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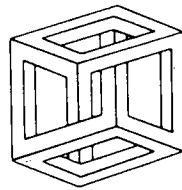
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Analyzing Linked Systems of Negotiations

Michael Watkins and Samuel Passow

This article presents a conceptual framework for analyzing the structure and dynamics of what the authors call linked systems of negotiations. Even such seemingly straightforward transactions as the purchase of a family car tend to involve linked negotiations. The framework highlights the importance of internegotiation processes in shaping Zones of Possible Agreement, and proposes a typology of linkage. By mapping out and "reengineering" linked systems, negotiators can enhance their ability to shape the structure within which their negotiations take place.

Negotiations have traditionally been analyzed as self-contained, strategic interactions among two or more parties. This analytical focus has produced important prescriptive insights in the area of intranegotiation dynamics (Fisher, Ury and Patton 1991; Raiffa 1982; Lax and Sebenius 1986). But we believe it also has obscured the central role that interactions among sets of negotiations play in shaping overall outcomes.

The idea that negotiations can be analyzed in terms of the presence or absence of a Zone of Possible Agreement (ZOPA) is a core contribution of the negotiation analysis literature. But for any given negotiation, where does the ZOPA come from? How are alternatives to agreement defined? How are interests and the potential for trades shaped? How are the attitudes of the negotiators toward each other formed?

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External factors like market forces and internal ones like differences in negotiators' preferences play well-recognized roles in defining ZOPAs for negotiations. We believe, however, that linkages among sets of negotiations also play a central role in shaping ZOPAs. Rather than being self-contained, most real-world negotiations are linked to other negotiations, and these linkages strongly influence negotiators' alternatives, preferences, and attitudes. While there have been some important prior contributions to our understanding of such complex negotiations,¹ there is as yet no unifying analytical framework for internegotiation analysis. We, therefore, need to develop such a framework to complement the existing analytic approach to negotiation.

To illustrate the need for a broader framework, consider the classic negotiation example of someone purchasing a car from an automobile dealer. This is conventionally analyzed as a simple two-party interaction. The issues seem straightforward — price and options — and the parties' alternatives to agreement appear to be established largely by market prices and production costs. When defined in this way, the negotiation between buyer and seller truly is self-contained, and attention is rightly given to intranegotiation dynamics.

But real-world efforts to buy and sell a car are rarely so straightforward for at least three reasons. First, the alternatives of the purchaser and the salesperson are likely to be shaped by negotiations with other parties. The purchaser may negotiate with multiple dealers, for example, attempting to draw upon the power of competition to improve her bargaining position. Specific offers from one dealer may change the ZOPA for negotiations with another dealer. If the purchaser must borrow money to finance the transaction, then negotiations with a lender may result in limits on maximum purchase price. In addition, there may be internal negotiations within the purchaser's family over the amount of money to be spent on a car as well as the type and color of vehicle to be purchased. These internal negotiations may have as great an influence on the overall outcome as the external negotiation between the purchaser and the salesperson. (Such internal-external negotiations are also known as "two-level games." See Putnam 1988.)

Second, not all of the issues in the negotiation between the purchaser and the salesperson are necessarily fixed beforehand. While the purchase price is always an issue, other issues may emerge organically. In negotiating with the automobile dealer, the purchaser may seek to link price to extended warranty coverage, financing arrangements, or additional options. The salesperson may attempt to resist such linkages by citing concerns about setting undesirable precedents for future sales, or may acquiesce to clear his lot of an outdated model. Once an issue has become salient in negotiations between the purchaser and one dealer, it may "migrate" to influence negotiations with other dealers.

Finally, the attitudes of the purchaser and the salesperson may be shaped by their respective reputations, a history of previous interactions, or the expectation of future negotiations. The dealer may, for example, have

been recommended to the purchaser by a friend. In addition, the dealer may aware that purchaser can decide whether or not to come back for servicing, and that she inevitably will talk about her experience with friends.

The overall negotiation process therefore evolves over time through some "path" of interactions (Sebenius 1996) in what we will call a linked system of negotiations. As the purchaser looks at more cars, talks with more dealers and lenders, and consults with her family, new information may transform alternatives, create new opportunities for trades, and change the negotiators' attitudes.

We believe that linkage among negotiations is the norm, not the exception. In fact, it is a challenge to find real-world negotiations in which outcomes can be explained solely in terms of intranegotiation dynamics. We therefore need a conceptual framework for analyzing linked systems.

Linked-system analysis has prescriptive as well as descriptive potential. Negotiators who map out and "reengineer" linked systems can enhance their ability to shape the basic structure within which negotiations take place by: (1) transforming alternatives to agreements; (2) enhancing or diminishing opportunities for creating joint value through trades; and (3) changing the attitudes of their counterparts. Negotiators also can take steps to counter the efforts of others to advance their interests through linkage.

Defining Linked Systems

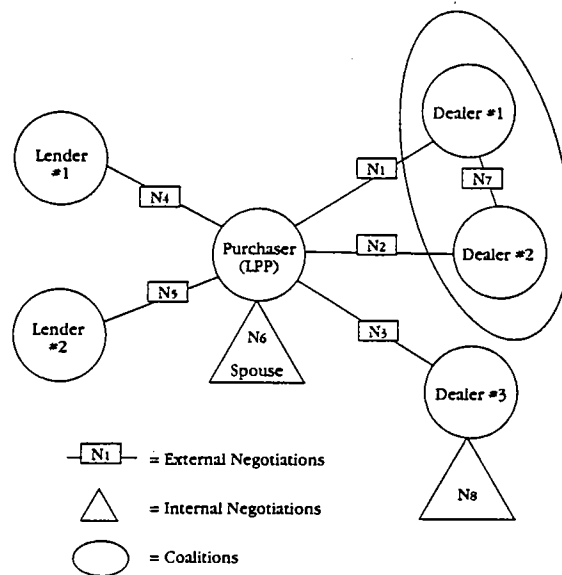
We begin by defining a linked system to be a set of negotiations $\{N_1, N_2, N_3, \dots, N_m\}$ where:

- each negotiation in the system is linked to at least one other negotiation;
- two negotiations are linked when the behavior of at least one negotiator in one of the negotiations is materially influenced by the simple existence of the other negotiation, or by events or outcomes in other negotiations; and
- linkages between negotiations are either enacted by the negotiators within the system or imposed on them by forces external to the system such as laws, customs, organizational procedures, preexisting relationships and resource constraints

A linkage map for the automobile purchase example is shown in Figure 1. The buyer — who is a "link-pin party" (LPP) in this system² — negotiates with three competing salespeople in negotiations N_1 , N_2 and N_3 , with two competing financial lenders in negotiations N_4 and N_5 , and with her spouse (or other family members) in negotiation N_6 . In addition, Dealers #1 and #2 have negotiated to form a "collusive coalition" (N_7) to fix prices in their local area. Finally, the salesperson in Dealer #3 must negotiate with her manager (N_8) over commissions and delivery dates.

In this system, negotiations N_1 , N_2 and N_3 are linked through the dynamics of competition, and only one of the three negotiations will produce an agreement. Any tentative agreement by the purchaser with any of the deal-

Figure 1
A Linkage Map



ers must also be acceptable to the buyer's family in N₆. The purchase price must be within the boundaries established in negotiations with one of the financial lenders in N₄ or N₅. The purchase price also may be affected by the collusion between Dealers #1 and #2 in N₇, or by internal negotiations within Dealer #3 in N₈.

It is useful to think of linked systems and their evolution through time in terms of analogies from the medical world. First, we propose to look at the *anatomy* of linked systems, examining structural relationships among sets of linked negotiations. We then will explore the *physiology* of linkage, exploring both the "path" of interactions among negotiators within existing linked systems and the mechanisms through which the linkages themselves get created, modified, and eliminated. Finally, we will offer some prescriptive advice on how to "reengineer" linked systems.

The Anatomy of Linkage

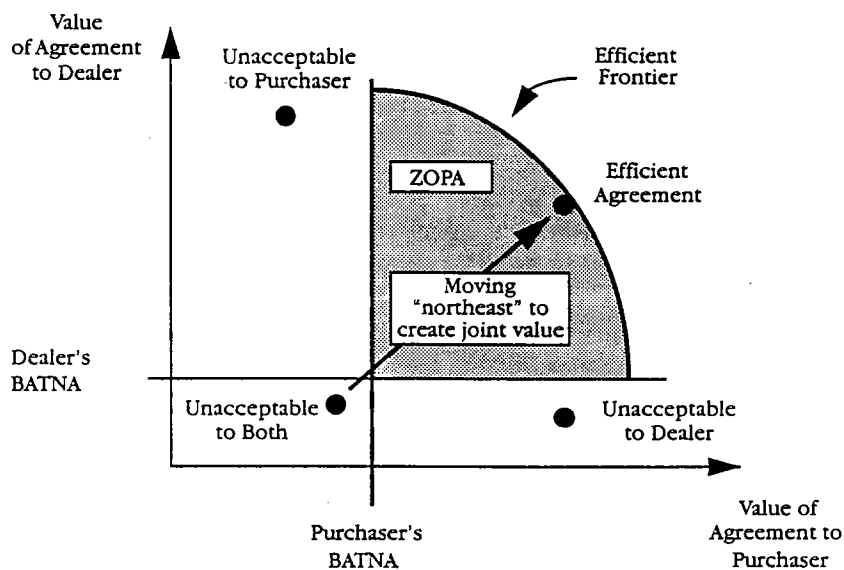
We have observed four types of structural linkage: competitive, reciprocal, synergistic and antagonistic.

- linkage is *competitive* if agreement in one negotiation precludes agreement in other linked negotiations
- linkage is *reciprocal* if agreement must be reached in all the linked negotiations for overall agreement to be possible
- linkage is *synergistic* if it enhances negotiators' opportunities to make mutually beneficial trades and reach agreement

- linkage is *antagonistic* if it diminishes negotiators' opportunities to make mutually beneficial trades and reach agreement

Prior to discussing these four types of linkage in more detail, we will first briefly review the definition of a Zone of Possible Agreement (ZOPA) for a self-contained negotiation.

Figure 2
Zone of Possible Agreement



The ZOPA for mixed-motive, multi-issue negotiations between two parties is illustrated in Figure 2. The axes define the total value of potential agreements to each of the parties, in this case to Dealer #1 and the purchaser. The total value of an agreement depends, in part, on the relative weights the negotiators assign to issues such as price, options, and delivery times. Differences in the negotiators' weights may open up opportunities for mutually beneficial trades. Their valuations also are shaped by the negotiators' attitudes toward risk and by the relationship with their counterparts (i.e., extent of trust, value assigned to a continuing relationship).

Each party also has a Best Alternative To a Negotiated Agreement (BATNA). Together the BATNAs define the minimum value that each side will accept from an agreement. Because parties may have complimentary preferences, trades may permit them to create joint value by finding agreements further to the "northeast."

Limits on the parties' ability to create joint value are defined by the efficient frontier. Agreements beyond the frontier are not feasible. Agreements inside the frontier are inefficient in the sense that feasible agreements still

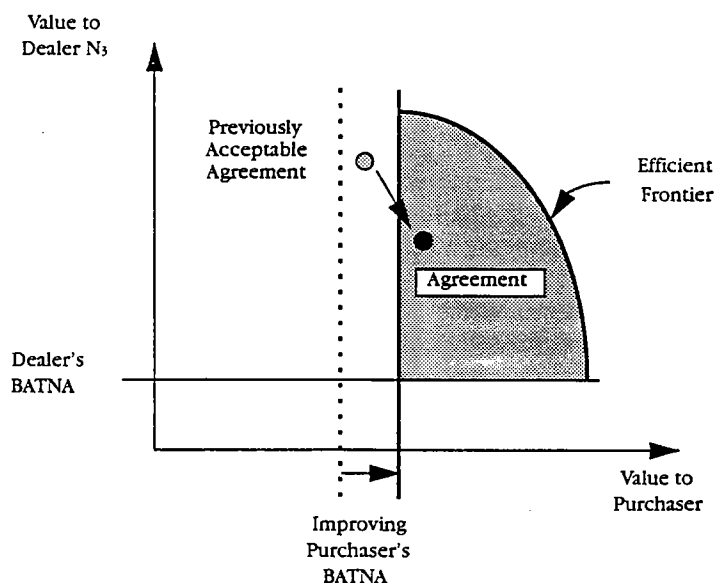
exist that could make both parties better off and leave potential joint value "on the bargaining table."

Competitive Linkage.³ One way that linkage between negotiations can affect their ZOPAs is by changing negotiators' perceptions of their BATNAs. In our car example, the purchaser decided to negotiate with multiple automobile dealers, N_1 , N_2 and N_3 . If the dealers are unable to collude to neutralize these linkages, then offers from one dealer may improve the purchasers' BATNA in negotiations with the other dealers.

The creation of competitive linkages can have a powerful influence on negotiators' perceptions of their BATNAs and hence on the link-pin party's bargaining power. The impact of competitive linkage on BATNAs is illustrated in Figure 3. If our car buyer is successful in negotiating an attractive price or the inclusion of more options with dealer N_1 , it makes the ZOPA in N_3 smaller, eliminating previously feasible agreements that were less favorable to her interests. This allows the purchaser to press the other dealers to make still more concessions. Negotiations are competitively linked when only one of several sets of negotiation involving a link-pin party can reach fruition.

Reciprocal Linkage. Two negotiations are reciprocally linked if the link-pin party must get agreement in both in order for either of them to succeed. The ZOPAs of reciprocally-linked negotiations are interdependent because parties in both are concerned about one or more of the same issues.

Figure 3
Impact of Changes in BATNAs



Suppose, for example that our purchaser is negotiating not only with car dealers, but also with lending agencies. Here the shared issue is price. If the purchaser cannot secure the required level of financing, she cannot buy the car. If she unable to find a car she can afford, she does not need the financing. Obviously, these negotiations are reciprocally linked. In addition, the internal negotiations between the purchaser and her spouse are reciprocally linked to the external negotiations between the purchaser and the dealers, since the purchaser's family has influence and possible veto power over such issues as price and options.

Reciprocal linkages can affect BATNAs in different ways. Agreement in one of the negotiations may give the link-pin party resources that worsen her counterpart's alternatives. For example, by getting a commitment of financing from a bank, the purchaser is no longer dependent on the dealers for financing and hence can explore possibilities for a cash deal or for purchasing a used car directly from its owner.

Alternatively, agreement in one negotiation could constrain the link-pin party's options in a reciprocally-linked negotiation, effectively shrinking the ZOPA. Suppose, for example, that the financing agency sets a limit on the amount the purchaser can borrow. This constraint could either prevent the purchaser from reaching overall agreement by eliminating the ZOPA in the negotiations with the dealer, or it could help the purchaser to negotiate a better deal because she can credibly say that she cannot afford to pay more — in effect, improving her BATNA.

The purchaser and her spouse also could enter into a binding commitment in their intra-family negotiations not to spend more than a specified amount. This is an example of using reciprocal linkage to create a self-imposed constraint with the intention of favorably shaping the ZOPA in the original negotiation.

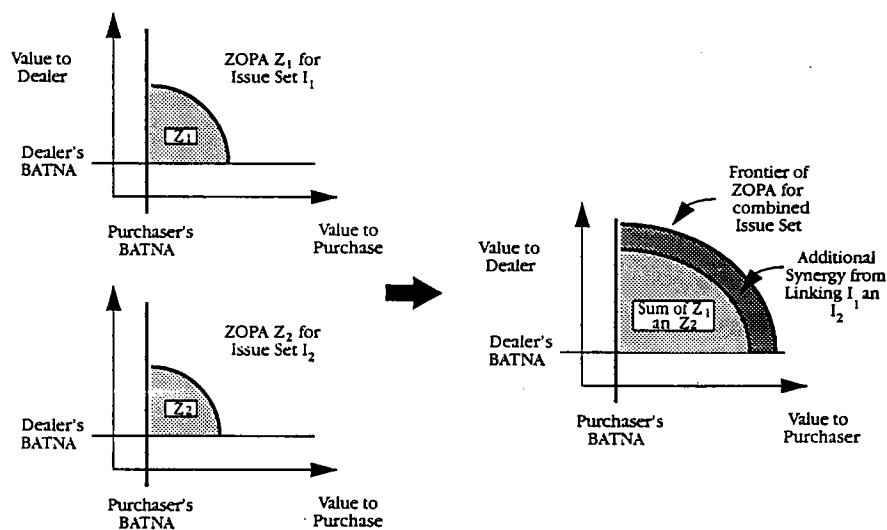
Synergistic and Antagonistic Linkage. In addition to affecting BATNAs, linkages among negotiations also can enhance or diminish opportunities for the parties to make mutually beneficial trades. When opportunities for trades are expanded, we call the linkage synergistic; conversely, antagonistic linkages diminish or eliminate ZOPAs.

Suppose, for example, that the purchaser wants to buy a car that is \$2,000 more than the most generous financing agency is willing to lend. The dealer could offer the purchaser the additional \$2,000 in financing, and agree to take a position subordinate to the lender in the event of default. In this situation, linkage creates the potential for joint gains that could not otherwise have been realized.

Synergistic linkage also can occur when two parties are undertaking parallel negotiations on separate sets of issues, called I_1 and I_2 in Figure 4. Each of these negotiations has its own ZOPA, labeled Z_1 and Z_2 . ZOPAs may be small or nonexistent if the negotiations are undertaken separately. But linkage may create new opportunities for trades among the issues, enlarging the composite ZOPA and creating additional joint value.

Suppose that the purchaser and one dealer are negotiating over two sets of issues — price and financing options for a new car and trade-in value for the purchaser's old car. These two negotiations could be conducted separately. In fact, the purchaser could buy a car from one dealer and sell her old car to another. Suppose, however, that the purchaser needs to get some minimum cash value from her trade-in to meet other obligations. The dealer may be willing to give the purchaser a very generous trade-in allowance for the used car in cash, in return for the purchaser accepting a lease arrangement that is more favorable to the dealer. Because the purchaser has a short-term need for cash and the dealer is more interested in net return on the sale, they are able to make a mutually beneficial trade by linking the issues.

Figure 4
Synergistic Linkage of Two Sets of Issues



Antagonistic linkages between negotiations diminish or eliminate ZOPAs. Negotiations between two parties, for example, may be poisoned by inclusion of an issue that not only cannot be settled, but that also makes settlement of other issues impossible. In such cases, the parties may be able to “de-link” or unbundle the issues, reaching agreement on the easier ones.

The parties may “agree to disagree” on the remaining harder issues. Alternatively, they could defer dealing with the more difficult issues in the hope that conditions may be more favorable later on. As the parties successfully implement earlier agreements, changes in their attitudes towards one another may allow them to tackle the more difficult issues.

Antagonistic dynamics also may arise in reciprocally-linked negotiations. Suppose for example, that our automobile purchaser is so constrained by the price limits that are imposed by the financing agency and the requirements for size, color, and options demanded by her spouse that no ZOPAs exists in her negotiations with the dealers. In this case, the purchaser must work to relax one or more of these constraints, either by finding more funding or getting her spouse to be more realistic in his expectations.

Also note that parties sometimes create antagonistic linkages with the express intent of blocking or constraining overall agreement. By adding poisoned issues to the agenda, those opposed to some initiative sometimes can be successful in blocking it.

The Physiology of Linkage

Now that we have begun to characterize the anatomy of linked systems, we can turn to an examination of their physiology. Here we concentrate on characterizing the dynamics of the "paths" through which linked systems evolve, and how different paths affect the ZOPAs of the linked negotiations.

Exploration of the physiology of linked systems involves two distinct levels of analysis. At one level, we must be able to analyze the evolution of interactions in negotiations that already have been linked together. The key issue at this level of analysis is whether linkages are serial or interactive. Two negotiations are *serially linked* if events in one negotiation influences the behavior in another negotiation, but not the reverse. Two negotiations are *interactively linked* if influence flows in both directions or if events in the linked negotiations interact.

At the second level, we must be able to explore how linkages between negotiations get created, modified, and eliminated. Here we are concerned about the sequencing of efforts to change the structure of the linked system. but we are also concerned about whether changes are imposed unilaterally or result from some consensual process. Changes in the structure of a linked system are *unilateral* if they are imposed on others in the system by one party or a coalition of parties. Changes in a linked system's structure are *consensual* if they result from some "meta-negotiation" process in which the affected parties negotiate and agree to create, modify, or eliminate linkages.

Serial and Interactive Linkage. The path through which pre-existing linked systems evolve can be characterized by a sequence of "moves" in which:

- one or more of the parties in one of the negotiations takes some action;
- information about changed circumstances flows to the parties in the other negotiations; and
- one or more parties in the other negotiations respond.

In serially-linked negotiations causality flows in one direction. Moves in one negotiation affect another, but this is not the case in reverse. Returning

to our car purchaser, she has first negotiated with her spouse and reached a binding agreement on a budget. She then went to a lender and secured preapproval for exactly that amount. Following that, she went to a dealer and negotiated for a particular model with a list price slightly above her limit. Eventually, she purchased the car for slightly less than her budget.

Assuming that the purchaser did not reopen negotiations with her spouse and the lender at any point, this is a typical example of serial linkage. The purchaser was the link-pin party who progressively negotiated with a series of other parties. In the process, she acquired important resources (e.g., financing, authority to make a purchase) and made certain irreversible commitments that placed constraints on her scope of action in subsequent negotiations.

When link-pin parties engage in a series of negotiations with others, reputations and concerns about precedents also may shape the overall process. Our purchaser might have decided to go to a particular salesperson, for example, because a friend was treated well by him in a previous negotiation. The same salesperson may be concerned about giving our purchaser too good of a deal because it would set an undesirable precedent for future sales.

In cases where the same parties engage in a series of negotiations over time, outcomes in earlier negotiations may alter attitudes in subsequent negotiations. As noted earlier, the negotiators may decide to limit initial negotiations to some "easier" subset of issues in the hope that increasing trust enlarges the ZOPA on the more difficult issues. Likewise, bad experience may taint subsequent efforts.

The prospect of future interactions also sets up an important dynamic in serial negotiations involving the same parties. If the negotiators believe that they are likely to interact in the future, then they are more likely to be interested in building a productive working relationship. This factor may temper their aspirations in the current negotiations.

In interactively-linked negotiations, causality flows in both directions. Moves in one negotiation affect another and this feeds back to affect the first negotiation in a cyclical process. In negotiating with the three dealers, for example, our purchaser may succeed in getting one of them to offer her a discount on the sticker price of the car — effectively improving her BATNA. She then might use that offer to pressure the other dealers to make still greater concessions. Over a period of time, our buyer can then cycle between the various dealers, progressively extracting value.

It is important to recognize that the link-pin party has significant control over the flow of information among those involved in the interactively-linked negotiations. If this control of information is complete, then it is possible for the buyer to bluff the car dealers to extract concessions. Note, however, that the link-pin party is vulnerable if the other negotiators can share information and collude to extract value from her. In effect, the dealers could "short-circuit" our purchaser's attempt to use competitive linkage.

Unilateral and Consensual Linkage. Linkages may be imposed on negotiators by such forces external to the linked system as organizational procedures, laws, or customs. Often, however, linkages tend to evolve as a result of some sequence of moves by the negotiators inside the system as linkages get created, modified, and eliminated. Thus, in addition to making moves to advance their interests within the existing structure of the linked systems, parties seek to advance their interests by making moves to change the structure of the linked system.

Negotiators may be able to make *unilateral moves* to change the structure of the linked system. In our automobile example, the buyer created competitive linkages by entering into negotiations with multiple dealers. Short of refusing the purchaser's business outright, the dealers could not prevent these linkages from influencing the negotiations. However, the dealers could have attempted to counter by unilaterally creating linkages of their own by, for example, colluding to fix prices in their local area.

Unilateral moves to change the structure of the linked system often involve creating linkages before other parties become aware of what is going on (see Lax and Sebenius 1991 and Sebenius 1996). By first going to her spouse and getting negotiating authority, then going to the lenders and securing preapproval for a loan, the purchaser was in a stronger position in her negotiations with the dealers. There was no way for the dealers to prevent these linkages from being established.

Linkages also may get created or modified through some *consensual process*. Suppose, as described previously, that the purchaser wants to buy a car that is \$2,000 more than the most generous financing agency is willing to lend. In this case, the purchaser can propose a linkage in which the dealer gives her the additional \$2,000 and agrees to take a position subordinate to the lender in case of default. But this synergistic linkage, which redefines the issue of risk sharing, must be acceptable to both the dealer and the lender. It must be created consensually, and cannot be unilaterally imposed by the purchaser.

Reengineering Linked Systems

Having developed some ideas about the structure and dynamics of linked systems, we now turn to prescriptive advice. To use linkage effectively, a negotiator must be able to analyze existing linked systems and then transform them in ways that advance her interests. Mapping of key linkages is an essential first step. While analysis of a complex system may be difficult, a negotiator may be able to map a "local" environment, identifying the key competitive, reciprocal, synergistic, and antagonistic linkages. The map of the linked system for the automobile purchase shown in Figure 1, for example, identifies key linkages from the point of view of the purchaser.

Once the linked system has been mapped out, the negotiator can begin to reengineer the system, seeking to neutralize disadvantageous linkages and

create advantageous new ones. At the same time, she can anticipate and block attempts by others to advance their interests through linkage, unless such attempts promise to result in joint gains.

To assess opportunities for advancing her interests, the negotiator should ask herself the following questions:

- Are there opportunities to create competitive linkages that advance my interests? Can I short-circuit others' competitive linkages through "collusion"?
- Will the creation of reciprocal linkages give me access to important resources and/or improve my bargaining position? Can I find ways to eliminate constraining reciprocal linkages? Can I block others' efforts to advance their interests at my expense by entangling them in reciprocally-linked negotiations with other interested parties?
- Are there opportunities for creating synergistic linkages that allow me to make mutually beneficial trades?
- Are there antagonistic linkages that are preventing agreement and can they be eliminated?

In designing sequences of moves to change the structure of the linked system, the negotiator should ask:

- What are promising serial and interactive sequences of moves that I can make within the existing system?
- What are desirable unilateral and consensual changes that I can make to the structure of the linked system, and in what order should I seek to make them? How can I develop the support necessary to change the structure of this linked system favorably?

The result of this analysis should be an overall *sequencing plan*, combining moves within the existing structure and moves to alter the structure.

These guidelines for mapping and reengineering linked systems can usefully be applied in any complex set of negotiations. Consider, for example, efforts to build coalitions. Coalition builders can set up serial linkages to accumulate such important resources as political support, reputation, money, and coercive power (Lax and Sebenius 1991; Sebenius 1996). Once a coalition builder succeeds in getting a high-status individual as an ally, for example, it becomes easier to recruit others. As the coalition builder recruits allies, the resource base grows and the likelihood of succeeding in the proposed venture increases, making it easier to recruit still more allies.

Serial linkage also can be employed to transform the alternatives to agreement of uncommitted parties. Before the coalition is built, uncommitted parties may face a choice between joining the coalition and maintaining the status quo. Once the coalition builder has accumulated a critical mass of support, the remaining uncommitted parties face a very different choice:

join the coalition or have the venture go ahead anyway without them (Watkins and Rosegrant 1996).

Coalition builders can create competitive linkages to "divide and conquer" blocking coalitions. If some members of an opposing coalition are not bound to the rest by strongly shared interests, then it may be possible to drive wedges among them. The coalition breaker can negotiate with each of the less-committed parties, offering each an attractive deal if they are the first to switch sides, while at the same time informing them that others are being offered a similar deal. If the loss of one member of the opposing coalition seriously worsens the alternatives of the remainder, then the competitive situation gives each an incentive to preempt the others. If the leaders of the opposing coalition cannot counter with more attractive offers or credible threats to punish defections, then the opposing coalition may split.

Uncommitted parties also may employ competitive linkage by negotiating with two or more coalition builders. If a particular uncommitted party is pivotal — in the sense that its support for one of two contending coalitions results in a winning coalition or blocking coalition — then this party may be able to extract significant value in return for its support. If coalition builders vie for the support of multiple uncommitted parties (with none of these parties being individually pivotal), competition may still play a role. As noted earlier, success by one of the coalition builders in recruiting an influential party may make it easier to recruit others. An influential party may extract value in return for an early endorsement. More generally, uncommitted parties face the often crucial problem of determining the optimal time for joining one side or the other. Likewise, contending coalition builders have to make difficult interacting decisions concerning the best sequence for approaching potential allies.

Reciprocal linkage is employed in a variety of ways by coalition builders. Consider the case of a coalition builder who needs the support of two potential allies, both of whom are reluctant to be the first to make a commitment. The aspiring coalition builder may reduce the other parties' perceptions of risk in these reciprocally-linked negotiations by requesting contingent commitments, asking each, "Would you, Party X, be willing to support me if Party Y also agrees to join the coalition?" This request may be coupled with a promise not to reveal the parties' responses unless both say "yes." Success in securing commitment from both parties permits the venture to go forward.

Finally, a coalition builder may seek to constrain the actions of an opponent by informing other stakeholders of the opponent's intentions and encouraging them to enter into separate, but reciprocally-linked negotiations. This results in a *de facto* opposing coalition. Alternatively, a coalition builder may secure the support of a needed ally by setting up a reciprocal set of negotiations between the ally and some third party.

Conclusions

A conceptual framework that helps to analyze the anatomy and physiology of linked systems of negotiations is a potentially useful tool for the negotiation practitioner and scholar. The framework we presented here highlights the importance of understanding both inter- and intra-negotiation processes in shaping ZOPAs.

This work is important because even seemingly straightforward transactions, such as family purchases, usually involve linked sets of negotiations. We hope that we have stimulated other researchers to study linked systems, perhaps through modeling interactions among negotiations.

We believe that this work can be applied to analyze any complex multi-issue, multi-party, and/or multi-level negotiation. Negotiations between nations, or unions and managers, or within organizations tend to become densely linked. By mapping out the key competitive, reciprocal, synergistic and antagonistic linkages, and by developing and implementing good sequencing plans, negotiators can strongly influence the basic framework within which negotiations take place, improving their BATNAs, creating more opportunities for joint gains, and favorably shaping the attitudes of their counterparts.

NOTES

1. Existing scholarship makes some important contributions to our understanding of linked systems of negotiations. The negotiation analysis literature is helpful in highlighting the importance of linkages between issues within self-contained negotiations. By linking issues, negotiators are sometimes able to make mutually beneficial trades that create joint value (Lax and Sebenius 1986). In addition, this literature focuses attention on the relationship between efforts by negotiators to influence alternatives to agreement, and the evolution of at-the-table negotiations (Fisher, Ury, and Patton 1991; Lax and Sebenius 1986).

The literature on international conflict resolution (e.g. Toukan [1995]) provides insight into multi-stage negotiations, an important class of linked system. In resolving international disputes, parties may seek to manage complexity and build momentum by parsing the process into a series of manageable blocks, beginning, for example, with negotiations over cessation of hostilities, proceeding to negotiations over a framework agreement, and finally working through detailed negotiations on defined sets of issues. The literature on coalition building is valuable in focusing attention on the role of sequential negotiations in efforts to build winning coalitions. As Lax and Sebenius (1991) have noted, the order in which a coalition builder negotiates with potential allies matters a great deal because information about who has already agreed to join — or refused to join — a coalition may alter uncommitted parties' assessments of the likelihood of succeeding in some endeavor, and the social desirability of becoming a member of the "club."

Finally, the international relations literature on bureaucratic politics (Allison 1971) focuses attention on linkages between external negotiations between governments and internal decision making within governments, highlighting the need for synchronization of agreements at both levels. The related work on two-level games (Putnam 1988) provides a framework for analyzing the strategies negotiators use to advance their interests in these multi-level negotiations, focusing attention on the role of information flows, and ratification and commitment tactics.

2. The term "link-pin" was introduced into the literature on organizations by Wager (1972). He uses it to refer to people who act as bridges between organizational units.

3. This distinction was inspired by work on task interdependence in the organizational behavior literature. Thompson (1967) made the distinction between pooled, sequential, and reciprocal interdependence among organizational tasks. Note that Thompson used reciprocal in a different way than we have. For a concise discussion see Daft (1992: 131-136). For the original source see Thompson (1967: 40).

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