. In this interpretation, the other party’s initial demand is assumed to provide information about the location of his or her limit. There are two kinds of evidence for this interpretation. One is direct evidence that tracking occurs: The other party’s limit, if known, has a large impact on demand level (Chertkoff & Baird 1971). The other evidence is the finding that initial mismatching disappears when sounder information is available about the location of the other party’s limit (Liebert et al 1968; Pruitt & Syna 1985; Yukl 1974a).

Matching is common in the middle of negotiation. Negotiators hold firm if the other holds firm and concede if the other concedes. The evidence is clearest for matching the frequency of the other party’s concessions (Bartos 1974; Chertkoff & Conley 1967; Esser & Komorita 1975; Hopmann & Smith 1977; Kelley et al 1967; Pruitt & Johnson 1970; Yukl 1974b). Partial matching of the other’s concession size was also found in four studies (Benton et al 1972; Esser & Komorita 1975; Komorita & Esser 1975; Smith et al 1982),
though no matching at all was found in two others (Pruitt & Drews 1969; Pruitt & Syna 1985). Matching of concession sizes and degree of contentious rhetoric has also been found in studies of real-life international negotiation (Beriker & Druckman 1991; Druckman 1986; Druckman & Harris 1990; Stoll & McAndrew 1986). Matching is probably motivated by a principle of reciprocity or a desire to reinforce the other for cooperative behavior. One element of matching, failing to concede when the other fails to concede, may also be motivated by a desire to avoid looking like a sucker (Kerr 1986).

Mismatching is found again at the end of negotiation if, as is commonly the case, a deadline is looming (Carnevale & Lawler 1986; Druckman et al 1972; Smith et al 1982; Yukl 1974b, but not Benton et al 1972). Tough opponents can often pull substantial concessions out of negotiators who are facing a deadline, because the latter will move to fill the gap. However, negotiators will not move beyond their limits; hence, opponents who are too tough simply consign the negotiation to an outcome of no agreement. Though mismatching is common at this stage, the forces that push toward matching are probably also present. It follows that parties who face a tough opponent at the end of negotiation will often be in severe conflict between mismatching to fill the gap and matching to even up the score and to avoid looking like a sucker. The result is variability in response; most subjects mismatch, but a few match (Yukl 1974a).

If mismatching is found at the beginning of negotiation and matching in the middle, it should be possible to get maximal concessions from the other party by starting with a high level of demand and then conceding regularly. Such a "reformed sinner" strategy has been shown to be more effective than a strategy that starts with a moderate level of demand and makes few additional concessions (Bartos 1974; Benton et al 1972; Hamner 1974). The latter strategy is likely to mislead the other party into setting unrealistically high aspirations, making agreement hard to reach (Bartos 1974; Hamner 1974). A related finding is that a negotiator who takes a tough approach to one negotiation and a soft approach to the next will elicit more concessions in the second negotiation than one who is soft in both (Hilty & Carnevale 1992). In addition, Hilty & Carnevale (1992) showed that a shift from a soft to a tough approach, a "lapsed saint" strategy, also elicited cooperation.

Research has also been done on the impact of a matching or "tit-for-tat" strategy on the other party—that is, of conceding when the other concedes and failing to concede when the other fails to concede. This contingent strategy elicits more concessions than are found in free negotiation (Wall 1977b). It is also more effective than a strategy of conceding on every trial, never conceding, or conceding only one-half or one-quarter of the times when the other concedes (Komorita 1973; Komorita & Esser 1975). There are two possible explanations for the success of the matching strategy (Pruitt et al 1987). One
(Wall 1977b) involves learning: The other party discovers that the only way to get the strategist to concede is to concede first. The second (Komorita & Esser 1975) involves labeling: The other party comes to see the strategist as both “firm” (because he or she fails to cooperate when the target fails to cooperate) and “fair” (because he or she cooperates when the target cooperates). Firmness means that the strategist cannot be exploited, while fairness implies that he or she can be trusted to equalize the two parties’ outcomes. Hence, it makes no sense to hold out in an effort to persuade the other to mismatch and makes a lot of sense to concede in the expectation of further reciprocity. Evidence compatible with the firm-fair interpretation comes from a study in which opponents who followed a matching strategy were rated as “stronger” than those who followed a noncontingent strategy involving many concessions and “fairer” than those who followed a noncontingent strategy involving few concessions (McGillicuddy et al 1984).

Many of the findings on reactions to the other party’s concession patterns may be specific to individualistically oriented negotiators who are taking a demand-concession approach to bargaining. Indirect evidence of this can be seen in a study of the prisoner’s dilemma (Kuhlman & Marshello 1975). Individualistically oriented subjects showed the same pattern that has been found for negotiation: A tit-for-tat strategy elicited C-playing (cooperation) more than a consistently cooperative strategy; but cooperatively oriented subjects showed a high level of C-playing in response to both strategies. These subjects were ready to cooperate regardless of whether their opponent was contingently or noncontingently cooperative.

Research on Contending

Contending is a strategy aimed at pushing the other party in the direction of one’s wishes. It can be regarded as an open-ended script (Abelson 1981) that prescribes one or another contentious tactic depending on the circumstances. Among the most common contentious tactics are persuasive arguments (designed to convince the other that concession making is in his or her best interest), threats (designed to reduce the value of no agreement for the other and thus lower the other’s limit), and positional commitments (designed to make it necessary for the other to concede in order to reach agreement). Other contentious tactics build on the antecedents of concession making mentioned in the last section. For example, efforts are sometimes made to put time pressure on the other party or to persuade the other party to send a representative with enough freedom of action to make concessions.

Effects of Contending

The prisoner’s dilemma literature on the effects of threats on the other party’s behavior is probably relevant to negotiation. Threats are more effective at getting the other to concede the larger the
penalty threatened and the more credible it is that this penalty will actually be delivered (Tedeschi et al 1973). Threat credibility is enhanced by consistent enforcement of past threats (Horai & Tedeschi 1969) and diminished if fulfilling the threat is costly to the threatener (Mogy & Pruitt 1974). Threats are also more effective when they come from high-status people (Faley & Tedeschi 1971) and from people who are viewed negatively (Schlenker et al 1970), probably because such threats are more credible.

Positional commitments are more credible if they are made publicly (Schelling 1960) or are backed up by evidence that the strategist cannot concede beyond them—for example, that the strategist faces high limits (Chertkoff & Baird 1971) or constituent pressures (Wall 1977). However, credibility is not always a key to success, because a commitment to an option that is outside the other’s limit is bound to fail. Hence, negotiators often hedge their commitments, leaving a small path for graceful exit, even though this may dilute the credibility of these commitments (Iklé 1964). Another way to avoid an unwise commitment is to wait until the end of negotiation when maximal information is available about the other party’s limits. Kelley (1966) has found that repeated experience with negotiation leads people to learn to delay their commitments, presumably for this reason.

Unequal use of contentious tactics leads to an agreement favoring the heavier user (Williams & Lewis 1976). But such agreements are likely to be Pyrrhic in situations with integrative potential, because contentious tactics are associated with low joint benefit and, when limits are high, with failure to reach agreement (Pruitt 1981; Pruitt et al 1991b). This is probably because contending blocks creativity and makes it hard to accept new alternatives, especially if these alternatives seem to benefit the other party.

Most contentious tactics have another pitfall: They are often imitated by the other party for defensive reasons (Hornstein 1965; Kimmel et al 1980). Arguments produce counterarguments, positional commitments encourage countercommitments, threats elicit counterthreats (Deutsch & Krauss 1962). Such imitation can lead to failure of the tactic, and to conflict escalation (Pruitt & Rubin 1986). Research on marriage (Gottman 1979) and roommate pairs (Sillars 1981) shows that such imitation is more common in distressed than in happy relationships.

ANTECEDENTS OF CONTENDING Many of the conditions that discourage yielding tend to incline people toward contending. This is true of hostility (Pruitt et al 1991b), high limits (Ben-Yoav & Pruitt 1984a), high accountability to constituents (Ben-Yoav & Pruitt 1984b; Carnevale et al 1981), and surveillance by male (though not by female) constituents (Pruitt et al 1986). In addition, there is a tendency to prefer contending when the parties’ aspirations seem far apart, presumably because it is hard to believe that the other party
will agree with one’s demands voluntarily (Thompson & Hastie 1990). These perceptions are heightened by high time pressure (Carnevale & Lawler 1986).

Putting a physical barrier between negotiators, so that they can hear but not see each other, tends to reduce contending under conditions that ordinarily produce such behavior (Carnevale & Isen 1986; Carnevale et al 1981; Lewis & Fry 1977). As a result, win-win agreements are more often found with the barrier in place. This unusual but reliable effect is probably due to two nonverbal elements of contending, staring at the other party and moving into the other’s territory (Lewis & Fry 1977). With the barrier in place, people cannot see their opponents doing these things and hence are less defensive.

**POWER DIFFERENCES AND CONTENDING** Power can be thought of as the capacity to put effective pressure on the other party. Power takes many forms, the most commonly studied being reward and threat capacity. In negotiation, it is possible for either party or both parties to have substantial power. Hence, the effects of both relative and absolute power can be examined (Bacharach & Lawler 1981; Habeeb 1988).

An experiment by Hornstein (1965) showed an inverted U-shaped relationship between relative threat capacity and several indexes of contending (counterthreats, penalty use, unwillingness to yield to a threat). Contending was more prominent when there was a mild discrepancy in threat capacity than when there was equal or highly unequal threat capacity. As a result, there were fewer agreements and less money was made in the mild discrepancy condition. There was evidence that this might have been because the low-power negotiator was unwilling to accept lower status in the mild discrepancy condition, and fought for equal treatment. Hornstein’s results are similar to findings by Vitz & Kite (1970) in an experiment where the negotiators differed in their capacity to contribute to a pool of resources that was useful to both parties. The most severe conflicts occurred when there was a mild, as opposed to a large, discrepancy in this capacity. A possible generalization from these two studies is that contentious tactics and escalation are more likely when there is a mild power discrepancy between the two parties than when the parties are equal or highly unequal in power.

Two studies also looked at the impact of absolute threat capacity (Hornstein 1965; Lawler et al 1988). The first showed that fewer threats were made and more agreements were reached when both parties had high threat capacity than when they had moderate or low capacity. The second showed that high mutual threat capacity lowered the temptation to use coercion and the expectation that the other party would use coercion.

**Research on Problem Solving**

The third strategy available to negotiators is problem solving, which involves efforts to locate and adopt a win-win solution—i.e. a solution that satisfies
both parties’ goals. Problem solving is not absolutely necessary for achieving win-win solutions. Kelley & Schenitzki (1972) have shown that such solutions can emerge when negotiators engage in “systematic concession making,” starting with a high level of aspiration and lowering their aspirations slowly, proposing all options they can think of at each successive level of aspiration. But problem solving increases the likelihood of win-win solutions.

Most laboratory experiments on problem solving have used a multiple-issue negotiation task developed by Kelley (1964, 1966) and Pruitt & Lewis (1975), which involves two or more issues of different priority to the disputants. Win-win solutions are achieved by means of logrolling, each party winning on the issues it finds important. This task also allows the parties to adopt a compromise on each issue, producing agreements like those at points 2, 3, and 4 in Figure 1. But logrolling yields solutions like 6, 7, and 8 that are better for the parties collectively, and often better for both parties individually.

Logrolling is not the only route to win-win solutions. There are four others (Pruitt 1981; Pruitt & Rubin 1986): expanding the pie, compensating the loser, cutting the loser’s costs, and “bridging,” which involves constructing new options that have not previously been considered. To enable bridging, someone (one or both disputants or a third party) must analyze the interests (goals, values, needs) that underlie one or both parties’ overt positions and reconceptualize the issues as achieving these underlying interests (R. Fisher & Ury 1981; Pruitt & Rubin 1986).

THE NATURE AND IMPACT OF PROBLEM SOLVING Problem solving is a strategy available to either party separately or the two parties working together in joint session. Like contending, it can be regarded as an open-ended script prescribing one or another specific tactic depending on the circumstances. Effective problem solving requires that negotiators be both firm and flexible (R. Fisher & Ury 1981; Pruitt & Rubin 1986). They must be firm about their basic interests, adopting high aspirations and maintaining these aspirations long enough to determine whether they can be achieved. The importance of firmness can be seen in a negotiation study in which pairs of strangers achieved higher joint benefit than dating couples because they were less afraid of conflict and hence maintained their aspirations longer (Fry et al 1983). But negotiators must also be flexible about the means to achieve these interests, seeking options that are acceptable to the other party as well as themselves.

Problem solving often involves information exchange, in which one or both parties provide information about their priorities (promoting the development of logrolling solutions) or the interests underlying their positions (promoting the development of bridging solutions). There is both correlational (Pruitt 1981) and experimental (Thompson 1991) evidence that information ex-
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change promotes the development of win-win solutions. Negotiators tend to believe that unilateral provision of such information will put them in a weak position that the other party can exploit. Hence trust is a prerequisite for information exchange (Kimmel et al 1980). However, Thompson (1991) did not find that providing such information unilaterally actually puts a negotiator’s outcomes in jeopardy.

Certain forms of problem solving do not involve information exchange—for example, Carnevale & Isen’s (1986) tactic of systematic trial and error, described in the section above on the dual-concern model. Books of advice to negotiators (e.g. Filley 1975; R. Fisher & Ury 1981) recommend many other kinds of problem-solving tactics: brainstorming, avoiding personal attacks on the other, posing a problem before stating an answer, putting oneself in the other’s shoes, and active listening. Active listening involves checking one’s understanding of the other’s position with the other party. Johnson (1967, 1971a,b) has shown that this tactic fosters understanding of the other’s position, improves the other’s attitude toward oneself, and increases the other’s willingness to concede. However, if active listening is done too warmly, it runs the risk of signaling weakness and thus diminishing the other’s willingness to concede (Johnson 1971b).

SOURCES OF PROBLEM SOLVING According to the dual-concern model, problem solving is encouraged by a combination of concern about the other party’s outcomes and concern about one’s own outcomes. Concern about the other party’s outcomes can be genuine—one likes the other party, one feels responsible for the other party, or one is in a good mood (Carnevale & Isen 1986; Pruitt et al 1983); or the concern can be strategic—one depends on the other and hence seeks the other’s good will (Ben-Yoav & Pruitt 1984a,b; Pruitt et al 1991b) or one benefits from the other’s good fortune (Schultz & Pruitt 1978).

The dual-concern model predicts that concern about the other party’s outcomes moderates the impact of concern about one’s own outcomes. When concern about the other’s outcomes is low, concern about one’s own outcomes should encourage contending—behavior aimed at winning. This should diminish the likelihood of achieving a win-win solution. But when concern about the other’s outcomes is high, concern about one’s own outcomes should encourage problem solving. This should enhance the likelihood of achieving a win-win solution. Several studies support these predictions. Two studies show that when there is low concern for the other, high aspirations encourage contending and low joint benefit; but when there is high concern for the other, high aspirations encourage problem solving and high joint benefit (Ben-Yoav & Pruitt 1984a; Pruitt et al 1983). Another study showed the same effects for accountability to constituents (Ben-Yoav &
Pruitt 1984b). These studies indicate, as suggested above, that the laws governing negotiation are different under individualistic and cooperative orientations.

Problem solving can also emerge from a strictly individualistic orientation if it becomes clear that contending will be ineffective. Negotiators often realize that they do not have the power to force the other party to concede. Hence, if they are unwilling to capitulate, they must engage in problem solving to achieve agreement. In short, they see that they can only get what they want if the other party also gets what it wants. As mentioned above, this realization probably accounts for the progression from contending to problem solving that is often observed in negotiation (Douglas 1962; Morley & Stephenson 1977). However, several studies have shown that time pressure can interfere with the development of problem solving when negotiators adopt an individualistic orientation (Carnevale & Lawler 1986; Yukl et al 1976).

Problem solving is more likely to develop and persist if negotiators perceive that there is integrative potential in their situation, that options other than compromise are possible (Pruitt & Rubin 1986). One example of perceived integrative potential is the belief that the two parties have different priorities among the issues, which implies that logrolling is possible. There is correlational evidence that this belief encourages problem solving (Thompson & Hastie 1990).

**Conclusions about Motivation and Strategy**

In the past, most research has assumed that negotiators have an individualistic orientation. But what is emerging from recent research is that reactions to a number of conditions change markedly if negotiators are concerned about the other party’s outcomes in addition to their own. When they are only concerned about their own outcomes, high limits, accountability to constituents, and negative framing of the issues lead to slow concession making and contentious behavior; time pressure interferes with problem solving; and barriers separating the negotiators diminish contentious behavior. But when they are also concerned about the other party’s outcomes, these effects disappear; and contentious behavior is often replaced by problem solving, leading to the development of high joint benefit. The dual-concern model is useful for understanding these effects.

**COGNITIVE PROCESSES IN NEGOTIATION**

The current emphasis on cognitive mechanisms in negotiation extends theory and research in social cognition (Sherman et al 1989), information processing in cognitive psychology (Anderson 1985), and decision theory (Dawes 1988) to negotiation. Researchers in this tradition tend to adopt one of two per-
perspectives that are not necessarily in opposition. The first stems directly from Tversky & Kahneman's (1974) notions about cognitive heuristics and biases, which are mental shortcuts that can produce erroneous judgments. In negotiation, research shows that these shortcuts sometimes produce poor outcomes and sometimes good outcomes. The second perspective emphasizes schematic information processing and the construction of mental models. These are organized knowledge structures that guide and potentially distort the acquisition, storage, and recall of information (see Beach 1990; Deutsch 1982; Fiske & Taylor 1984; Hastie 1981, 1991).

The two perspectives—heuristics and biases and schematic information processing—differ on several dimensions. These include the manner in which experiments are designed and the nature of the response measures. Researchers who adopt the former perspective emphasize the normative theory of rational belief and choice (Dawes 1988). Typically, they identify a variable that, given the predictions of a normative model, should not affect negotiation outcome; they then conduct an experiment to show that it does. Deviations from the normative model are labeled "irrational." Researchers who focus on schematic information processing shun this label and argue that testing null hypotheses derived from normative models produces unimportant results (see Hastie 1991:138). These researchers aim to develop and test theories about the underlying cognitive processes that mediate negotiation behavior (cf Thompson & Hastie 1990).

Heuristics and Biases

Negotiators are assumed to have limited attention and limited capacity to store and retrieve information from memory. As a result, they consciously or unconsciously use heuristics—shortcuts and other simplifying strategies—that help manage information. There are numerous heuristics that negotiators may adopt, including availability, representativeness, and anchoring and adjustment. In addition, research has shown that negotiator judgment is susceptible to bias due to the framing of outcomes in terms of gain and loss, and also to overconfidence.

Availability and Representativeness

Availability is the decision maker's reliance on the ease of recall of information as a cue for judgments about frequency or likelihood of occurrence (Tversky & Kahneman 1974). In negotiation, availability can lead negotiators to rely too much on salient information and therefore produce biased negotiator judgment (Neale & Bazerman 1991). Representativeness involves making judgments on the basis of seemingly relevant characteristics that in fact belie the true state of affairs (Tversky & Kahneman 1974). Both heuristics can translate into the tendency of negotiators to rely too much on historical analogies. A well-known ex-
ample of this comes from international negotiation: The statement “If this aggression goes unchecked it will be another Munich” is sometimes used to justify the choice of struggle over negotiation. The statement refers to the sham agreement that was reached in negotiations between Neville Chamberlain and Adolph Hitler in 1938 with calamitous consequences. In this example, an historical negotiation is seen as representative of the current negotiation, when the current negotiation may in fact be quite different (see Gilovich 1981, Jönsson 1991).

ANCHORING AND ADJUSTMENT Anchoring and adjustment is a simplifying strategy in which an arbitrarily chosen reference point has an inordinate influence on judgments (see Dawes 1988 for examples). Anchoring and adjustment may account for the large influence that initial offers have in negotiation, a phenomenon mentioned above. It also may explain the unusual impact of prior information about pricing in buyer-seller negotiations (Northcraft & Neale 1987). Evidence that anchoring and adjustment can play an important role in negotiation was obtained in an interesting study by Fobian & Christensen-Szalanski (1992). These authors simulated a medical-liability negotiation to examine the effects of ambiguity about the likelihood of winning in adjudication if there was no agreement in negotiation. They found the use of an anchoring and adjustment heuristic was particularly likely to occur when negotiators experienced high ambiguity. High ambiguity increased the likelihood of agreement and the parties’ cooperativeness. Use of this heuristic thus had a beneficial effect on negotiation. The data in this study were consistent with a model of ambiguity developed by Einhorn & Hogarth (1985).

BIAS DUE TO FRAMING OF OUTCOMES In an application of Kahneman & Tversky’s (1979) prospect theory to negotiation, Neale & Bazerman (1985) and Bazerman et al (1985) used a task that was either positively framed or negatively framed. With a positive frame, negotiators viewed prospective outcomes as gains and saw the negotiation as an effort to maximize net profit. With a negative frame, negotiators viewed prospective outcomes as losses and saw the negotiation as an effort to minimize expenses. Net outcomes were formally identical in both cases. Bazerman et al (1985) showed that when the task was positively framed, subjects were more likely to reach agreements than when the task was negatively framed. This finding was replicated by Bottom & Studt (1990), who also looked at a condition in which one negotiator had a positive frame and the other a negative frame. If negative framing produces resistance to concession, one can predict that in this condition the negotiator with the negative frame should do substantially better in an agreement than the negotiator with the positive frame. This is exactly what
they found. These findings imply that a negative frame can be an asset if the opponent has a positive frame.

Carnevale & Keenan (1990) and Bottom (1989) argued that rather than affecting attitude toward risk, a positive or negative decision frame affects the negotiators' concern for their own outcomes. These authors argue that the risk-seeking/risk-aversion formulation from prospect theory is unnecessary, and that the frame effect in negotiation is a simple matter of the greater significance of loss than of gain. That is, negotiators find it harder to concede when this means "loss" rather than "failure to gain." Based on the dual-concern model presented in Figure 2, these authors argued that decision frame can thus act as a two-edged sword, depending on the negotiators' concern about the other party's outcomes. When there is low concern about the other party's outcomes, a negative frame on both sides should lead to little concession making and thus less frequent agreement, as found by Bazerman et al and Bottom & Studt. But in the context of high concern about the other party's outcomes, a negative frame should encourage the development of a win-win agreement, assuming that the situation has integrative potential. Carnevale & Keenan's (1990) evidence supports this prediction, showing that a negative frame can be an asset for negotiators when they have a high concern for the other party's outcomes. Similarly, Neale et al (1987) found that a negative frame led to improved outcomes when negotiators were given fictitious role labels.

Research has uncovered other moderators of the frame effect in negotiation. These include negotiator mood (Hollingshead & Carnevale 1990) and whether the negotiation task is segregated or integrated (Bontempo 1990). In addition, Carnevale & Mead (1990) found that the effects of negotiator frame extended to perceptions by a mediator. The subjects were mediators who observed bargainers who had either a positive frame (the bargaining involved profits) or a negative frame (the bargaining involved expenses). Mediators who saw a concession by bargainers who had a negative frame viewed them as more cooperative than mediators who saw a concession by bargainers who had a positive frame. This occurred despite the fact that in both conditions the bargainers made equivalent concessions. The finding is consistent with the assumption that disutility for loss is greater than the utility for gain; hence, a third party will view concessions that increase loss as more significant than concessions that decrease gain. Recent research has also addressed the important role of communication processes in the development and revision of negotiator frames (de Dreu et al 1991; cf Putnam 1990).

BIAS DUE TO OVERCONFIDENCE Another source of bias in negotiation stems from the beliefs that negotiators have about their likelihood of success. Negotiators sometimes believe that their opponent will make greater concessions than they will (Stevens 1963; Kochan & Jick 1978). Neale &
Bazerman (1985) reported that negotiators tend to be overly optimistic about how well they will do in arbitration when negotiation ends in nonagreement. This overoptimism obviously can interfere with the likelihood of agreement in negotiation and also can interfere with the efforts of mediators (Kochan & Jick 1978). Carnevale and Keenan (1990) found that such overoptimism only occurred when negotiators had low concern for each others’ outcomes. Pruitt et al (1991a) reported that disputants were overly optimistic about the success of struggle tactics involving the use of threats without negotiation. A study by Rothbart & Hallmark (1988) suggests that the latter effect is more likely when negotiations are between people from different groups rather than the same group.

**Schematic Information Processing**

Negotiation researchers who emphasize schematic information processing focus on how individual negotiators acquire and use knowledge in negotiation. The basic idea is that cognitive factors—the perception of intentions, attitudes and beliefs about the other, the perception of the situation—in short, a person’s construction of social reality, determines negotiation behavior (Abric 1982; Deutsch 1982; Brodt 1990). Norms of behavior and the relevance of information are determined by the way the parties develop a cognitive interpretation of the context, the issues, and the negotiation task. As with all knowledge, negotiator knowledge is represented in schemata. Schemata are hypothesized cognitive structures that contain information about the negotiation and that guide negotiation behavior (Bar-Tal et al 1989; Carroll & Payne, 1991; see especially Deutsch 1982). Schemata are thought to develop from frequent processing of different instances of items or material in memory (Taylor & Crocker 1981).

One way in which schemata can influence information processing is through selective attention and memory, which can perpetuate and exacerbate conflict. Pinkley (1990) has argued that two disputants can see the same conflict differently, and possibly in contradictory terms, as a result of differing schemata. Vallone et al (1985), found that both sides in a conflict perceived that the news media were against them. Hammond & Grassia (1985) developed a theory of cognition that explains how peoples’ judgments of the same circumstances can differ. One problem arises when different people base their judgments on different cues, or when individuals weight the same cues differently and therefore reach different judgments that lead to a quarrel. There is evidence that each side in a conflict tends to remember more facts that support its own position (Grzelak 1982). Pruitt & Rubin (1986) have argued that the relationship between negative attitudes toward the other party and contentious behavior are perpetuated by selective perception and memory.
Researchers have examined the influence of various schemata, treated in the following sections, on information processing in negotiation.

**THE FIXED-PIE PERCEPTION**  An example of a schema in negotiation is the assumption some negotiators make that "your win is my loss." This fixed-pie—i.e. zero-sum or win/lose—perception has implications for future action. For example, in multiple-issue negotiation tasks the fixed-pie perception occurs when negotiators believe that the other negotiator's interests are directly opposed to their own—i.e. that the other has the same priorities on the issues as the self (Pruitt 1981; Thompson & Hastie 1990). This is a faulty judgment when negotiation situations provide the opportunity for joint gain (Follett 1940; Schelling 1960). The fixed-pie perception is an instance of the false consensus effect, where people tend to believe that others share the same views as themselves, more than the others actually do (see Sherman et al 1989).

Pruitt & Lewis (1975), Lewis & Fry (1977), Kimmel et al (1980), Camevale & Isen (1986) had negotiators indicate their perceptions of the opposing negotiator's priorities on the issues just after negotiation. Negotiators who realized that the other negotiator had different priorities on the issues also attained higher joint outcomes than those who did not. Using a related measure, Thompson & Hastie (1990) found that most of the negotiators entered with a fixed pie perception of the task but became more accurate as negotiation proceeded. Accurate judgments about the other party's interests led to higher joint outcomes and higher individual profits.

There is evidence that schemata tend to persist from one negotiation to the next. Thompson (1990a) found that early experience with a negotiation task that did not allow win-win agreements led negotiators to assume that later negotiations also did not allow win-win agreements, when in fact the task was changed and win-win agreements were available.

**ILLUSORY CONFLICT** Sometimes disputes involve issues where the parties want the same thing but fail to realize it. Lax & Sebenius (1986:107) refer to these issues as "common value." Rubin et al (1990) refer to the failure to see common value issues, to perceive opposing interests when no opposition exists, as "illusory conflict." It has been called "incompatibility error" by Thompson & Hastie (1990). Thompson & Hastie (1990) used a multiple-issue negotiation task that included an issue on which the subjects had completely compatible interests. At first, most negotiators failed to realize that they had compatible interests. As time went on, some of them discovered their error; but misperceptions were still substantial at the end of negotiation.

**REACTIVE DEVALUATION** Stillinger et al (submitted) found that proposals and offers suggested by opponents tend to be devalued in negotiation, simply
on the basis of knowledge that the adversary has offered them. In one study, some negotiators rated the value of an opponent’s concession before it was actually made, and others rated the concession after it was offered. The results indicated that negotiators tend to denigrate and misconstrue concessions offered by their opponent. Apparently, negotiators reason that whatever is good for the other must be bad for the self. This is the other side of the same coin as illusory conflict, which assumes that whatever is good for the self is bad for the other.

ATTRIBUTIONS AND BEHAVIOR The attributions negotiators make about the causes of the opposing negotiator’s behavior are an important determinant of their reactions to that behavior (Bar-tal & Geva 1986; Hewstone 1988; Kelley & Stahelski 1970). In several studies, Baron (1985, 1988) found that confrontational negotiation behaviors induced less retribution when they were attributed to sincerely held beliefs. Other research suggests that negative attributions about the partner’s behavior can both stem from and contribute to marital unhappiness (Fincham 1985; Holtzworth-Munroe & Jacobson 1985) and roommate disaffection (Sillars 1981). Hammond & Grassia (1985) argue that in social conflict, people attribute disagreement to erroneous causes, including ill-will, or hidden agendas.

NEGOTIATION SCRIPTS Assumptions about the procedures one goes through in any situation are "scripts" (Abelson 1981) or "event schemas" (Hastie 1981). Among other features, scripts usually include assumptions about behavior that is fair or appropriate to expect from oneself and other parties. Negotiation is often guided by highly stylized and detailed scripts (Carroll & Payne 1991)—for example, not withdrawing a concession once it has been made (Pruitt 1981).

POSITIVE AFFECT Positive affect, pleasant feelings that are typically induced by commonplace events such as reading a cartoon, hearing a joke, or getting a small gift or piece of candy, can have important effects in negotiation. Professional mediators know this when they tell humorous stories prior to and during negotiation in an effort to improve cooperation (Kressel & Pruitt 1989). Positive affect can lessen anger and overt hostility (Baron 1984), and it can encourage cooperative behavior and creative problem solving in negotiation (Baron et al 1990; Carnevale & Isen 1986; Hollingshead & Carnevale 1990).

Perspective on the Cognitive Approach

The cognitive approach to negotiation has numerous strengths. These include the use of process-tracing methods for direct analysis of information-processing strategies. A fine example is the talk-aloud procedure used by
Carroll et al (1988) and Thompson & Hastie (1990), and efforts to relate measures of information exchange in negotiation to measures of perceptions (Lewis & Fry 1977; Thompson & Hastie 1990).

Another potential strength of the cognitive approach is its emphasis on information gathering prior to decision. For example, building on a concept developed by Simon (1957), Pruitt (1981) postulated that negotiators employ a search model, a set of goals and requirements that are used for generating and screening alternatives. Search models often include insights into the other negotiator's goals, priorities, and constraints as well as one's own. Once an alternative is found that fits a negotiator's search model, it must be submitted to the opposing negotiator as a proposal. If the other rejects it, the search is resumed with the same or a modified model. Carroll & Payne (1991) present a useful overview of rule-based evaluation strategies for processing information about offers and alternatives in negotiation.

Perhaps the most surprising conclusion from recent research on negotiator cognition is evidence that the use of heuristics can produce positive, win-win negotiation outcomes. This was seen in studies by Fobian & Christensen-Szalanski (1992) for use of the anchoring-and-adjustment heuristic, and in studies by Bottom (1989), Bottom & Studt (1990), Carnevale & Keenan (1990), and Neale et al (1987) on framing. This conclusion contrasts with the assertion that heuristics and biases in negotiation are a prime cause of poor negotiation outcomes. The finding points to a criticism of the biases-and-heuristics approach: the failure to acknowledge that simplifying strategies can have a positive impact on handling information and decision making in negotiation (see Lopes & Oden 1991; Hogarth 1981; Taylor & Brown 1988).

Carroll & Payne (1991) and Thompson (1990b) provide other criticisms of the heuristics-and-biases perspective. They argue that it falls short of a full analysis of information processing since suboptimal strategies are inferred rather than observed. Thompson (1990b) further argues that the term "bias" is overused in this research and should not be used when the negotiators simply lack relevant information or have been misled by the opposing negotiator.

A challenge for future research on negotiator cognition is the development of unified models that can tie together the various cognitive processes that have been uncovered. Lack of attention to the underlying cognitive mechanisms and processes may produce a disorganized field, with long lists of cognitive effects but little understanding either of what causes them or of the circumstances in which they are manifested and attenuated. Moreover, the preoccupation in this literature with the attainment of win-win agreements should be reexamined in the light of evidence that such agreements are not necessarily good predictors of long-term success (Pruitt et al 1991b).

Future research should link cognition and motivation in negotiation (cf Carnevale & Keenan 1990; Kramer 1990; Thompson 1990b). It is unreason-
able to assume that cognitive processes operate in a vacuum and reasonable to assume that most of them are influenced by or actually operate through motivational processes (see Burton 1969; Grzelak 1982; Kramer 1990; Rubin et al 1990; Sorrentino & Higgins 1986). A case in point is the escalation of commitment to a previous decision in negotiation (Neale & Bazerman 1991), which likely has a strong motivational basis. Another case in point is the common observation that competitively oriented conflict promotes “black and white thinking,” which involves a tendency to dichotomize information, to assign extreme values to objects or items, and not to see relationships among concepts in memory (Deutsch 1973, 1982; Judd 1978; White 1984). There is evidence that black and white thinking inhibits creativity and effective problem solving in negotiation. Carnevale (1991) found that subjects in a competitive negotiation were less likely than those in a cooperative negotiation to see relationships among items in a categorization task that was unrelated to the negotiation. This finding is consistent with recent theoretical work by Bar-Tal et al (1989), Kramer (1990), and Thompson (1990b) showing that goals and other motivational forces are important determinants of the accessibility of conflict schemata in memory.

MEDIATION

History and Literature

Research on mediation has increased dramatically in the past ten years, which is probably a reflection of the rapid proliferation of mediation in practice. Mediation has long been an important part of industrial relations and international negotiation. One of the earliest recorded mediations occurred more than four thousand years ago in Mesopotamia when a Sumarian ruler helped avert a war and develop an agreement in a dispute over land (Kramer 1963). Mediation is now found in realms as diverse as neighborhood feuds (Duffy et al 1991; McGillis 1981), civil and criminal litigation (Folberg & Taylor 1984; Wall & Rude 1985, 1987, 1991), police interventions (Palenski 1984), family disputes and divorce (Donohue 1991; Emery & Wyer 1987; Rubin 1985), public disputes, environmental planning and siting (Susskind & Cruikshank 1987; Susskind & Ozawa 1985), and decision making in organizations (Karambayya & Brett 1989; Kolb 1986; Sheppard 1984; Thomas 1982).

This field of research is remarkably interdisciplinary, involving important contributions by psychologists, economists, political scientists, sociologists, anthropologists, and scholars in the fields of communications, industrial relations, law, and organizational behavior. Most of the early theoretical and empirical pieces on mediation dealt with international conflicts, including works by Burton (1969), Campbell (1976), Doob (1970), Edmead (1971), R. Fisher & Ury (1978), Frei (1976), Hill (1982), Jackson (1952), Kelman &

Practitioner manuals (e.g. Keltner 1987; Kessler 1978; Underhill 1981) and books of advice to mediators (Moore 1986) have proliferated. A literature has also sprung up, that espouses (Wahrhaftig 1981, 1982) or criticizes (Tomasic 1982) one or another aspect of mediation (see also R. J. Fisher & Keashly 1988; Murnighan 1986).


In the present review of the literature we focus on the overall effectiveness of mediation, the structure of mediator behavior, the effectiveness of specific mediator behaviors, and the antecedents of mediator behavior.

**Mediation Effectiveness**

**GENERAL EVALUATION** Most of the research suggests that mediation is effective in general—agreements are usually reached, participants are ordinarily satisfied, and compliance is high—though a number of these studies have methodological problems (see Kressel & Pruitt 1989; Vidmar 1985). The question of overall effectiveness is clearly too broad. More interesting research questions are, “Under what circumstances is mediation effective?” and “What mediation tactics are effective under various circumstances?”

**WHEN MEDIATION IS EFFECTIVE** Mediation is more effective when conflict is moderate rather than intense (Glasl 1982), and when the parties are highly motivated to reach settlement, as they are in a “hurting stalemate” (Touval & Zartman 1985). Mediation is also more effective when the parties are com-
mitted to mediation (Hiltrop 1989), when there is not a severe resource shortage (Kochan & Jick 1978), when the issues do not involve general principles (Bercovitch 1989; Pruitt et al 1989), and when the parties are relatively equal in power (Bercovitch 1989; Kelly & Gigy 1989; Raymond & Kegley 1985; see Ippolito & Pruitt 1990 for a failure to find this effect).

Mediation has also been shown to be more effective when arbitration is threatened as a next step. In a field experiment at a community mediation center, McGillicuddy et al (1987) compared mediation to two forms of mediation-arbitration: 1. “med-arb(same),” where the mediator becomes an arbitrator and issues a binding decision if agreement is not reached during mediation, and 2. “med-arb(diff),” where a fourth party, not present during mediation, becomes an arbitrator. The results indicated that the med-arb(same) condition produced the highest levels of problem solving and the lowest levels of hostility, although there were no differences in the likelihood of settlement.

Mediator Behavior and Effectiveness

CLASSES OF MEDIATOR BEHAVIOR Much of the research on mediator behavior attempts to identify specific behaviors, i.e. “tactics,” and to organize them into categories or “strategies” (Kressel 1972; Kressel & Pruitt 1985; Lim & Carnevale 1990; McLaughlin et al 1991; Wall 1981; Touval & Zartman 1985). In this section we categorize mediator behaviors on the basis of four distinct components of mediation: 1. the relationship between the mediator and the disputants, 2. the relationship between the parties during mediation, 3. the issues, and 4. the individuals (or groups) on each side of the dispute and their motivation to reach agreement.

Mediator-disputant relationship Certain mediator behaviors are designed to improve acceptance of mediation by establishing trust in the mediator and confidence in the mediation process [see Kressel (1972) and Kressel & Pruitt’s (1985, 1989) discussion of the use of “reflexive tactics”]. Several studies have shown that trust in the mediator is an important predictor of settlement (Carnevale & Pegnetter 1985; Pruitt et al 1989).

The parties’ relationship in mediation Mediators can control the communication between the parties and can help the parties understand one another’s positions. Hiltrop (1985, 1989) reports that such efforts are positively related to settlement in labor mediation. Perhaps the most widely used technique for controlling communication in mediation is the caucus, where the mediator separates the parties and meets privately with each side. Caucuses are usually called when the parties are showing high levels of hostility toward one another and little joint problem solving (Pruitt et al 1989).
Research suggests that caucuses become an alternative location of problem solving involving a single disputant and the mediator subtly taking the other party’s perspective (Pruitt et al 1989). However, caucus sessions can be misleading to the mediator since disputants can make derogatory statements about the other party, who is not present to make disclaimers (Pruitt et al 1989; Welton et al 1988).

The issues  Dealing with the issues is central to mediation. This process includes identifying the issues, uncovering underlying interests and concerns, setting an agenda, packaging, sequencing and prioritizing the issues, interpreting and shaping proposals, and making suggestions for possible settlement. Pruitt et al (1991b) and Lim & Carnevale (1990) found that structuring the issue agenda led to greater short-term success. Because they have greater access to the parties’ underlying interests and aspirations, mediators can serve in an “analytic” capacity and help foster negotiator rationality by uncovering efficient options (Lax & Sebenius 1986; Raiffa 1982, 1983; Kolb & Rubin 1991). Mediators can help overcome the problem of reactive devaluation, advancing as their own proposal a position that is acceptable to the other party but would be rejected if the other party put it forward (Stillinger et al, submitted). Mediators also can reduce negotiator optimism about gaining a favorable outcome (Kochan & Jick 1978) and can arrange the agenda so that early agreements on simple issues produce momentum for achieving agreement on later more difficult issues (Pruitt 1981).

The parties  Some mediator behaviors are designed to reduce a party’s reluctance to make concessions or reach agreements by, for example, helping them save face when making concessions (Podell & Knapp 1969; Pruitt & Johnson 1970; Stevens 1963), helping them resolve internal disagreements (Lim & Carnevale 1990), or helping them deal with constituents (Wall 1981). In addition, mediators can influence the parties’ motivation to reach agreement by adding positive incentives for agreement or concession making, or applying negative sanctions, threats, and arguments (Bercovitch 1989; Carnevale 1986; Lovell 1952; Touval & Zartman 1985).

These four categories of action are by no means mutually exclusive. Several of them can occur at the same time. For example, conducting a caucus may simultaneously allow the mediator to develop rapport with one party, enhance that party’s understanding of the other’s position, and allow the mediator an opportunity to offer to one side, in private, a positive incentive for concession making.

The few empirically based taxonomies of mediator behavior have certain dimensions in common—e.g. the degree of forcefulness of tactics (Lim & Carnevale 1990; McLaughlin et al 1991; Wall & Rude 1985). Differences
between these taxonomies suggest that context plays an important role in shaping the character of mediation (Kolb 1989). Wall & Rude (1985) identify mediation tactics that are unique to judicial mediation, and Wall & Blum (1991) identify tactics that seem unique to community mediation in China.

**EFFECTIVENESS** Some kinds of mediator behavior appear to be effective regardless of the dispute situation. Lim & Carnevale (1990), for example, found that mediator efforts to control the agenda and to help the parties establish priorities among the issues were positively associated with settlement regardless of the nature of the dispute. Similarly, Pruitt et al (1990) reported that creating an agenda was positively related to the extent of joint benefit in the final agreement. Prein (1984) found that a mediation strategy that emphasized control over the process was positively associated with settlement in a variety of disputes. Ross et al (1990) reported that a friendly style of mediation was effective regardless of the time pressure on the disputants.

The effectiveness of other kinds of mediator tactics seems to be contingent on the dispute circumstances (Shapiro et al 1985). Donohue (1989) reported that an active mediator strategy is useful when there is high conflict intensity but is counterproductive when conflict intensity is low. Hiltrop (1985, 1989) found similarly that in British labor disputes, the use of forceful, substantive mediator tactics was positively associated with settlement when there were high levels of hostility, but when hostility was low the use of these tactics was negatively associated with settlement. In a survey of professional mediators in the United States, Lim & Carnevale (1990) found that the use of pressure tactics (e.g. mentioning to the parties that their positions were unrealistic) was positively associated with settlement when conflict was intense, but when hostility between the parties was low the use of pressure tactics was negatively associated with settlement.

In addition, Zubek et al (1989) found that when there was high hostility and little joint problem solving by the disputants, agreement was more likely to be reached if the mediator stimulated thought by posing problems to be solved, challenging the parties to come up with ideas, suggesting new ideas, and requesting reactions to new ideas. But when the level of joint problem solving effort was high, agreement was more likely to be reached if the mediator refrained from such actions.

These findings suggest that when disputants are able to resolve the dispute themselves, mediator intrusiveness gets in the way (Rubin 1980, 1981); but when conflict intensity is high, directive, forceful intervention is effective. Such intervention allows the parties to make concessions while preserving their sense of personal strength, because the impetus for the concessions can be attributed to the mediator. This is sometimes referred to as the “face
saving” function of mediation (Bartunek et al 1975; Pruitt & Johnson 1970; Stevens 1963).

ACTUAL VERSUS ANTICIPATED INTERVENTION An interesting parallel effect is observed with anticipated forceful mediation. Hiltrop & Rubin (1982) studied the interaction between level of conflict and actual-vs-anticipated third party intervention. High conflict encouraged cooperation among bargainers who did not anticipate third party intervention, whereas low conflict encouraged cooperation when a third party was expected to intervene. Actual intervention produced the opposite results: Bargainers under high conflict were closer to agreement when a third party had actually intervened, whereas bargainers under low conflict moved closer to agreement when there was no actual third party intervention.

Taken together with the findings mentioned earlier, these results suggest that potential mediators in low-intensity conflicts should create an expectation of heavy-handed intervention; but when mediation begins, they should not actually apply a heavy hand unless the discussions are going poorly (see Rubin 1980, 1981; Kolb & Rubin 1991).

LONG-TERM SUCCESS The research cited so far is characteristic of most in the field in dealing with the antecedents of short-term mediation success, such as agreement and immediate satisfaction. One exception to this trend is a study by Pruitt et al (1990, 1991b) that focused on the determinants of long-term success in community mediation: compliance with the terms of the agreement, improvement in the relationship between the parties, and the absence of new problems. Surprisingly, no relationship was found between short-term and long-term success; agreements that achieved the disputant’s goals were no more effective in the long run than those that did not. The best predictors of long-term success were joint problem solving during the discussion and procedural justice, the disputant’s perceptions that fair procedures were used in the mediation hearing (cf Tyler 1987).

Antecedents of Mediator Behavior
A central concern of mediators is what to do in a given situation. How are these decisions made?

CONTINGENT BEHAVIOR Several studies indicate that mediators become more active as the level of conflict increases (Landsberger 1955a,b; Carnevale & Pegnetter 1985; Donohue 1989; Gerhart & Drotning 1980). As they become more active or use more mediation tactics, they perceive that their efforts are more effective (Wall & Rude 1991). Also, Carnevale & Pegnetter (1985) have found that professional labor mediators tend to use issue-related tactics, such as devising a framework for negotiations and creating priorities.
among the issues, when bargainers bring many issues to the negotiation. Sheppard et al (1989) have shown that mediators tend to emphasize fact finding and clarification of the issues when the disputants are interdependent and the issues are complex; mediators tend to emphasize solution identification when they are concerned about efficiency or are in a position of authority over the disputants.

CONCERN-LIKELIHOOD MODEL Carnevale (1986) has developed a strategic choice model to predict mediator behavior. It postulates two antecedent variables that interact to predict mediator behavior: 1. the mediator’s likelihood estimate of a win-win agreement (“perceived common ground”); and 2. the mediator’s level of concern that the parties achieve their aspirations. Mediators are predicted to emphasize a problem-solving strategy aimed at discovering win-win solutions when they have high concern for the parties’ aspirations and perceive the likelihood of a win-win agreement to be high. They are predicted to use compensation to entice the parties into concessions and agreements when they have high concern for the parties’ aspirations and perceive the likelihood of a win-win agreement to be low. They are predicted to employ pressure to force the parties to reduce their aspirations and make concessions when they have little concern for the parties’ aspirations and perceive the likelihood of a win-win agreement to be low. Finally, they are predicted to be inactive—letting the parties handle the dispute on their own—when they have low concern for the parties’ aspirations and perceive that the likelihood of a win-win agreement is high. Research has supported and extended parts of this model (Carnevale & Conlon 1988; Carnevale & Henry 1989; Chaudhry & Ross 1989; Conlon 1988; Harris & Carnevale 1990; Lim 1990).

PHASES OF MEDIATION Pruitt et al (1989) have developed a three-stage descriptive model of mediation. Stage 1 is “setting the stage,” which includes clarifying the ground rules and gathering information. Stage 2 is “problem solving,” which includes posing issues and generating alternatives. Stage 3 is “achieving a workable agreement,” which includes pressing the parties to reach agreement. A similar model was reported by Shaw et al (1973) and Landsberger (1955b). Carnevale & Conlon (1988) reported findings consistent with these models: that mediators were less directive at first but shifted in the direction of pressure tactics and compensation tactics as time progressed and as time pressure increased. Wall & Rude (1991) found a similar effect for assertiveness in judicial mediation.

MEDIATOR COGNITION Several studies suggest that mediators are susceptible to overconfidence and other cognitive biases of the kinds discussed above. In an early study, Shaw et al (1973) found that third-party pre-
conceptions were positively associated with the conduct and outcome of negotiation. Carnevale & Conlon (1988) reported that mediators in a laboratory study were poor judges of win-win potential. Mediators only made win-win recommendations when the negotiators’ offers were already win-win.

Carnevale & Pegnetter (1985) found that professional labor mediators were overconfident about the likelihood that they could resolve a dispute. This may be due in part to the third party’s inclination to underestimate the negotiators’ aspirations.

Research derived from prospect theory (Kahneman & Tversky 1979) suggests that mediators work harder to avoid a loss than to achieve a gain. Carnevale & Mead (1990) gave mediators either a positive decision frame (i.e. the mediators would gain money if the bargainers reached agreement) or a negative frame (i.e. they would lose money if the bargainers did not reach agreement). In a manner consistent with prospect theory, the mediators who had something to lose adopted a more forceful strategy than mediators who had something to gain, even though the money they could earn in each case was identical.

MEDIATOR POWER Mediator power sometimes stems from reputation and authority and sometimes from the capacity to reward or punish the disputants (Kressel & Pruitt 1989; Carnevale 1986; Touval & Zartman 1985). Power has been found to encourage mediators to use more forceful tactics. For example, community mediators who had the capacity to arbitrate were especially likely to use threats and heavy advocacy (McGillicuddy, Welton, & Pruitt 1987). This observation is consistent with the finding that judges who mediate often use strong-arm tactics (Wall & Rude 1987). Welton & Pruitt (1987) found that disputants who had higher power over a mediator were more accepting of the mediator and behaved less contentiously, but they were less influenced by the mediator.

MEDIATOR BIAS The traditional view of mediation is that, to be effective, the mediator must be impartial and have no stake in the outcome of negotiation (Young 1967, 1972). There is no question that neutrality often contributes to successful mediation. Welton & Pruitt (1987) found that disputants who perceived the mediator as neutral were more receptive to mediation than those who perceived the mediator as biased against their side. However, the absolute necessity of mediator neutrality has been challenged by several authors (Brookmire & Sistrunk 1980; Smith 1985; Touval 1975; Touval & Zartman 1985), who argue that a biased mediator is sometimes the only available alternative and is often the person with the greatest influence over the party that most needs to change (see Kressel 1972 for an example of this in labor mediation). Wittmer et al (1991) and Carnevale & Conlon (1990)
examined the combined impact of two forms of mediator bias on negotiator receptivity to mediation: the mediator’s general alignment with one side versus the mediator’s overt support for one side. Negotiators were receptive to a mediator who was biased against them, i.e. who was unfavorably aligned, but only when the mediator acted in an overtly evenhanded manner.

NEGOTIATOR BEHAVIOR TOWARD MEDIATORS Several studies indicate that negotiators use concession making in an effort to influence the mediator’s choice of strategy. Negotiators sometimes make concessions to avoid the intervention of a potentially coercive mediator (Hiltrop & Rubin 1982; Harris & Carnevale 1990). By contrast, they tend to reduce their concession making when faced with a mediator who can provide rewards in the future (Harris & Carnevale 1990; Idaszak & Carnevale 1989), perhaps with the thought of later trading their concessions for rewards. Rubin (1981) and Touval & Zartman (1985) cite instances of this practice in international mediation.

CONCLUSIONS: CHALLENGES FOR FUTURE RESEARCH

Negotiation Teams

Negotiation often occurs between teams of negotiators, as is true in collective bargaining and international negotiation, and what happens within the team may have important consequences for the between-group negotiation. Although Walton & McKersie (1965) drew attention to the importance of within-group negotiation more than 25 years ago, little is known about these effects (R. Fisher 1989; Stephenson 1981; Pruitt 1990). Research by Insko et al (1987, 1988) suggests that negotiation teams are more competitive than individuals in between-group negotiation, and a study by Keenan & Carnevale (1989) indicates that within-group conflict carries over to between-group negotiation. Rothbart & Hallmark (1988) showed that coercion is seen as more effective for dealing with out-group members, and conciliation is seen as more effective for dealing with in-group members. In another study that points to the importance of within-group processes, Lim & Carnevale (1990) found that mediator suggestions made when there were internal disagreements within a negotiation team decreased the likelihood of agreement in the between-group negotiation. The importance of within-group communication processes for between-group interaction in a social-dilemma paradigm has been shown recently by Bornstein et al (1989). This is likely a fruitful area for further research.

Working Relationships

Fisher & Brown (1988), Pruitt (1990, 1991), and Greenhalgh (1987) have argued that negotiation is more efficient (more rapid, more likely to reach
agreement) and more likely to produce win-win agreements, when the parties have positive working relationships. The most important prerequisite for such working relationships is that both sides have a sense of mutual dependence, in which each will depend on the other for help across a number of separate issues and opportunities for action. Various strategies can contribute to the development of relationships (Fisher & Brown 1988; Pruitt 1991). Where relationships are strained, problem-solving workshops (Kelman & Cohen 1979) can contribute to their development. The development of working relationships and their impact on negotiation comprise an important research frontier.

Procedural Choice

Negotiation and mediation are often chosen from a broader set of procedures, including arbitration and struggle. Inaction, the absence of a procedure, is of course a fifth option. A few early studies treated choices among these options (see Lind & Tyler 1988; Thibaut & Walker 1975), and this field of study has shown some recent signs of revival (Heuer & Penrod 1986; Leung 1987; Pruitt et al 1991a). More research is needed on the conditions under which people will enter negotiation and mediation and the conditions under which they will take other routes when faced with a conflict.

Cultural Differences

There is evidence of cultural differences in negotiation behavior (Adler 1986; Gulliver 1979, 1988; Leung & Wu 1989; Roth et al 1991) and in preferences among dispute resolution procedures (Leung 1987). Mediation has a long history in some cultures (Cohen 1966), and its nature can change from one cultural context to another (Merry 1982; Wall & Blum 1991). Hence cultural differences in negotiation and mediation will likely become more important as countries become increasingly multicultural and increasingly interrelated. One perspective on cultural differences derives from the distinction between collectivism and individualism (Triandis 1989). Chan (1991) had subjects in Hong Kong and in the United States negotiate with a friend or a stranger in an integrative bargaining task, showing that negotiators in the collectivist culture (Hong Kong) were more sensitive to in-group/out-group differences than were negotiators in the United States.

Individual Differences

The study of personality and other individual differences in negotiation has had a mixed history. Earlier efforts to relate broad personality variables to negotiation behavior yielded a confusing and inconsistent pattern (Pruitt 1981; Rubin & Brown 1975). However, research on the prisoner's dilemma (e.g. Kuhlman & Marshello 1975) suggests that direct measures of motivational
orientation are related to negotiation behavior, and studies should begin to incorporate these measures (see Rahim 1986; van de Vliert & Prein 1989). The results on gender differences are also inconsistent. Some studies show that men are more likely than women to adopt a forceful style in both negotiation and mediation (Kimmel et al 1980; Lim & Carnevale 1990) and that negotiation is likely to produce better outcomes for men than for women (Gerhart & Rynes 1991). Other studies show no differences between men and women in negotiation behavior and outcome (Pruitt et al 1986). The theoretical variables underlying gender differences are unclear, but we suspect that interaction effects involving personality or gender variables and situational variables will be found. For example, Williams & Lewis (1976) found that women who held traditional sex-role attitudes did worse in negotiation with their romantic partners when they had low than when they had high aspirations.

**Computer-Assisted Negotiation and Mediation**

The use of computers in the conduct of negotiation and mediation is an exciting recent development. Papers by Pool et al (1990) and Nyhart & Samarasan (1989) on negotiation support systems (NSS) extend concepts from Group Decision Support Systems (GDSS) to negotiation (see Hollingshead & McGrath 1992 for a review of research on GDSS). Arunachalam (1991) reported that computer-mediated negotiations took longer to complete, were more hostile, and led to poorer outcomes than face-to-face negotiation, although negotiators with a computer-based medium showed marked improvement in outcomes over repeated negotiations.

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