

Metatheory and Friendly Competition in Theory Growth:
The Case of Power Processes in Bargaining

Edward J. Lawler

Rebecca Ford

E. Lawler, Cornell University

R. Ford, Florida Community College at Jacksonville

Introduction

This paper analyzes the theoretical development taking place in a program of research on power processes in bargaining (see Bacharach and Lawler 1976, 1980, 1981a, 1981b; Lawler and Bacharach 1976, 1979, 1987; Lawler, Ford, and Blegen 1988; Lawler and Yoon 1990; Lawler 1986, 1992).^{*} The theoretical program takes as its starting point a situation where individuals, groups, organizations, or even societies with conflicting interests voluntarily enter into explicit bargaining. Explicit (as opposed to tacit) bargaining assumes the mutual acknowledgment of negotiations, conflicting issues along which compromise is possible, and open lines of communication through which parties can exchange offers and counteroffers in an attempt to resolve the issues that divide them (Schelling 1960; Bacharach and Lawler 1980; Boyle and Lawler 1991). The scope of this theoretical research program assumes further that the parties have a power capability, that they use this power tactically in an effort to achieve desired outcomes, and that they strive for a favorable position during the bargaining process.

Despite mutual acknowledgment of conflict and despite open lines of communication, explicit bargaining is usually fraught with ambiguity. Given uncertainty about the other's action, each party will likely make inferences about the other party's intent, the importance of the issue(s) to them, the extent to which they are likely to yield during negotiations, and what tactics might produce the most yielding. Questions considered by parties themselves probably include whether or not the opponent will exploit every advantage, follow through on threats, adopt a hostile stance, reciprocate concession making, or be trustworthy in general. The parties are likely

^{*} The authors thank the editors of this volume and Jeongkoo Yoon for helpful comments on an earlier draft. The first author also expresses appreciation to Samuel B. Bacharach, with whom some major parts of the program were developed. Two research grants from the Sociology Program of the National Science Foundation were critical to the development of this theoretical research program.

to use some combination of conciliatory and hostile tactics to influence each other, and these patterns of influence should have important effects on the prospects of conflict resolution. Under the conditions of primary concern to our theoretical research program, coming to a workable agreement is far from a foregone conclusion.

The fundamental theoretical question addressed by our program is: How do the power capabilities of two parties with a relationship affect their use of that power in bargaining? Power is defined broadly as a structurally based capability to modify valued outcomes or resources of another (Emerson 1972). A power process consists of the following distinct but complementary components: (1) the structural potential or capability to influence (e.g., Cook and Emerson 1978; Molm 1987, 1990); (2) the tactical use of the capability by the parties (e.g., Bacharach and Lawler 1981a; Lawler 1992); and (3) the actual or realized power, i.e., the influence produced by tactical action or the structural capability (e.g., Wilier, Markovsky, and Patton 1989). While these distinctions are somewhat standard among contemporary social exchange theories of power (Emerson 1972; Cook and Emerson 1978; Cook 1987; Molm 1987, 1988; Markovsky, Wilier, and Patton 1988; Yitzhak and Zelditch 1989), our program incorporates a sharper distinction, both conceptually and empirically, between power capability and power use and also between power use and actual power. Thus, a power capability may or may not be used (e.g., a union may have a sizable strike fund, but never use it); and if power is used, it may or may not result in actual influence over the opponent (e.g., union workers may walk off their jobs, but management may have sufficient inventories and access to alternative sources of labor, so that the walkout is ineffective). Of particular importance, actual power is analytically distinct from both the underlying power capability and power use in the theoretical program.

Two Themes

In analyzing this theoretical research program, we develop two themes. The first is the import of metatheory in theory growth. A metatheory is defined as a set of assumptions, epistemological and ontological, that orient and direct the form or content of theorizing about some phenomenon. We distinguish for heuristic purposes the orienting and directing facets of a metatheory. The orienting part of a metatheory constitutes a set of very broad assumptions about the social process under study, suggesting a problem focus. The directing elements of a metatheory specify how the key constructs within the problem focus should be conceptualized. We term the former the “orienting assumptions” and the latter the “metatheoretical core.” A theory, on the other hand, is a set of abstract claims or propositions that are testable, directly or indirectly (Wagner and Berger 1985).

Our argument is that the orienting and directing facets of a metatheory are indispensable parts of the theorizing process, because any theoretical statement must be based upon some prior assumptions and a set of conceptualizations that are taken for granted (see also Berger, Wagner, and Zelditch 1989). Even though metatheoretical assumptions may not be explicitly articulated in a theoretical research program, they affect theories and stimulate theoretical growth in a variety of important ways. For example, metatheories define the substantive problems of theoretical interest, dictate how those problems should be investigated, and establish boundaries for the sort of theoretical solutions that are deemed satisfactory (Wagner 1984).

Metatheories not only initiate theorizing but often guide extensions of extant theories in implicit, unacknowledged ways. While metatheories should be assessed in terms of their instrumental or heuristic value—indicating where they lead, what theories they spawn, etc.—we suggest that theories with explicit, acknowledged metatheories will have richer patterns of

growth resulting from periodic reexamination or fleshing out of metatheoretical premises. A metatheory may be the source of a new concept that alters or conditionalizes previous theoretical predictions; it may suggest a new problem focus or branch; or it may contain an assumption that, upon reflection, leads to a new theoretical claim. Explicating the metatheories underlying theories seemingly can yield important benefits to theories, which are often formulated with a determined avoidance of metatheoretical issues. In this context, our analysis will make explicit the metatheoretical foundation of the program on power processes in bargaining formulated by Bacharach and Lawler (1981a, 1981b) and will show how the original premises have shaped recent theorizing on bilateral deterrence and conflict spiral (Lawler 1986; Lawler, Ford, and Blegen 1988; Lawler 1992).

The second theme to be developed here is the role of “friendly competition” in theoretical growth. In Wagner and Berger’s (1985) terms, friendly competition refers to a particular relationship between two “variants” of a theory. Two theories are variants of each other if they address the same theoretical questions, issues, or phenomena, and contain both common and contradictory predictions. Friendly competition should engender “theory elaboration” and, as such, should lead to increases in scope, rigor, precision, or the empirical adequacy of each theory (Wagner and Berger 1985). In this context, contradictory predictions of two theoretical formulations identify critical issues that need to be resolved in a theoretical research program and also key points around which conditionalization is necessary. When using a strategy of “friendly competition,” the theorist pits one theory against another, not to choose between them as in a critical test, but to pinpoint their differences and to understand the conditions under which their respective predictions are likely to occur. In sum, friendly competition is a form of “theory variation” that stimulates “theory elaboration” (see Wagner and Berger 1985).

To create friendly competition, each theory is developed as an alternative to another. This implies more explicit construction of opposite characterizations of a social process and the use of contradictory predictions to clarify the main propositions of concern. Rather than seeking to dispense with or blend theoretical differences quickly, contradictory predictions from alternative formulations are used to fuel theoretical growth by uncovering new theoretical issues that need to be dealt with, by clarifying more precisely the set of conditions to which a theory applies, or by developing an integrative theory that is better than either of the original theories. Thus, various forms of theoretical growth conceivably could be stimulated by “friendly competition.”

The subsequent analysis is divided into five sections. The first synthesizes the main features of the program as a whole. This summary introduces the basic elements of the theoretical research program and identifies the metatheoretical starting points (i.e., orienting assumptions). The section also explicates a set of core metatheoretical ideas that capture the conceptual foundation for the program, encompassing in particular some important assumptions about power. The second section describes the developmental steps in two branches of the theoretical research program, one on power dependence and the other on punitive power. Greater emphasis is placed on the punitive power branch because it has explicitly used the strategy of “friendly competition.” The third section discusses a recent theoretical convergence of these two branches (Lawler 1992). The fourth section describes incipient developments from the theoretical convergence. The fifth and concluding section discusses the general implications for theory growth.

Elements of the Program

This section describes the main elements of the theoretical research program. Figure 1 contains a general diagram of the program and provides the basis for several descriptive points. First, the background of the program combines features of both sociological and psychological literatures. Thibaut and Kelley (1959) serve as an important backdrop for the program because of their cognitive or interpretative conceptualization of rewards, and their treatment of social relationships as an interdependent matrix of choices. Emerson's (1962, 1972) theory of power dependence and social psychological research on conflict (primarily by psychologists) combine to form a dual emphasis on power and tactics. Finally, Schelling's (1960) classic analysis of threats, which emphasized the perceptual and impression management aspects of coercive tactics, and also his persuasive critique of game theory strengthened the problem focus drawn primarily from these other sources.

Second, the diagram identifies two ideas, which formed the meta-theoretical core of the program: a tactical approach to power use and a nonzero conception of power. This metatheoretical core developed primarily from several features of the background: Emerson's (1962, 1972) power dependence theory, social psychological research on conflict and bargaining (Rubin and Brown 1975; Pruitt 1981), as well as some classic social psychological and political science theory on power processes (Thibaut and Kelley 1959; Schelling 1960). However, the solid arrows indicate the two most important sources of the metatheoretical core. Emerson's theory is the source of a structural, nonzero-sum approach to power, and selected social psychological work is the primary basis for a conception of power use as tactical action.

Third, the diagram indicates that the program has two theoretical branches addressing complementary problem areas (see Wagner and Berger 1985, for a discussion of branching

programs). The power dependence branch has analyzed the impact of dependence on conciliatory tactics while the punitive power branch has examined the impact of coercive capability on the use of hostile tactics, i.e., those that inflict punitive damage (see Lawler and Bacharach 1987, for some research; and Lawler 1992, for some further discussion of this contrast). As will become more evident later, these two branches actually developed in sequence, with the power dependence branch coming first. The reciprocal relationship of the metatheoretical core and the power dependence branch reflects the fact that early research within the power dependence branch provided part of the basis for the development of the metatheoretical core. This is important for understanding the metatheoretical foundation of the punitive power branch, and also serves to illustrate how empirical results might facilitate theoretical growth through feedback on metatheoretical underpinnings.

In the sequence of development, the power dependence branch began by exploring two related issues: (1) how the dimensions of power dependence (i.e., the value of the outcomes at stake and the availability of alternative sources for those outcomes) are used by parties to form judgments about each other's power capability, and (2) how parties use their own and another's power position to choose among a range of tactic options (Bacharach and Lawler 1976; Lawler and Bacharach 1976, 1979; Bacharach and Lawler 1981b). Once the metatheoretical core crystallized, this branch took up the issue of how power dependence relations affect concessions tactics in two-party bargaining, which became the focus of Bacharach and Lawler (1981a).

Insert Figure 1 about here

The punitive power branch developed as we became more concerned with the impact of punitive power in conflict settings—in particular, with the relationship between Emerson’s power dependence theory and notions of deterrence in political science and social psychology. Emerson had begun with the fairly standard notion that power is the ability to levy costs, yet power dependence theory really only incorporated one form of cost—opportunity costs (i.e., the value forgone when a choice is made). Thus, power dependence theory did not really account for the imposition of retaliation costs, i.e., costs which can be levied above and beyond opportunity costs (see Bacharach and Lawler 1981a; Molm 1987). This omission is particularly problematic for conflict settings, where actors attempt to resist each other’s demands (Bacharach and Lawler 1981a; Blalock 1989).

The idea that punitive or damage tactics play an important role in conflict processes can be traced to earlier social psychological work by Deutsch (1973) and Tedeschi, Schlenker, and Bonoma (1973). Their research stressed the importance of tactics which levy costs (or threaten to) above and beyond those forgone when a choice is made. For instance, in choosing to withdraw from negotiations, a country forgoes the benefits associated with reaching an agreement. The same country may experience retaliation costs (for withdrawing) imposed by the opponent in the form of tariffs, trade embargoes, and the like. With the use of “friendly competition,” this branch of our program made it apparent that there actually were two contradictory positions in the literature on how a coercive power capability affected the frequency of threatening or damaging action in a conflict. These contradictions were explicated by Lawler (1986) in the form of “bilateral deterrence theory” and “conflict spiral theory.”

The final part of the diagram shows a theoretical convergence around the concepts of relative and total power in a relationship. This convergence pulls together the common

implications for power capability and power use from both power dependence and punitive power branches (Lawler 1992). The recent convergence, in turn, forms the basis for incipient work on tactics of “power change” and tactics of “power use” (e.g., Lawler and Bacharach 1986; Blegen 1987; Lawler, Ford, and Blegen 1988; Blegen and Lawler 1989; Lawler and Yoon 1990). The incipient power-change branch attempts to utilize power dependence to develop notions about power struggle in ongoing relations and dyadic commitment in exchange networks, and the punitive power branch attempts to understand better the conditions under which unequal power relations produce resistance rather than intimidation by lower-power actors.

Orienting Assumptions

The diverse background, portrayed in Figure 1, is the basis for three orienting assumptions. These assumptions stipulate that the conflict has a structural foundation, that actors’ subjective interpretations of the structure are crucial to their power use, and that a conflict activates the power capabilities which are present in the relationship. Together, these assumptions imply that bargaining is a fundamental social process within which to examine how action reflects or departs from the tendencies and constraints embedded in a social structure. This is not a trivial point, given the relative paucity of work on bargaining by sociologists (for exceptions, see Strauss 1978; Bacharach and Lawler 1981a; Schellenberg 1982; Heckathorn 1985; and Patchen 1987).

Structuralist assumption. The theoretical research program adopts the sociological premise that social conflict—whether between individuals, groups, organizations, or societies—has a social structural foundation (Simmel 1950; Dahrendorf 1959; Cook and Emerson 1978; Wright 1985; Wilier, Markovsky, and Patton 1989). The principal units of social structure are sets of interrelated “positions,” abstractly representing the places or social locations that people or

groups can come to occupy in a differentiated, hierarchical system. “Interests” are attached to each position; occupants represent these interests; and the interests are passed on to successive occupants of the positions. From a purely structural standpoint, the primary cleavages in a social structure are grounded in the differential interests of the positions interconnected within the social structure.

A structural approach stipulates that bargaining most likely occurs in response to structurally based conflicts—i.e., when the positions in a social structure create conflicting interests among a set of actors while simultaneously making it necessary for them to interact. Negotiation is understood in such contexts as a form of conflict management, rather than conflict resolution per se. Thus, while bargaining may resolve particular time-bound issues, new conflicts will likely emerge time and time again, given that the structural conditions remain unchanged. The recurrence of conflict reflects the persistence of the divergent interests of the positions occupied by actors (e.g., labor vs. management, husbands vs. wives, blacks vs. whites, and so on). In fact, because social structures tend to persist as occupants leave and are replaced, conflict with a structural foundation is likely to recur frequently and be difficult, if not impossible, to resolve in the absence of structural change. In this respect, the theoretical research program borrows a bit from conflict theory (e.g., Dahrendorf 1959).

A structuralist perspective emphasizes the competitive side of the mixed-motive dilemma and views conflict resolution as highly problematic. One critical, concrete implication is that the likelihood of agreement on a set of conflicting issues is an important phenomenon to be explained, even independent of the nature of the agreement. While this may seem obvious at first glance, it should be noted that economic and game-theoretical approaches to bargaining typically assume an agreement, given the incentives of the game, and attempt to predict the

nature of that agreement (Rapoport 1966; Harsanyi 1977). The scope conditions of our program of work assume a much lower probability of conflict resolution than that found implicitly in most game-theoretical work. This is due, in part, to the focus on conflict with a social structural foundation.

A structuralist approach to conflict differs in important, but subtle, ways from the interpersonal approach that is implicit in most bargaining literature (see Rubin and Brown 1975; Pruitt 1981). Pruitt (1981) exemplifies the interpersonal approach. He conceptualizes negotiation as “. . . a process by which a joint decision is made by two or more parties [with opposing interests]” (Pruitt 1981: 1). To say that parties have opposing interests is to say that they have different individual (emphasis is ours) needs that lead them to incompatible preferences (Pruitt 1981: 1); moreover, “interests should never be regarded as inherently opposed” (Pruitt 1981: 4). An interpersonal approach, such as that offered by Pruitt, implies that negotiation in mixed-motive contexts is primarily a form of cooperative decision-making by individuals. With emphasis on the cooperative side of the mixed-motive dilemma, the task of parties is to reconcile individual needs and opinions. While both structuralist and interpersonal approaches have their place in the bargaining literature, the structuralist approach is underrepresented.

Interpretation assumption. The second assumption is that parties interpret and make concrete the interests attached to their structural positions (see Bacharach and Lawler 1981a; Lawler 1992). In other words, the social structure does not fully dictate or determine the tactical action of the parties in conflict. This follows from a concept of power use as tactics which may or may not be adopted or can be used in different ways. Parties have the latitude to bridge their differences and otherwise mitigate the conflict embedded in the social structure, i.e., adopt

conciliatory tactics. They also have the discretion to exert pressure and risk exacerbation of the conflict, i.e., adopt hostile tactics.

The most general point is that the social structure “frames” or limits the action of parties by establishing some sort of implicit agenda. Yet this agenda is interpreted, refined, and essentially completed by the parties themselves in the course of bargaining (Strauss 1978; Zelditch et al. 1983; Lawler 1992). This means that parties might adopt tactics that are not congruent with the power relationship between them and that the joint effects of their tactics may not follow from the structural power conditions. For example, parties with lower power may exert more influence than predicted by their power position and power struggles over time may have an integrative or cohesive effect on the relation (Lawler 1992; Lawler and Yoon 1990). An approach to bargaining which fails to give sufficient attention to “bargaining actors as agents” and to “bargaining processes as emergent” will find it difficult to explain the effects of power on the use of tactics and on conflict resolution.

Activation assumption. Conflict is the social condition that activates a power process. Activation means that power capabilities become salient to actors, and tactical options are devised, assessed, and chosen. While the structuralist and interpretive assumptions, in combination, lead to an emphasis on power as a structural condition and tactics as an interpretive condition, the activation assumption makes clear that it is conflict which renders power capabilities salient and tactical options operative. Without a conflict, the effects of structural power are much more subtle and the assumed cognitive/interpretive task faced by parties is likely to be minimal.

The main rationale for the activation assumption is that conflict makes the interaction “problematic” to parties. Most of the problems connect in some way to uncertainty about the intentions of the other, and the fact that the “problems” do not fit available routines, habits, or

recipes. The result is that actors search for and “read” available cues in the situation. One obvious cue is the nature and form of power in the relationship, e.g., the degree of power equality or inequality. In sum, uncertainty serves to make power a salient feature of the relationship and to transform power use into a tactical issue for each actor. With the activation assumption, our theoretical program tends to stress how actors perceive and define the power in their social relationships (Bacharach and Lawler 1976; Lawler and Bacharach 1976; Hegtvedt 1988) more than most social-exchange approaches (e.g., Cook and Emerson 1978; Molm 1987; Markovsky, Wilier, and Patton 1988). It should also be noted that the activation and interpretation assumptions are closely related and complementary.

The three orienting assumptions represent fairly pervasive themes in theorizing and research within the program of work. Each orienting assumption represents a strategic ontological claim, designed to shine a “searchlight” on selected features of a social relationship. First, the structuralist assumption maintains a focus on power capabilities as a causal force. Second, the activation assumption suggests that a conflict situation is an important scope condition for the study of power processes. Finally, the interpretation assumption supports the emphasis on uncertainty as a scope condition and impression management as integral to tactical action. The relationship of these assumptions to specific theorizing is primarily intuitive, rather than logical. For example, the program’s problem focus—the impact of power capability on tactics in two-party bargaining—has not been derived logically from the orienting assumptions, but one can easily discern a linkage.

Metatheoretical Core

A “metatheoretical core” is defined as a small set of fundamental conceptual directives for theorizing about the problem focus. We characterize the metatheoretical core of this particular program as consisting of two primary conceptual twists: (1) a tactical approach to power use, and (2) a nonzero-sum approach to power capabilities. Orienting assumptions underlie the basic problem focus while the metatheoretical core conceptualizes broadly the key phenomena of theoretical concern. In the case of our program, a focus on power capability is suggested by the structuralist orienting assumption, and the metatheoretical core offers a conceptual directive about how to treat power capabilities; and a tactical conception of power use is implied by a combination of the interpretation and activation assumptions. The importance of each conceptual component of the metatheoretical core is discussed, in turn, below.

Tactical conception of power use. The first conceptual twist concerns the meaning of a tactic. Tactical behavior refers to a move or set of moves directed at influencing another’s cognitions or behavior in the here and now, or in the future. By definition, these moves are a response to resistance (anticipated or real) from the other and involve some intervening cognitive or subjective process. A tactical approach to power stresses the importance of impression management in the bargaining process, and suggests that tactics flow from conscious or nonconscious judgments in which power is estimated, alternatives assessed, and consequences predicted (Bacharach and Lawler 1981a). While this implies a rational choice process, it is highly bounded and subjective, especially given the level of uncertainty and ambiguity inherent in the conflict settings of primary concern. A tactical approach to power focuses attention on one part of the bargaining process.

Our conceptualization distinguishes two broad classes of tactics likely to be used during negotiations: hostile and conciliatory. Hostile tactics are punitive behaviors that communicate an intent to compete, intimidate, and resist. Such tactics may inflict damage on the other's outcomes or involve a threat to harm. When actors use punitive tactics, they do so either to punish the opponent for engaging in noncompliant behavior, or to influence the opponent to engage in some preferred behavior (Schelling 1960). Conciliatory tactics are positive acts that communicate an intent or willingness to compromise. Within explicit bargaining, conciliatory tactics often take the form of concessions (i.e., movement toward the other party's position) designed to stimulate concessions by the opponent or avoid reprisals for not making concessions.

A distinction has emerged in the theoretical research program between "power use" and "power change" tactics (e.g., Blegen and Lawler 1989). Power use tactics are those that actors use to deal with the immediate conflict or bargaining situation; they are directed at influencing an opponent in the here and now. Examples include tough concession behavior, testing the resolve of the other, threatening to leave a relationship, and punitive tactics such as strikes or other actions that inflict damage. Power change tactics, on the other hand, are efforts to alter the power of either or both actors in the relationship. Such tactics presume an ongoing relationship, anticipate future conflict, and implicitly acknowledge the pervasiveness of the conflict underlying the immediate matters at hand. If successful, power change tactics obviously have important effects on future conflicts.

To illustrate the difference between power use and power change tactics, we contrast a threat to leave the relationship with Emerson's (1962, 1972) "extending the power network" tactic. A threat to leave uses the existing power capability (that is, the available alternative relationships); extending the power network is an effort to change the power base itself (that is,

the availability of alternative relations underlying such threats to leave). Overall, power change tactics have the potential to significantly affect immediate bargaining episodes as well as the relationship itself over time. If a party is able to significantly improve the availability of alternative relations, then that party acquires a power advantage in bargaining.

Nonzero-sum conception of power. The second conceptual twist in the metatheoretical core stipulates that power is a nonzero-sum phenomenon. This approach to power is based on implications of power dependence theory and it contrasts with nearly all other approaches. Other approaches to power tend to adopt a zero-sum conceptualization in practice, if not always in principle (see Gamson 1968; and Kanter 1977, for exceptions). A zero-sum approach assumes a fixed sum of power in a relationship or set of relationships, such that a change in one actor's power capability will produce an equal and opposite change in the other's power capability. From a zero-sum perspective, there is, by definition, a perfect negative correlation between the power capability of one party and the power capability of the opponent (see also Lawler 1992).

In contrast, a nonzero-sum conception assumes that the absolute or total amount of power in a relationship can vary, so that a gain of power capability for one party does not necessarily imply a loss of power capability for the other. From a nonzero-sum perspective, it is conceivable that in a dyad, both actors can increase their own power capability, both can lose power capability, or one can gain power while the other's remains constant. To illustrate, if power is a fixed sum, a union which increases its power capability by building a strike fund automatically decreases management's power; however, if power is a nonzero-sum phenomenon, then both the union and management could increase their power capability within the same period of time—i.e., management could increase inventories in order to support a possible lockout, and the union could build its strike fund. The basic point is that with a nonzero-sum conceptualization the

power capability of each can move in the same direction, in opposite directions, or one can become stronger while the other remains the same. Thus, a nonzero-sum metatheory raises several questions and issues about power that are neglected or defined away by a zero-sum metatheory.

The nonzero-sum conception can be traced to an implicit and undeveloped notion of “absolute power” in Emerson’s (1962, 1972) power dependence theory. In Emerson’s formulation, the power capability of *A* is based on *B*’s dependence on *A* for valued resources, and vice versa. It is particularly noteworthy that *A*’s power resides in *B*’s dependence on *A*—not *A*’s dependence on *B*; likewise, *B*’s power resides in *A*’s dependence on *B*—not *B*’s dependence on *A*. This means that theoretically the absolute power of each actor is not related a priori in a particular way and that the amount of power in the relationship can vary as can the power distribution across actors.

The major conceptual directive of a nonzero-sum conceptualization is a contrast between the “total power” in the relationship and the “relative power” in the relationship. Such a distinction subsumes elements of the zero-sum approach within a nonzero-sum metatheory. Total power refers to the sum of each actor’s absolute power ($P_{ab} + P_{ba}$), and relative power refers to the power difference or ratio of each actor’s absolute power to the total in the relationship: $P_{ab}/(P_{ab} + P_{ba})$. Given equal power, increases or decreases in total power involve proportional changes in the degree of mutual dependence, or what Emerson (1972) essentially termed “relational cohesion,” and what Molm (1987) has recently labeled “average power.” Shifts in relative power occur when existing power is distributed unequally or when total power changes and these changes are distributed unevenly within the relationship.

The major implication is that the relative and total power in a relationship can change in a variety of interesting and somewhat independent ways. If two nations over time become the exclusive providers of valued commodities, then the total power in the relationship has grown without a change in the relative power as long as the net growth of each party's absolute power is equal. Similarly, if actors in a close relationship each develop their own set of friends, then mutual dependence (and, hence, the total power in the relationship) declines without necessarily changing the relative power of the actors; but if only one actor develops such a set of friends, a change in both total and relative power occurs, though in this case all of the change in total power would be an artifact of the change in relative power. These examples suggest that total and relative power may affect tactical action somewhat independently.

An abstract example will further clarify the implications of the distinction between relative and total power. Assume that each actor's absolute power can vary from 1 to 10 units, and therefore that the total power in the relationship can vary between 2 and 20 units. A nonzero-sum conception leads us to ask a question that a zero-sum conception would not pose—specifically, whether a relationship in which each actor has 2 units (total power = 4) will produce different rates of conflict behavior than a relationship in which each actor has 9 units of power capability (total power = 18).

Now, compare a context in which party *A* has 2 units of power while party *B* has 8 units of power with another in which *A* has 4 units of power while *B* has 6 units of power. Both relationships have a total power of 10, but differ in relative power. A more complex situation might involve a change from 2 units of power capability for *A* and 8 units for *B* to 4 units for *A* and 7 units for *B*. In this case, total power has increased (from 10 to 11) while relative power has decreased (from 6 to 3). A nonzero-sum approach would take account of these various patterns

of change for relative and total power, and a zero-sum approach would attend only to the changes in power difference. As Lawler (1986) has shown, empirical research on power which confounds relative and total power yields results that are difficult to interpret.

This simple contrast, derived from a nonzero-sum metatheoretical directive, raises a number of issues that warrant theoretical analysis. For example, given that each actor's absolute power is independent theoretically, is power use or certain tactical forms of it related in different ways to one's own power capability than to the other's power capability? Perhaps the most important factor in determining the choice of tactic is the other's power capability—regardless of one's own power. These would be “absolute power” effects. Or, in view of the total power in the relationship, do higher degrees of total power increase or decrease the level of conciliation or hostility in the relationship? These questions, and others like them, stem from the orienting assumptions and the metatheoretical core of the program. Our theoretical research program illustrates how fairly simple metatheoretical shifts can raise new questions about power.

Two Branches

The metatheoretical core has spawned two branches of theoretical and empirical analyses, one dealing with power dependence processes and the other with punitive power processes. Both lines of endeavor examine the impact of power capabilities (either dependence or coercive) on the tactical use of that power in a conflict; both treat power capabilities as in part cognitive; and both define power use in tactical terms. Each branch addresses the same general questions about power in social relationships and about patterns of conflict and bargaining, and each adopts a very sharp distinction among power capability, power use, and actual power. Nevertheless, several differences between the branches are important to note at the outset.

First, the power dependence and punitive power branches deal with somewhat different forms of power capability and different types of tactical power use. The power dependence branch stresses concession tactics in bargaining or, more specifically, the impact of dimensions of dependence (i.e., the value of the resources at stake and the availability of alternative actors from whom the resources might be acquired) on the toughness of concession behavior and the probability of reaching agreement (Bacharach and Lawler 1981a). The punitive power branch stresses the effect of coercive capabilities on punitive action, i.e., tactics that damage the outcomes of the opponent (Lawler 1986; Lawler, Ford, and Blegen 1988). The forms of power underlying these two branches essentially represent a difference of focus on opportunity costs vs. retaliation costs.

Opportunity costs are of primary concern to the power dependence branch (see also Emerson 1972; Cook and Emerson 1978; Cook et al. 1983), and retaliation costs are of primary concern to the punitive power branch (Tedeschi, Schlenker, and Bonoma 1973; Lawler and Bacharach 1987; Molm 1987; Lawler 1992). Opportunity costs refer to the outcomes forgone when a choice is made among mutually exclusive options. Applied to bargaining, opportunity costs are the benefits forgone by remaining in a given bargaining relationship, e.g., the anticipated payoff from bargaining with an alternative other. Opportunity costs essentially involve a comparison of the benefits from a choice made with those that might have accrued from an option forgone. Retaliation costs, on the other hand, are negative actions by an opponent that directly damage or punish the actor independent of those costs that would be incurred if the opponent simply withdrew from the relationship. The costs and the different forms of power might be incorporated into a power dependence framework (see Bacharach and Lawler 1980: Chapter 5; Molm 1987); however, empirical evidence indicates that these forms of power have

distinct behavioral effects in both bargaining and non-bargaining settings (Gray and Tallman 1987; Molm 1988; Lawler and Bacharach 1987). Lawler (1992) has recently identified the elements for a new theory organized around theoretical principles applicable to both power dependence and punitive forms of power (see Lawler and Bacharach 1987, for relevant empirical evidence).

A second contrast is that the two branches have a different connection to the nonzero-sum part of the metatheoretical core. The reciprocal relationship between the metatheoretical core and power dependence branch in Figure 1 reflects the fact that the nonzero-sum assumption actually emerged in our research on power dependence. Specifically, some early findings (see Bacharach and Lawler 1976; Lawler and Bacharach 1976, 1979) indicated that people in conflict acted as if power was nonzero-sum in nature, and subsequently Bacharach and Lawler (1981a) used the nonzero-sum assumption heuristically in their work on concession tactics in bargaining. Then Lawler (1986) made the nonzero-sum conception central to his bilateral-deterrence and conflict-spiral formulations and to an integration of the power dependence and punitive power branches (Lawler 1992). The overall point is that the power dependence branch is actually part of the foundation for the punitive power branch.

The third difference between the branches is the role of empirical research in the theoretical development. The power dependence branch began as a problem-driven enterprise designed to apply Emerson's ideas on tactics of influence (Emerson 1962) to social conflict. We weren't testing Emerson's theory explicitly but were using it, along with a variety of social psychological work (Thibaut and Kelley 1959; Michener and Suchner 1972), to develop and test theories about perceptions of power and the choice among influence tactics in a conflict. In contrast, the punitive power branch began as a theory-driven enterprise (see Chapter 4 of

Bacharach and Lawler 1981a) and was able to take advantage of the earlier theoretical and empirical work in the power dependence branch. The problem-driven vs. theory-driven character of each branch will be evident in the following discussion.

Power Dependence Branch

The power dependence branch was stimulated by a critical reaction to a growing body of social psychological literature on tactics of influence (for relevant reviews, see Tedeschi, Schlenker, and Bonoma 1973; Deutsch 1973; and Michener and Suchner 1972). Bacharach and Lawler began with three interrelated criticisms of this literature. First, while the literature contained many interesting ideas and research findings, it was highly fragmented and in need of an integrative theory. Second, it seemed incongruous that so much work on conflict could be done with relatively little reference to or systematic use of the concept of power (see Michener and Suchner 1972, for a noteworthy exception). Third, given that in most conflicts actors face an array of tactical options, we were interested in developing a theory that would facilitate understanding of multi-tactic evaluations and choice. Emerson's 1962 formulation of power dependence theory, because of its emphasis on power-based tactics, served as the starting point. All of this early work focused on two-party conflicts primarily between an employer and employee.

The first step in the branch consisted of a series of papers addressing two questions: (1) To what extent do actors in conflict use the dimensions of power dependence, specified by Emerson (e.g., actor A's alternative outcomes source and outcome value, actor B's alternative outcome sources and outcome value), to estimate each other's power? (2) How will such actors use the dimensions of dependence as a basis for evaluating and choosing among a range of tactic options? We assumed that an overt conflict would make power salient, motivate actors to assess

each other's power capability, and lead them to develop "plans of action" on this basis (see in particular Bacharach and Lawler 1976; Lawler and Bacharach 1976).

To address the above questions, Bacharach and Lawler used a series of vignette studies, pitting an employee of a small store who wants a pay raise against an employer known to be leaning against it. The findings generally supported hypotheses developed from power dependence theory. For example, each of the four dimensions of dependence affected perceptions of self and other's power in a manner consistent with power dependence hypotheses (Bacharach and Lawler 1976; Lawler and Bacharach 1979); and, furthermore, different dimensions of dependence were used by actors to evaluate and decide on different tactic options (Lawler and Bacharach 1976; Bacharach and Lawler 1981b). This work culminated in a classification of tactics and a set of predictions based on the assumptions that (1) dimensions of dependence identify points of strength and weakness in an actor's power position, (2) different tactics deal with different points of strength or weakness, and (3) actors will choose tactics that produce the most significant improvement in their power position by capitalizing on points of particular strength or removing points of particular weakness (Bacharach and Lawler 1980: 160—65).

There was, however, an anomalous finding in this work. Our framework included four tactics, one each for the four dimensions of power dependence, and our theorizing stipulated that an actor will use the corresponding dependence dimension to decide on given tactics. However, the results revealed that actors attributed more importance to their own dependence on the opponent, rather than the opponent's dependence on them, when assessing a series of tactic options. In other words, they were more likely to use or use more heavily their own alternative outcome sources than the opponent's alternative outcome sources to make tactical decisions. The

implication was that absolute power or dependence was more important to them than their relative power or dependence position. This led us to question the prevailing zero-sum conceptions of power and ultimately to develop the nonzero-sum facet of Emerson's (1962, 1972) formulation of power dependence theory.

In their book on bargaining, Bacharach and Lawler (1981a) developed the nonzero-sum conception of power and elaborated their theoretical analysis of the cognitive facets of power. They distinguished the absolute power of each bargainer from his or her relative power and also from the total power in the relationship, and they argued that the effect of these is contingent on actors' cognitive imagery of power. If actors adopt a non-zero-sum imagery of power, then they presumably will respond to variations of total power in the relationship and stress their own absolute dependence in tactical decisions; if they adopt a zero-sum imagery, they will attend only to the comparison of their power and that of the other. In brief, Bacharach and Lawler (1981a) developed a theoretical argument leading to two fundamental predictions assuming a nonzero-sum imagery. First, the concession behavior of an actor would be a function of his or her own dependence not the other's dependence; and second, the greater the total power (i.e., mutual dependence) in the relationship, the greater the likelihood of conflict resolution, presumably because each actor responds in accord with the first prediction.

The results of the Bacharach and Lawler (1981a) experiments generally support these predictions. The concession behavior of an actor was primarily a function of whether the actor could expect a good or poor agreement from an alternative party with whom he or she might negotiate, and greater total power in the relationship produced higher average rates of concession across actors. Moreover, across a number of experiments, rates of agreement were significantly higher (e.g., 75 percent, 63 percent) when each actor had an alternative bargaining opponent

from whom a poor agreement was likely than when a good agreement was anticipated from the alternative (e.g., 13 percent, 19 percent). These results might be interpreted as the “relational cohesion effects” alluded to by Emerson (1972) in a brief reference to the importance of mutual dependence. Such effects probably reflect the opportunity costs of leaving the current relationship to negotiate with another from whom a poor agreement is likely.

At this juncture, there are several unresolved issues in the power dependence branch, each of which might provide the basis for future theoretical work. The first is the impact of equal vs. unequal power dependence in a conflict. Bacharach and Lawler (1981a) offered some preliminary evidence indicating higher rates of agreement when actors had equal vs. unequal dependence on each other, but a recent study integrating dependence and punitive forms of power found that such effects occur only when actors are equal with regard to both dependence and coercive capabilities and also when mutual dependence is high (Lawler and Bacharach 1987). The interactive effects of dependence and punitive power on conflict resolution warrant further attention (see also Molm 1989).

The second unresolved issue concerns the value of the outcomes at stake. Our vignette and laboratory work empirically disentangles the alternatives and value dimensions of power dependence, and the results for alternative outcome sources are consistent with power dependence, while those for outcome value tend to diverge from power dependence predictions. More specifically, if a party highly values the outcomes controlled by an opponent, it enhances the opponent’s power capability, but also motivates the party to exert substantial effort to overcome his or her power disadvantage. The result is that in a conflict the value of the outcomes at stake produces effects on tactics that are the opposite of those predicted by power dependence theory (e.g., see Lawler and Bacharach 1979; Bacharach and Lawler 1981b).

The third unresolved issue concerns both the sort of tactics examined in this tradition and the integrative effects of power suggested by a non-zero-sum approach. With a basis in the distinction between power use and power change tactics discussed earlier (see Blegen and Lawler 1989), virtually all of the work in the Bacharach/Lawler power dependence branch has dealt with “power use” tactics, i.e., those tactics that use available power to exercise influence in the immediate situation. Other tactics can actually change the power position of actors and have an impact on future encounters. For example, if both actors successfully increase the other’s dependence on them in the course of dealing with a particular conflict, the total power in the relationship (i.e., mutual dependence) will grow, producing an integrative effect on the social relationship (Bacharach and Lawler 1980; Lawler and Bacharach 1986; Lawler 1992). In this sense, tactics designed to gain advantage in the short run may, in combination and as a by-product, change the power in the relationship over time and enhance the prospects for conflict resolution in future bargaining encounters.

In conclusion, the development of the power dependence branch illustrates the potential importance of metatheory to theory development. In this case, the metatheoretical implications of research on how actors treat power dependencies transformed a problem-driven enterprise (see Bacharach and Lawler 1976; Lawler and Bacharach 1976) into a theory-driven enterprise (Bacharach and Lawler 1981a). It is not that the results failed to support our derivations from Emerson’s power dependence theory, but that in reflecting about the broader implications of the work, we found gaps in Emerson’s and in our own analysis. The theoretical problem was resolved by adopting explicitly a nonzero-sum conception of power, which then provided a metatheoretical backdrop for analyses of punitive power.

Punitive Power Branch

This branch responds to an incomplete analysis of punitive power in Bacharach and Lawler (1981a), and addresses a contradiction in the social psychological literature on threat and punishment tactics in conflict. Two theoretical formulations, termed “bilateral deterrence” and “conflict spiral,” suggest divergent relationships between coercive capabilities and punitive tactics, based on assumptions about the meaning or interpretation actors will place on their own and the other’s coercive capability. Before discussing each theory, we note that both theories have the same problem focus; both are based on the same metatheoretical premises; both contain common theoretical concepts such as “coercive capability” and “punitive tactics”; and both specify the same type of predictions about power in the relationship (e.g., the impact of equal vs. unequal power). The theories also have the same scope conditions, i.e., both are designed to apply to conditions where actors are seeking to resolve a conflict through explicit bargaining, where each actor has a coercive capability, and where they know both their own and the other’s power capability. In the context of such similarities, the theories of bilateral deterrence and conflict spiral differ in important ways, and this program of work emphasizes the differences rather than the similarities in order to promote theoretical development. Thus, it is this branch that has used “friendly competition” as a method of theory growth.

Our analysis identifies five phases in the growth of the punitive power branch. *The first phase* was essentially problem definition. It involved the identification of two classic social psychological arguments linking the magnitude of a punitive capability to the use of that capability through threats or punishments. The argument from Deutsch and Krauss’s (1962) research on the famous trucking game indicated that if actors in conflict have the capability to inflict damage upon each other, they will indeed use that capability. The reason is that an actor

with a power capability, who faces resistance from another, will succumb to a temptation to use whatever means are available to overcome the other's resistance. Larger power capabilities, by implication, will create more temptation. Once the use of the power capability occurs, a use-counteruse spiral ostensibly will develop in which actors continue to express hostility over time, in part because to do otherwise entails a loss of face (Deutsch and Krauss 1962; Deutsch 1973).

An alternative point of view was suggested by social psychological research implicitly or explicitly using deterrence principles (Tedeschi, Schlenker, and Bonoma 1973; Michener and Cohen 1973; Hornstein 1965). Most notably, research by Tedeschi and associates (1973) showed that a large punitive capability for *A* reduced *B*'s competitive behavior in a prisoner's dilemma setting. Tedeschi and associates found that the magnitude and credibility of threats determined threat effectiveness in a social situation with rather large power differences between the threatener and the target. We noticed that the ideas underlying such social psychological work dovetailed with some political science research on deterrence processes. The basic idea drawn from the political science literature (Schelling 1960; Morgan 1977) was that actors' use of punitive tactics would be an inverse function of the other's absolute power capability, primarily because the other's capability produces a "fear of retaliation." Bacharach and Lawler (1981: Chapter 4) developed an initial formulation of bilateral deterrence and conflict spiral based on the contrasting arguments implicit in social psychological work by Deutsch and Krauss and by Tedeschi.

The first phase of development made it clear that there was a contradiction between the two classic arguments. The second phase of theoretical development accentuated and sharpened the differences between the classic arguments in order to reveal the primary source of the contradiction (see Lawler 1986). Figure 2 portrays the contradictions for a dyad with equal

power (coercive capability). Note that consistent with the nonzero-sum concept of power, the absolute power of each actor is treated separately.

Insert Figure 2 about here

Two differences are indicated by the theoretical construction in Figure 2. First of all, the intervening cognitive or interpretive variables (i.e., fear of retaliation vs. temptation) are distinct and essentially reflect disparate inferences from absolute power in the situation (see Lawler 1986; Lawler, Ford, and Blegen 1988). Second, the relationship of power use to absolute power capabilities is different. Deterrence theory traces power use primarily to the *opponent's* (absolute) power capability, and conflict spiral theory traces power use primarily to the *actor's own* absolute power.

By pitting the classic arguments against one another in the spirit of “friendly competition,” we revealed a puzzle or anomaly—*each incipient theory traces power use to either, but not both, an actor's own or the other's power capability*. The conflict spiral tradition suggests that actors use power because *they* have it, and the deterrence tradition suggests that actors do not use power because *their opponent* has the power to retaliate (Lawler 1986). Neither theoretical position connected the punitive tactics of an actor to his or her own power capability *and* that of the other. This puzzle served as the impetus for the *third phase* of development in both theories. Intuitively, it seemed critical to have a theory that traced the punitive tactics of an actor to both the actor's own and the other's power capability, without resorting to a zero-sum conception of power. So the nonzero-sum conception of power framed our explication of the implicit contradiction of deterrence and conflict spiral arguments and revealed a theoretical anomaly.

The “solution” to the puzzle was to add a common intervening variable to each theoretical formulation: each other's expectation of attack by the opponent. The notion that an actor might be influenced by expectations that the other would use his or her power capability was not new; in fact, this idea came from Schelling (1960). He had proposed that the successful

deterrence of an actor by an opponent was contingent on two factors—a reciprocally high fear of retaliation on the part of each actor and a perception by each that the other is not likely to attack because of this fear (Schelling 1960). Moreover, social psychological research has suggested that actors form an “expectation of attack” when confronted with a powerful opponent and, in turn, tend to increase hostility in advance of anticipated attacks (Rubin and Brown 1975; Pruitt 1981; Nemeth 1972). Thus, the intervening variable “expectation of attack” seemed to be an important omission from the classic arguments. Adding such a concept incorporated each actor’s perception of “what the other thinks,” because the formation of an expectation of attack would involve such inferences.

To build expectation of attack into each theory, Lawler (1986) made the simplifying assumption that actors would expect each other to use the same criteria for deciding on punitive tactics. From the perspective of bilateral deterrence, actors would be influenced by their own fear of retaliation, and they would assume that their opponent would be influenced similarly. This means that the actor’s own fear of retaliation would be based on the opponent’s power capability—the more powerful the opponent, the more fearful the actor. Similarly, the actor’s own power capability became the basis for his or her expectation of attack by the opponent; the greater the absolute power of the actor, the more fearful the opponent ostensibly would be to initiate an attack (Lawler 1986). Thus, in the revised formulation of bilateral deterrence theory (see top panel of Figure 3), each actor’s use of punitive tactics was now a function of both the actor’s own and the other’s power capability, but the intervening mediating processes were different.

Insert Figure 2 about here

In conflict spiral theory, the assumption of similar criteria for choosing punitive tactics meant that actors would anticipate that their opponents' absolute power. From the point of view of the actor, the more powerful an opponent, the more tempted that other would be to use his or her power capability—just as the actor's own power capability would underlie his or

her own temptation. Conflict spiral theory essentially translated an actor's perception of the opponent's temptation into an expectation of attack (Lawler 1986). The relationships, posited by the revised theoretical formulation, are depicted in the bottom panel of Figure 3. Once again, each actor's power use is now a function of both the actor's own and the other's absolute power.

By means of the strategy of "friendly competition," the addition of "expectation of attack" as an interpretive intervening variable had the effect of further sharpening the source of contradiction between classic views. From the revised formulation (Lawler 1986), bilateral deterrence theory predicts that higher power for both actors results in each having a higher fear of retaliation (due to the other's high power) and also lower expectations of attack (due to his or her own high power); these conditions, in turn, produce lower rates of inflicting damage (i.e., power use). In contrast, spiral theory predicts that higher total power in the relation will increase the temptation of each actor to use his or her power (due to the actor's own power) while also increasing their expectation of attack (due to the other's power).

In conclusion, the competition of the theories is made "friendlier" by the addition of the common mediating cognitive phenomenon (i.e., expectation of attack). At the same time, the differences are further explicated by the fact that expectations of attack are based on a party's own power in bilateral deterrence theory, and the other's power in conflict spiral theory. The puzzle or anomaly found in the classic arguments now was solved, because in each theory the power use of actors was a function of both their own and the other's power capability. Moreover, this conceptual improvement was accomplished without resorting to a zero-sum conception of power.

The *third phase* of development was stimulated by the importance of extending the theories to account for possible differences between equal and unequal power relationships. To

this point, the focus of the theoretical development had been on each other's absolute power and on the total power in the relationship. But if the predictions of each theory for equal power relationships (see Figure 3) are simply transposed to an unequal power relationship, we would conclude that both theories predict *no difference* in the rate of punitive tactics (*at the level of the dyad*) between equal and unequal power relationships. In the case of unequal power, the rate of power use by the lower-power actor would diminish while the higher-power actor's rate of use would increase proportionately. This implication is not consistent with Emerson's (1962, 1972) analysis of power-balancing tactics or Bacharach and Lawler's (1981a) discussion of the instability of unequal power relationships.

An abstract example, once again, may serve to illustrate the problem. Assume a situation where both *A* and *B* have the capability to reduce each other's outcomes by 50 percent and one where *A* can reduce *B*'s outcomes by 60 percent and *B* can reduce *A*'s outcomes by 40 percent (note that total power is constant at 100). Bilateral deterrence theory would suggest that as *A*'s power increases to 60 and *B*'s decreases to 40, *A*'s fear of retaliation and expectation of attack would go down, whereas *B*'s fear of retaliation and expectation of attack would increase. If we assume that changes in the fear of retaliation and expectation of attack are proportional, any increase in *A*'s use of punitive tactics would be offset by a corresponding decrease in *B*'s use of punitive tactics. The same result is produced by applying conflict spiral theory to this example. Overall, such reasoning indicates that without additional assumptions, both theories would predict no difference between equal and unequal power at the dyad level as long as the total power in the relationship remains constant.

This problem was resolved by thinking more about how actors might interpret absolute power levels in the context of unequal power. Lawler (1986) stipulated that in an equal power

relationship, the actors would give equal subjective weight to the fear of retaliation and expectation of attack in the case of bilateral deterrence theory, or equal subjective weight to temptation and expectation of attack in the case of conflict spiral theory. A shift from power equality to power inequality ostensibly produces an unequal weighting of the intervening cognitions, reflecting a significant change in how actors interpret power in the relationship. The extension of the theories to the contrast of equal with unequal power situations, therefore, hinges on an assumption that higher- and lower- power actors stress different mediating cognitions.

Let us consider the higher- and lower-power actors from the standpoint of bilateral deterrence theory. The argument is that higher-power actors would exploit their power advantage, simply because there is little to prevent them from doing so, i.e., the lower-power actor cannot inflict retaliation costs comparable to those of the higher-power actor. The higher-power actor presumably places more emphasis on the fear of retaliation (which is now lower than under equal power) than on the expectation of attack (also lower but less relevant). Similarly, the lower- power actor is more likely to use power now than under equal power, but for different reasons—namely, higher expectations of attack. The lower-power actor ostensibly accords greater weight to the expectation of attack (now higher) than the retaliation costs. Consequently, the lower-power actor will use power more than would be implied by the power difference itself.

Bilateral deterrence theory makes sensible this rather counterintuitive claim about power use by lower-power actors in unequal power relations. In the face of a power disadvantage, a lower-power actor has essentially two choices: resist or submit to the demands of the higher-power actor. Given its scope conditions, bilateral deterrence theory suggests that resisting intimidation is generally the more likely choice for two reasons. The first is that the use of

punitive tactics by the lower-power actor demonstrates to the higher-power actor that attempts to exploit his or her power will not go unpunished. The second reason is that submission by the lower-power actor does not preclude the possibility (or likelihood) that the higher-power actor will continue to inflict costs in the form of minimal concessions or even punitive tactics. Thus, given that the lower-power actor has a “significant” amount of absolute power (a key scope condition), that actor is likely to adopt hostile tactics in the hope of minimizing losses in the long run. Implicitly, lower-power actors will be more concerned about averting a pattern of attack by the opponent than they are about immediate retaliation.

In conflict spiral theory, the assumption is that higher- and lower- power actors respond differently to temptation and expectation of attack. From the perspective of the lower-power actor, there is little to be gained by using power (and possibly much to lose); thus, temptation is likely to have more effect on the lower-power actor’s choice of tactics. In contrast, higher-power actors are likely to be aware that lower-power actors have little to gain by using their power, and thus do not expect them to initiate attacks. This suggests that higher-power actors expect the structural power difference itself to produce desired outcomes (given their low expectation of attack). In sum, from the conflict spiral perspective, each actor in unequal power relationships will use fewer punitive tactics than actors in equal power relationships, a prediction opposite to that of bilateral deterrence theory (see Lawler 1986).

With the completion of the third phase, we had resolved the primary issues involved in linking total and relative coercive power to the use of damaging tactics in bargaining. The *fourth phase* of theoretical development was designed to address two unanswered questions that raise some ancillary issues. The first was whether the predictions for punitive tactics could be generalized to concession tactics. The second was how to conditionalize each theory, taking

account of their similarities. Each of these questions resulted in a modest extension of bilateral deterrence and conflict spiral theories.

Generalization to Concession Tactics

Once the theories were developed, it became clear that they have implications for concession behavior in bargaining, if one simply assumes a negative correlation between the rate of hostile and conciliatory tactics in a conflict (see Michener and Cohen 1973; Rubin and Brown 1975; Bacharach and Lawler 1981a). Specifically, bilateral deterrence theory indicates that conciliatory tactics are most likely to occur when actors maintain high levels of punitive capability; also, compared to equal power relationships, unequal power relationships are likely to produce lower rates of conciliation (Lawler 1986). Conflict spiral theory, in contrast, suggests that a decrease in punitive capabilities will increase actors' use of conciliatory tactics and, compared to equal power relationships, unequal power relationships will produce more use of such tactics, probably reflecting the submission of the lower-power actor (Lawler 1986). Given this simple extension of each theory, the comparative rates of conciliatory and hostile tactics should vary with the relative and total power in the relationship. The main problem with this extension is that while conciliatory and hostile tactics are correlated, the correlation is far from perfect. Whether conciliatory and hostile tactics should be considered flip sides of the same coin remains an open question.

Conditionalization Principle

The contradictory predictions of the two theories raises the question of what conditions will elicit deterrence effects and which ones will produce conflict spiral effects. Since the most fundamental difference between the theories boils down to how power is interpreted by the actors, the starting point is to identify how structural conditions would have to change actors'

interpretive processes in order to produce bilateral deterrence vs. conflict spiral results. The initial conditionalization, offered by Lawler (1986), stresses the salience of the intervening cognitions (see Figure 3) and addresses only the equal power case where total power can vary.

In brief, the basic conditionalization principle is: Any condition that makes the relative salience of retaliation costs greater than the temptation will produce bilateral deterrence effects; whereas any condition that makes the relative salience of the temptation greater than the retaliation costs will produce conflict spiral effects. Stated somewhat differently, the more salient the retaliation potential embedded in the opponent's coercive capability, the stronger the bilateral deterrence effects; while the more salient the temptation associated with the actor's own power, the stronger the conflict spiral effects. Conditions that should produce shifts in relative salience include (a) the degree to which actors are more concerned with minimizing losses than maximizing gains (Tversky and Kahneman 1986; Bacharach and Lawler 1981a), and (b) the incentive attached to initiating an attack (Schelling 1960; Lawler, Ford, and Blegen 1988). While the conditionalization principle is a reasonable starting point (see Lawler 1986, for more discussion), the task of translating this general condition into more specific theoretical predictions is unfinished at this point.

The *fifth phase* of the punitive power branch was empirical research. We pitted bilateral deterrence and conflict spiral theories against one another, focusing on the predicted impact of punitive capabilities on the frequency of action that damages the opponent's resources (Lawler, Ford, and Blegen 1988). This research utilized a fairly standard two-party bargaining (laboratory) setting in which subjects exchanged offers on an issue across a series of bargaining rounds (e.g., Siegel and Fouraker 1960; Komorita and Barnes 1969; Chertkoff and Esser 1976).

In addition, subjects could levy punitive damage against their opponent during each round (e.g., Michener and Cohen 1973).

In the experiments, subjects represented the interests of a group in conflict with another group, giving the bargaining a minimal intergroup character. Instructions encouraged an individualist orientation, i.e., maximization of the payoffs for their own group without regard to the payoffs of the opposing group. Punitive capability was manipulated by varying the maximum amount of an opponent's resources that the subject could destroy, say, 10 percent vs. 90 percent (e.g., Lawler, Ford, and Blegen 1988). Punitive behavior was measured by the frequency (with a fixed magnitude) of punitive tactics summed across both actors, and conciliatory behavior was measured by the total amount of yielding in the dyad (summed across both actors) and also the likelihood of agreement.

The empirical evidence, thus far, supports the predictions of bilateral deterrence theory over those of conflict spiral theory. In two studies, the total punitive capability had a negative impact on the use of punitive tactics, with one study indicating that this effect occurred mainly in the later phases of the bargaining after subjects had experienced the negative consequences of power use (Lawler and Bacharach 1987; Lawler, Ford, and Blegen 1988). Furthermore, punitive tactics were used more frequently in unequal power relationships than in equal power relationships, and there were no differences between high- and low-power actors' rate of using punitive tactics (Lawler and Bacharach 1987; Lawler, Ford, and Blegen 1988). Similar (though weaker) support for bilateral deterrence occurs for conciliatory tactics. Actors in relationships with high total power made larger concessions overall than those in relationships with low total power, and they made larger concessions when in relationships with equal, compared to unequal,

power. Significant effects were not observed for the likelihood of agreement across two experiments (Lawler, Ford, and Blegen 1988).

Given the empirical evidence in support of bilateral deterrence theory, there are at least two unresolved issues in this branch of our theoretical research program. The first stems from a plausible interpretation of the failure of conflict spiral theory—namely, that the salience of temptation associated with the actor's own absolute power is generally lower than the salience of retaliation potential attached to the other's absolute power capability. Given many real-world examples of conflict spiral, there must be some particular conditions which evoke conflict spiral processes, and these conditions need to be identified. The second unresolved issue stems from support for the bilateral deterrence prediction that lower-power parties will resist efforts at intimidation and essentially use power as much as the higher-power actor. An effort is needed to understand further the conditions under which unequal power relationships will produce resistance rather than compliance by the lower-power party. This requires that at least one more conditionalization principle be added to the theory.

In conclusion, two forms of theory growth actually come together in the punitive power branch. Each theory—bilateral deterrence and conflict spiral—is developed in part as a “theoretical elaboration” of earlier ideas about threats and damage in conflict; at the same time, each theory constitutes a variant of the other, addressing the same research problems with the same concepts but with different predictions (see Wagner and Berger 1985, for a similar conclusion about this program). We have specified more precisely the type of “theoretical variation” found in the program (i.e., friendly competition) and also shown the importance of certain metatheoretical elements (i.e., the metatheoretical core) to theory growth.

A Theoretical Convergence

Each branch of our theoretical research program—power dependence and punitive power—developed somewhat independently. However, a similar set of orienting assumptions and an identical metatheoretical core provided a series of unifying themes tying the branches together. Recently, a convergence of the branches has been formulated (see Lawler 1992). The theoretical convergence is organized around the metatheoretical core; in fact, it is probably the case that an explicit metatheoretical core was necessary to foster a convergence at this point in the program.

The theoretical convergence is captured by two core propositions that have emerged from the theoretical and empirical work. Based on the metatheoretical core, one proposition deals with total power and the other with relative power or power differences, as follows:

Total Power Proposition. Given equal power between two parties in bargaining, higher levels of total power in the relationship will decrease hostility and increase conciliation.

Relative Power Proposition. Given that each party has a “significant” amount of absolute power, a relationship with unequal power will produce more hostility and less conciliation than a relationship with equal power.

The propositions apply to both dependence and punitive forms of power and incorporate both types of power use tactics (hostile and conciliatory). These are core propositions in the sense that they express the most central and basic ideas of the theoretical research program. The core propositions also can integrate ideas from the larger power dependence and deterrence literatures. Next, we discuss how the convergence pulls together implications of diverse literatures and, thereby, poses new issues.

The Total Power Proposition is consistent with Richard Emerson's power dependence theory and also selected theorizing on deterrence in international contexts (Emerson 1972; Morgan 1977; Blalock 1989; Lawler 1992). In Emerson's terms, total power constitutes the level of mutual dependence or "relational cohesion" in the relationship. Higher total power in a relation essentially produces an increase in the opportunity costs associated with leaving the relation (Lawler and Bacharach 1987; Lawler 1992). With higher total power, parties have a larger stake in the bargaining and, more specifically, in bringing it to a reasonable conclusion. One obvious implication from the power dependence branch of our program is that bargaining in relationships with higher, rather than lower, total power generally should be more cooperative and produce more mutually satisfactory agreements. While counterexamples to this general pattern might be identified, this is the basic idea implied by power dependence theory (Emerson 1972).

The punitive power branch extends the Total Power Proposition to coercive or punitive capabilities. Indirect support for this extension can be found in one part of the deterrence literature on international relations, in particular, research dealing with war or warlike action in bilateral and multilateral power systems. From this literature, if two or more parties develop and maintain high levels of coercive power (i.e., capability to damage each other), then each will not use that capability or use it less frequently, because they fear the costs of retaliation by another. This is termed a "general deterrence" process by Morgan (1977), and it receives some (though certainly not universal) support in research on international relations (e.g., Thompson 1986; Houweling and Siccama 1988). Interestingly, from both the power dependence and bilateral deterrence formulations, the primary reason higher total power in a relation produces less use of

that power is the cost associated with power use, i.e., opportunity costs for power dependence and retaliation costs for bilateral deterrence.

In the case of the comparison of equal and unequal power, the core proposition subscribes to the view that relationships with unequal power tend to be less stable than ones with equal power. A major reason, particularly important in explicit bargaining, is dissensus over the legitimacy of the power differences or, specifically, whether and how such differences should affect the negotiated solution. With an unequal power relationship, the disadvantaged party may resist agreements that reflect his or her power differences, and the advantaged party may firmly advocate exactly those agreements that provide a payoff advantage proportional to his or her power advantage (Bacharach and Lawler 1981a: Chapter 6; Lawler 1992).

Certain aspects of explicit bargaining should accentuate the tension generated by unequal power. The mutual consent typical of explicit bargaining should give the lower-power actor a rationale for pushing for agreements that are more equal than the power in the relationship; the structural, intergroup nature of the bargaining context should increase the constituent pressure toward unequal agreements in the case of the higher-power actor. As Lawler (1992) recently argued, if power capabilities are unequal and parties agree to engage in explicit bargaining, then the legitimacy of the power difference is likely to be contested. This should complicate the issues or agenda faced by the actors and, thus, reduce the prospects for conflict resolution.

Emerson's analysis of power balance (i.e., power equality) complements the analysis of unequal power in Lawler's (1986) theory of bilateral deterrence. Emerson's (1962, 1972) formulation suggests that balance occurs over time through one or both of the following processes: (1) continual power use by the higher-power actor reduces the dependence of the lower-power actor, and/or (2) power change tactics by the lower-power actor increase the

dependence of the higher-power party or decrease his or her own dependence. Implicitly, it is *power use* tactics by the higher-power actor and *power change* tactics by the lower-power actor that underlie the movement toward power equality over time.

While Emerson's principles of power balance provide an explanation for the instability or change of unequal power relations across a series of negotiations, Lawler's (1986) bilateral deterrence theory accounts for instability in the short term or within a particular bargaining episode. This instability is reflected in the tendency of both actors in an unequal power relationship to use power, but for somewhat different reasons. As indicated earlier, the higher-power actor will respond more to his or her lower fear of retaliation, and the lower-power actor will respond more to his or her greater expectation of attack by the other. Overall, and in combination, power dependence and bilateral deterrence theories might account for power use tactics (i.e., ones that assume a given power relation) and also power change tactics (i.e., ones that attempt to change the power relationship). Bilateral deterrence theory seems to capture a basic process embedded in power dependence relations, and power dependence captures the importance of the larger power struggle within which bilateral deterrence processes affect particular negotiations.

The theoretical convergence brings to the forefront some new theoretical issues. First, since the distinct effects of relative and total power have been pulled apart and isolated, more work is now needed on the joint effects. Clearly, these facets of power capability have some sort of joint or interactive effect on power use. Second, given the empirical support for bilateral deterrence and the parallels between bilateral deterrence and power dependence processes, how might each theory contribute to the other? Bilateral deterrence could capture the logic underlying the relational cohesion effects suggested by Emerson, and the power dependence relation may

determine whether bilateral deterrence effects occur (e.g., Bacharach and Lawler 1981a; Molm 1989; Lawler, Ford, and Blegen 1988). As will be evident in the next section, work on the first issue is further along than work on the second issue.

Incipient Theoretical Directions

The theoretical convergence and related nonzero-sum conception of power are the basis for several emerging theoretical efforts. In accord with Figure 1, we treat these as incipient extensions or elaborations of prior branches, one on power change tactics and one on power use tactics. The power change variant is an elaboration of the power dependence branch, and the power use variant is an elaboration of the punitive power branch. In each case, there is at least one new theoretical question underlying the extension and each (if successful) would produce simultaneously two forms of theoretical growth in Wagner and Berger's (1985) terms, i.e., elaboration within each branch and proliferations from the theoretical convergence. An elaboration adds scope precision or rigor while proliferants involve distinct explanatory domains.

Power Change

The power change proliferant is an effort to develop notions about power struggle implicit in Emerson's (1962, 1972) formulation. The primary purpose is to take the concept of total power and address the following question: When will tactics of power change, designed to gain individual advantage, produce structural changes in the power relationship? Contingent on the nature of these changes, the prospects of conflict resolution should become better or worse in future episodes of bargaining.

The initial proposition is as follows:

Power-Struggle Proposition. If parties have an ongoing relationship, in which conflict and bargaining occur regularly, they will strive to improve their power position by either increasing their own absolute power or decreasing the other's absolute power (Lawler 1992).

Such efforts by actors to improve their power positions are termed a "power struggle."

Given this proposition, any continuing relationship in which conflict and bargaining occur is likely to be somewhat unstable over time, regardless of whether it is balanced or imbalanced in Emerson's (1962, 1972) terms. Structural balance will not eliminate each actor's incentive to seek an advantageous power position, and, therefore, Emerson's condition of power balance is vulnerable to the same sort of problem found with mutual cooperation in an iterative prisoner's dilemma game (Blalock 1989; Lawler 1992).

The key to understanding the effects of power struggle on the prospects of conflict resolution is the concept of "total power." This is the nonzero-sum aspect of power dependence, and either actor can improve his or her power position in the long run by (1) decreasing his or her own dependence or (2) increasing the opponent's dependence (Bacharach and Lawler 1980; Lawler and Bacharach 1986; Lawler 1992). These are two major classes of power change tactics, and each constitutes a tactic for gaining individual advantage. However, if we assume that both actors in a two-party conflict want to improve their power position and both have these same options, the joint effects of their tactics are of particular importance. If both actors successfully decrease their own dependence by developing alternative outcome sources, then the total power in the relation (i.e., mutual dependence) will decline and the conflicting issues should be more difficult to resolve as they emerge over time. In contrast, if each party successfully increases the

other's dependence on him or her, then total power in the relation will increase and, correspondingly, so will the structural pressures toward conflict resolution when bargaining occurs. Thus, a key concept of our theoretical approach, derived from the metatheoretical core, has important implications for the new question about power struggle. If actors in an ongoing relationship repeatedly and effectively use the same class of power change tactics, then their individual efforts to gain advantage will change the structure of the power relationship. Depending on the nature of these changes, the result will be an integrative or disintegrative impact on the relationship (see Bacharach and Lawler 1980; Lawler and Bacharach 1986; Lawler 1992).

The impact of power struggle on changes in structural power raises a larger question about the integrative or cohesive effects of power dependence relations (Lawler and Yoon 1990). Recall that Emerson (1972) put forth, without much development, the notion that greater mutual dependence (or total power, in our terms) increases the relational cohesion within a dyad. In a recent theoretical analysis, Lawler and Yoon (1990) offered a modification of Emerson's notion, treating it as a joint function of both a larger total and lower difference of power within the relation. One key idea is that *if total power in a relation increases and also the power difference decreases, then greater commitment will develop in that relation*. Greater commitment implies easier negotiations and more satisfactory agreements (Lawler and Yoon 1990). This revised concept of relational cohesion could expand the analysis of power struggle to take account of how power change tactics simultaneously affect both the total power and power difference in the relation.

Power Use

The power use proliferant is an effort to work further on the conditionalization of conflict spiral theory and also the bilateral deterrence analysis of unequal power. Despite the fact that research has supported the predictions of bilateral deterrence theory over conflict spiral, it would be premature to reject conflict spiral theory at this time. In fact, to reject it would be inconsistent with the idea of friendly competition. Friendly competition capitalizes on a common metatheory by pitting against each other contradictory predictions from theories with virtually identical assumptions. “Competition” in this sense leads not to “critical tests” with a primary object of rejecting one of the theories, but rather to comparative tests designed to ferret out a set of conditions under which the theories hold. Conditionalization is one important way for friendly competition to stimulate theoretical growth (e.g., Cohen 1980).

Our efforts to conditionalize the theories, at this point, focus on the incentives associated with the initiation of an attack. Based on the salience assumption discussed earlier, the main proposition is as follows:

Incentive-Mediation Proposition. If power use (i.e., initiating damage) provides a direct, unmediated benefit to the user, then greater total power in the relationship will increase power use (i.e., a conflict spiral effect); whereas if the benefit to be derived from power use is mediated by the response of the other, then greater total power in the relationship will decrease power use (i.e., a bilateral deterrence effect).

Tactics that redistribute outcomes, such as taxes, tariffs, and fees, exemplify actions that not only damage the outcomes of another, but provide a direct benefit to the party using the tactic. Outcome reduction tactics, such as strikes, work slowdowns, and war, exemplify tactics

that may provide indirect benefits, mediated by the response of the opponent. The rationale is that an incentive involving a direct, unmediated benefit will enhance temptation to use power.

Turning to the other conditionalization issue (i.e., the impact of unequal power in bilateral deterrence theory), we raise the question: Under what conditions will a lower-power actor in a conflict use power to resist the higher-power party? The prediction of bilateral deterrence indicating that lower-power actors will use power as much as higher-power actors is quite provocative, because it contradicts the conventional wisdom expressed by substantial social psychological and political science work (see Rubin and Brown 1975; Morgan 1977; and Blalock 1989). Our hunch is that the magnitude of the lower-power actor's absolute power is critical to the effect of bilateral deterrence. The conventional notion that the lower-power actor complies or submits often has been investigated with rather low levels of power available to the lower-power actor.

In conclusion, the agenda embedded in the incipient theoretical directions identifies two elaborations of the power dependence branch— power struggle and relational cohesion—and two elaborations of the punitive power branch. The agenda also suggests that our work is far from complete. It should be clear that the metatheoretical core and strategy of “friendly competition” will continue to have an important role as we more explicitly analyze power change tactics and explore further the relationships between bilateral deterrence, conflict spiral, and power dependence theories.

Conclusion

The theoretical research program described here is an effort to understand and explain the impact of a structurally based power capability on the use of that power in two-party bargaining. The program brings together diverse strands of thought on this relationship. At the outset, we

identified two themes to be developed. The first was the importance of metatheory to theoretical growth. We argue that a metatheory shapes theoretical content in subtle ways and contributes to theoretical growth by orienting theoretical efforts and resolving key conceptual issues. The second was to show how “friendly competition” among theories with a common metatheoretical foundation can stimulate more precise theorizing and raise important issues of conditionalization.

Role of Metatheory

In developing our general argument about the role of metatheory, we distinguished “orienting assumptions” from the “metatheoretical core” and showed how the explication of the metatheoretical core of a program can bring it unity, focus, and clear direction. Orienting assumptions cut a wide pathway across a theoretical landscape, whereas conceptual twists of the metatheoretical core settle on a particular route within the pathway. The distinction between orienting assumptions and a metatheoretical core is a heuristic one. The general message for theoretical research programs is that by identifying and making explicit those ideas that link theories to their metatheoretical parentage, we can clarify concepts, raise new questions, and bridge the disparate branches in a program. In our particular program, the metatheoretical core accomplished these purposes and also laid the groundwork for a theoretical convergence, now serving as a reference point for new theoretical efforts.

This example of a theoretical research program leaves two kinds of questions about the role of metatheory incompletely resolved. The first stems from the fact that the nonzero-sum conception in the metatheoretical core developed partially from rather subtle implications of research findings in the power dependence branch. These implications easily could have been missed. The question is: Under what conditions will feedback from empirical work to the underlying metatheory stimulate theoretical growth, as it did in this particular case? Is it helpful

to examine findings produced by a theory-driven research program periodically from the broader metatheoretical standpoint? Aside from making tacit assumptions clear, this sort of theoretical activity could produce new insights or problems for systematic theoretical analysis.

A second question concerns the role of a “metatheoretical core” in theoretical research programs. In the program we studied, it was obviously critical, but is this necessarily applicable to all programs? Are there properties of our program that made this part of a metatheory particularly important? While we would argue that every theoretical research program has a metatheoretical core and would benefit from its explication, we wouldn’t necessarily suggest it will produce the same level of benefit as it did for this program. For instance, it is possible that explication of the metatheoretical core is most helpful to programs attempting to integrate ideas from a wide variety of sources. For such programs, the metatheoretical core may introduce the focus necessary to permit more precise theorizing. Our program certainly had an explicit integrative purpose at the outset, and one can argue that it was insufficiently focused until we developed the metatheoretical core more explicitly.

Friendly Competition

Our other major theme was to illustrate how “friendly competition,” as a strategy of theoretical development, stimulated the punitive power branch of the theoretical research program. In brief, friendly competition is a form of “theoretical variation” (Wagner and Berger 1985) in which the difference between two theories is substantial, because they make directly opposite predictions about some central part of a social process. Each theory has a common metatheory (i.e., the same orienting assumptions and metatheoretical core); each has the same concepts with identical definitions; and the theoretical structures are virtually identical. The difference lies in the predicted relationship between a key independent variable and the primary

dependent variable; and this difference is traceable to some part of the explanation for that relationship. That is, differences in explanation lead to a divergent prediction about the relationship of key independent and dependent variables.

In terms of our program, several points are worth emphasizing. First, without a common metatheoretical core, it is unlikely that the precise contrast of bilateral deterrence and conflict spiral theories could have been accomplished. The contrasting implications of different lines of social psychological work (Deutsch and Krauss vs. Tedeschi) had gone unnoticed, and it was the metatheoretical core that suggested the relevant questions and the most important independent and dependent variables. Thus, we infer that friendly competition can occur primarily when there is a common metatheoretical core. Second, each theory—bilateral deterrence and conflict spiral—seems most useful in juxtaposition to the other. The contradiction, alone, sharpens and makes the theories more precise, thereby facilitating the “elaboration” of each theory. The implication is that if theoretical research programs self-consciously develop contrasting accounts or explanations for those specified in the program, each theoretical account may benefit from the contrast. In friendly competition, neither theory is treated as a “straw man,” because elaboration efforts are meant to produce parallel development. Parallel development should engender further theoretical growth in the form of conditionalization or convergence.

In comparison to Wagner and Berger’s (1985) notion of theoretical variation, the strategy of “friendly competition” emphasizes a bit more the importance of a common metatheoretical foundation, in particular an identical metatheoretical core, and explicit efforts at parallel development. In addition, the difference between the theories in question becomes more significant, given that an opposite prediction is made on a central theoretical question. Yet our analysis is intended not to suggest a new category of theory growth, but only to specify an

important subcategory within Wagner and Berger's (1985) concept of theoretical variation.

Friendly competition should be distinguished from other forms of "variation" on the basis of (1) how central the contradictory prediction is to both theories, (2) the existence of an identical metatheoretical core, and (3) parallel development of two theories.

To conclude, we have analyzed one program in which we have a substantial investment. Our investment could, of course, color our analysis; and the fact that we have only a single case could limit the applicability of what we have learned to other programs. However, we offer both examples of growth that can be compared with examples from other programs, and we suggest some conceptual ideas for interpreting our program that should help to interpret the growth found in some other programs as well. Using the Wagner and Berger (1985) approach, we demonstrate the role of metatheory in theory growth and the importance of friendly competition as a form of theoretical variation.

Figure 1. Diagram of program.

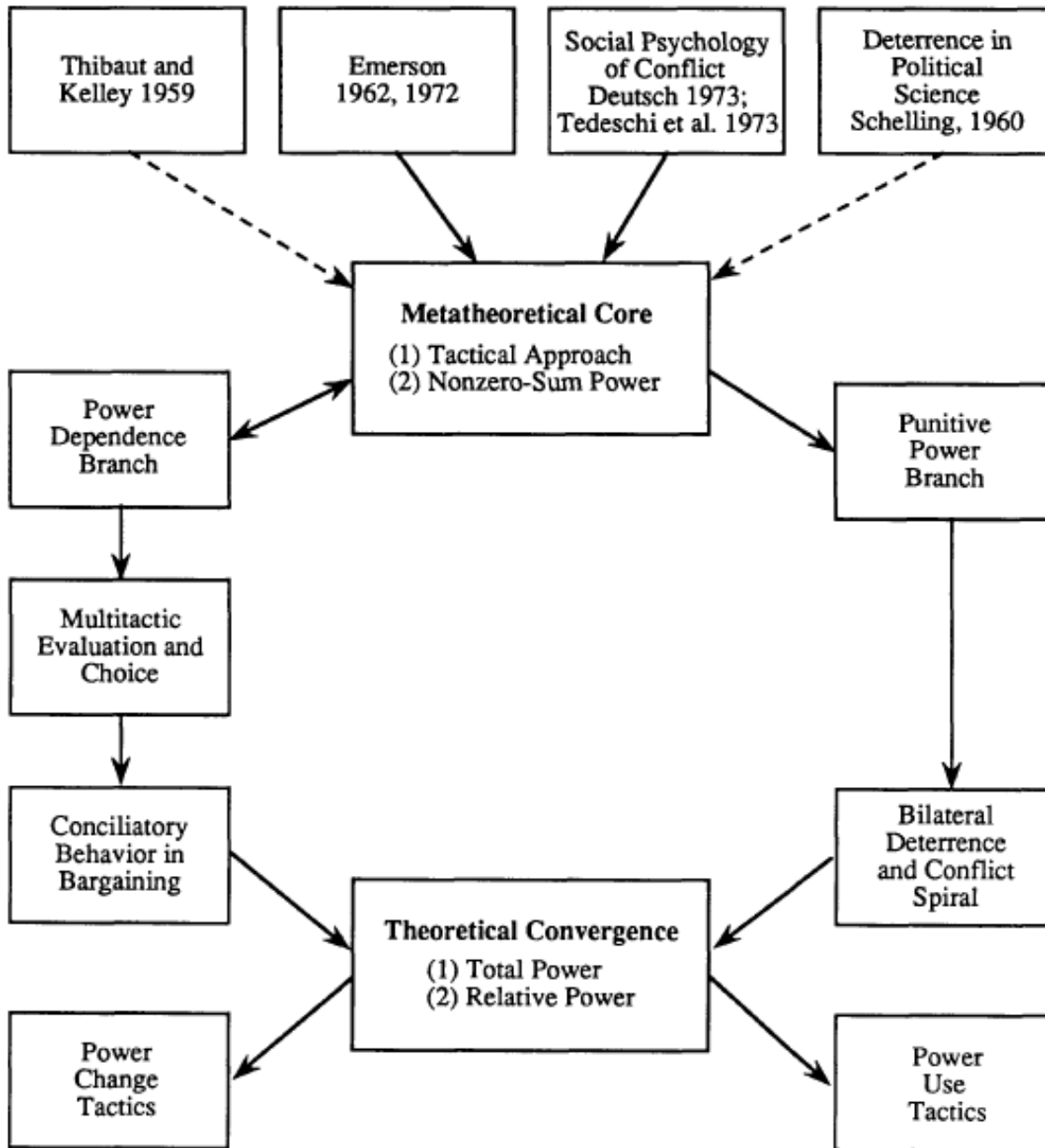


Figure 2. Classic views.

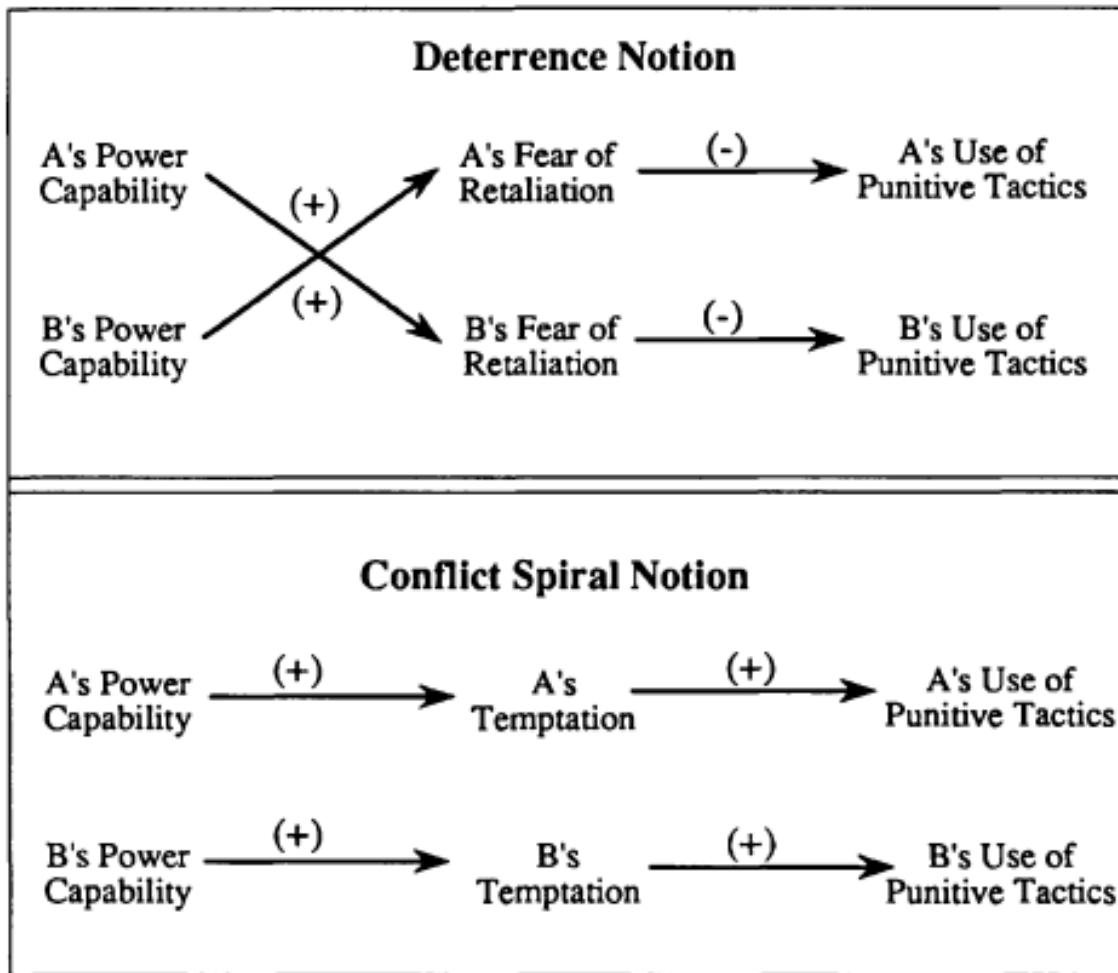


Figure 3. Reformulation of classic views.

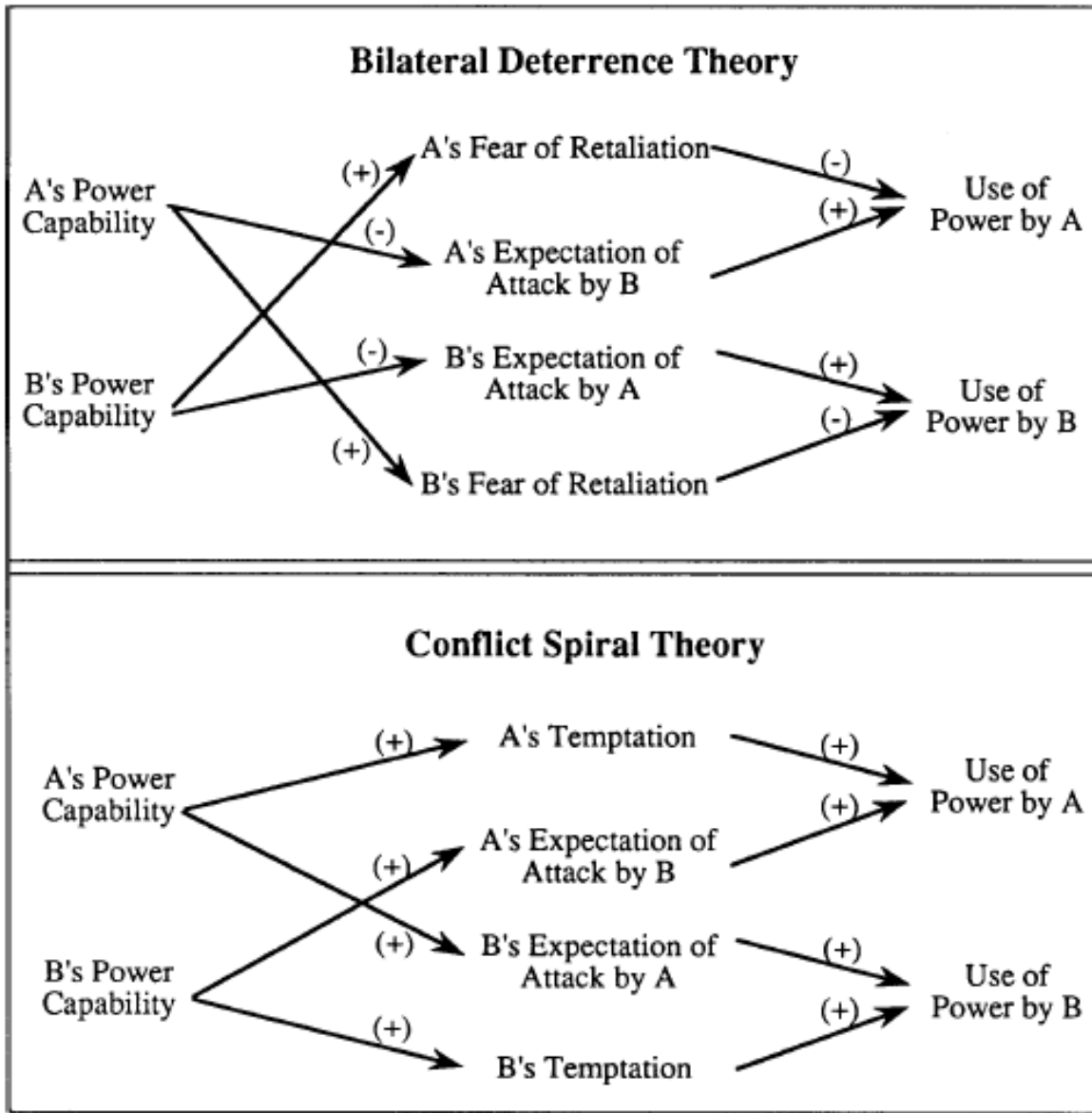


Figure Captions

Figure 1. Diagram of program.

Figure 2. Classic views.

Figure 3. Reformulation of classic views.