
Teaching Note

Teaching Students to Shape the Game: Negotiation Architecture and the Design of Manageably Dynamic Simulations

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Although important work is being done in the emerging field of negotiation architecture and “shaping the game,” little of it has found its way into the classroom. Simulation exercises are among the most powerful pedagogical tools available to negotiation educators, but most existing exercises have static architectures in the form of fixed parties, issues, and interests. This article summarizes existing research on negotiation design and proposes a framework for designing “manageably dynamic” exercises that can be used to teach key game-shaping concepts. The framework is illustrated through an in-depth discussion of an exercise based on the negotiations to end the civil war in El Salvador.

Key words: negotiation pedagogy, simulation, negotiation design.

Architecture, Design, and Negotiation

Linda Babcock’s recent essay (Babcock 2007) reviewing my work (Watkins 2006) and that of David Lax and James Sebenius (Lax and Sebenius 2006) highlights the emerging importance of *architecture and design* in the

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study of negotiation. Briefly, negotiation design consists of strategic efforts to favorably shape the architecture of negotiations, by which I mean elements such as the parties, issues, linkages, and action-forcing events. It means not passively sitting by while others define these elements. Rather, negotiation architects proactively shape the game by influencing who sits at the table, what issues are on the agenda, whether and how agreement in one negotiation is linked to agreement in another, and what action-forcing events drive the process forward (Watkins 1998 and 2002).

The architectural view builds on earlier research, notably the path-breaking work of Howard Raiffa in *The Art and Science of Negotiation* (Raiffa 1982), which highlighted the impact of negotiation structure on process and strategy. Raiffa observed, for example, that coalitional dynamics make multiparty negotiations very different than those involving just two parties. Likewise, negotiations involving multiple issues differ significantly from single-issue negotiations, given the opportunities for trades across issues and linkages across negotiations, and the greater complexities of process management. The implication is that negotiators must carefully match their strategies to the situations they face (Watkins 1999).

This research laid the groundwork for frameworks for analyzing the structure of negotiations in terms of such dimensions as parties, interests, and alternatives (Sebenius 1992, 1996; Wheeler 2000), as well as linkages among negotiations and action-forcing events (Watkins 1998, 2000). But where exactly do negotiation architectures come from? How do they emerge and evolve?

The answer is that negotiation architectures are socially constructed phenomena. They result from strategic efforts by the parties to shape the game in ways favorable to themselves. Prior to the initiation of at-the-table negotiations, negotiators typically jockey over who will participate, what the agenda will be, and myriad other structural concerns such as location and timing. This jockeying continues as negotiations evolve. New players, such as decision makers who had been acting through agents, may be induced to come to the table; other parties may be cut out (Lax and Sebenius 1991). Linkages — that is, relationships between simultaneous negotiations in which agreement in one issue requires agreement in all — may be created or eliminated (Watkins 2003; Watkins and Passow 1996). Issues may be added or resequenced to enlarge the potential for agreement; toxic issues may be set aside or deferred. This process of designing and redesigning the architecture proceeds in parallel with efforts to bargain within the existing structure (Lax and Sebenius 2006; Sebenius 2003; Watkins 1998, 2002).¹

The Pedagogical Challenge

If we accept that shaping the game is an important element of the process, however, thorny questions arise about how to teach negotiation design. As

Professor Babcock noted in her essay, “I began recently to think about how I could incorporate these ideas into my negotiation class. I had a disturbing realization: the pedagogy most instructors (including myself) use to teach negotiation . . . makes it difficult to integrate these concepts” (Babcock 2007: 80). She further noted that “by definition, most [negotiation] exercises involve sitting down with the person on the other side of the table (thus, they are already at the negotiation table). The parties are fixed, as are the issues, interests, and scope of the negotiation. These factors are already prescribed in the negotiation case, and the students . . . must play with the hand they are dealt” (80).

She is correct in noting that the vast majority of existing negotiation exercises are static from the architectural point of view. Just as the mythical economist, confronted with the problem of how to open a can, began with the invocation “assume a can opener,” so too do negotiation-simulation developers usually begin by defining a static party and issue structure within which bargaining will take place.

Consider, for example, the much-used and emulated *HarborCo* simulation developed by Lawrence Susskind, James Sebenius, David Lax, and Denise Madigan.² This is a six-party negotiation exercise concerning the potential construction of a deepwater seaport. Players are assigned one of the six fixed roles, which include the seaport developer and representatives of governmental, labor, environmental, and commercial groups. The set of issues to be negotiated is predefined, as are the payoffs (in the form of points) that each player will receive for each of the potential package deals. Other criteria for reaching agreement — for example, five of the six players must support a deal for it to be binding — also are prescribed. There is significant room for process entrepreneurship in the exercise in terms of how and with whom the players try to build alliances, whether anyone should act as a chair or facilitator and who that should be, or whether the issues are addressed simultaneously or sequentially. But when viewed from the architectural perspective, the key structural elements such as the parties, issues, linkages, and action-forcing events are fixed.

This is not to say, of course, that these sorts of exercises lack value. Quite the contrary: they are powerful tools for teaching negotiators about key elements of the negotiating process. Two-party exercises are especially good for helping students develop skills in active listening, information sharing, and the formulation and delivery of offers and counteroffers. Multiparty and multilevel exercises likewise are essential tools for helping students understand how coalitional and agency structures influence process and strategy. By definition, however, exercises with a static architecture cannot be used to teach the art of negotiation design.

In part, this pedagogy gap can be filled with hypothetical scenarios and case studies. In my negotiation programs, for example, I often ask students

to read and discuss a short scenario about the CEO of a family-owned business who concludes it is time to sell, but who faces opposition from a sibling.³ Using Socratic dialogue methods, I work with the class progressively to construct a game-shaping strategy by focusing on questions such as: Whom should the CEO involve from the family and why? To what extent should nonfamily professional managers who play key roles in the business be consulted? Should external advisors be retained, and if so, what sort? In what order should key interactions take place and who should be involved at each stage? Should decision-making principles be established, and if so, how and when should this be done? Videos of hypothetical scenarios, such as the *Negotiating Corporate Change* video developed by James Sebenius likewise can be used effectively in this way.⁴

Historical case studies also can be powerful vehicles for exploring how to shape the structure of negotiations. My personal favorite is a case that my colleague Susan Rosegrant and I developed on the 1993 to 1994 U.S.-North Korea negotiations.⁵ It chronicles efforts by U.S. Ambassador Robert Gallucci both to bring the North Koreans to the table and to build a coalition within the U.S. government in support of a deal. The case study also highlights the game-shaping impact of former President Jimmy Carter, whom the North Koreans invited to mediate. (More recently, apparent progress has been made in this long-standing dispute as a result of a game-shaping move to a six-party negotiating format, with China emerging as a powerful potential guarantor for any resulting agreement.)

Manageably Dynamic Simulations

It is possible to teach much about negotiation architecture and the art of shaping the game with a carefully chosen sequence of hypothetical scenarios and historical case studies, but it is not optimal to do it that way. Our experience in teaching negotiation suggests that student learning is more powerful when scenarios and case studies are supplemented with experiential exercises such as role simulations (Gardner 2000; Schneider and Macfarlane 2003).

The good news is that it is possible to develop simulation exercises with structures that are *manageably dynamic*. “Dynamic” means that the players can influence the architecture of parties, issues, linkages, and action-forcing events in ways that yield potential advantage. “Manageably” means that there is enough stable structure to permit the students to orient themselves, figure out how to play the game, confront well-defined choices, and evaluate outcomes. With too much structure, one defeats the purpose of helping students learn how to shape the game. With too little, the resulting complexity and ambiguity renders the game unplayable. Thus, this is a core trade-off in designing these sorts of exercises.

To illustrate, consider an exercise called *Bellicoso* that my colleague Steven Reifenberg and I designed.⁶ The exercise concerns negotiations to

end a civil war in the mythical nation of Bellicoso; it was patterned on the negotiation of the Chapultepec Peace Accords that successfully brought the civil war in El Salvador to a close in January of 1992.⁷

To keep the exercise manageable, we established an initial set of parties and issues. There are three “sides”: the ruling autocratic government, which wants to retain power; the rebel factions, which have successfully been challenging that power; and the United Nations, which is trying to mediate an end to the conflict. The U.N. is represented by a single player, and there are four players within both the government side and the rebel side. On the government side, there is a minister of the presidency, a minister of defense, a head of the dominant political party, and a representative of the National Landowners Association. The rebel side includes the commanders of two rebel armies, one rural and one urban, as well as representatives of the opposition political party and a national federation of trade unions. The initial set of issues includes agreement on a cease-fire, demobilization of the rebel armies, and redistribution of political power and economic wealth in the country, especially of land, which is controlled by a small number of families.

Thus far, the Bellicoso exercise offers the same sort of opportunities for process entrepreneurship as other multiparty games with fixed architectures, such as:

- There are potential alliances to be built, if the parties perceive the opportunity, between parties on opposite sides. This opens up the possibility for back-channel negotiations.
- The players also are free to negotiate the sequencing of the agenda. They can decide, for example, whether to negotiate a cease-fire agreement first and then proceed step-by-step toward an overall deal, or to drive straight for a comprehensive settlement. As in real life, the players that anticipate the impact of different process choices on their ability to achieve desired outcomes, and who move deftly to take control of the process, tend to gain advantage.

However, we also designed the game to be manageably dynamic in *architectural* terms, as well as in procedural terms. Specifically:

- The decision rules are not fixed, and unanimous agreement is not required on either side for overall agreement to happen. This encourages internal coalitional jockeying within the sides and negotiations over the decision-making process.
- The U.N. mediators are not automatically given standing to facilitate the process. They have to negotiate their “entry” and reach agreement about what role they will play. They are given some carrots, in the form of financial aid, and sticks, in the form of sanctions, to help them influence

the contending parties. However, the U.N. can and sometimes does get cut out of the process completely.

- The most powerful game-shaping opportunities flow from various options that allow players to try to transform the party and issue architecture. These options are embodied in the form of “red cards” that players receive at the outset and can decide to play at any point in the game. For example, if the minister of defense becomes concerned that the minister of the presidency is going to sell out his troops, his red card allows him to launch a coup to try to remove the president. Likewise, the minister of the presidency can decide to try to fire the minister of defense. On the rebel side, the commanders can decide to launch an offensive aimed at ejecting the minister of defense (typically their toughest opponent) from the game. As another example, the union representative can stage a general strike to try to force labor concerns onto the negotiating agenda. Each player is aware only of his or her own red card, but quickly infers (and sometimes is explicitly told by their counterparts) the existence of others.

On the face of it, this looks like a recipe for mayhem. After all, why would a player *not* decide to play a red card? Why would the logic of preemption not result in a use-it-or-lose-it escalation?

The answer lies in the carefully calibrated criteria for successful use of red cards to shape the game. In particular, the following key conditions apply:

- *Success in deploying a red card is not guaranteed.* Each red card specifies the likelihood of success, which is typically not greater than 50 percent. If a player decides to play a red card, the game facilitator uses a random number generator in a spreadsheet (or rolls a die) to determine whether the player succeeds or fails.
- *Failure has negative consequences.* If a player plays a red card and fails, there are penalties, just as there are in real life. If the minister of defense decides to launch a coup against the minister of the presidency and fails, for example, the minister of defense gets removed from the game.
- *The likelihood of success depends on how much support you have from other players on your side.* If the minister of defense can get the support for a coup from the head of the ruling political party and the head of the landowners, then his likelihood of success increases. Acting alone, for example, the minister of defense has a 35 percent chance of successfully staging a coup; with the support of the representatives of the National Landowners Association and the Pro-Peace Party it rises to 50 percent.

Together, these conditions place appropriate and realistic limits on the use of red cards. In practice, one or more players uses a red card in about one-third of the groups that play the exercise. In most of these cases, red-card players get eliminated from the game. While being cut out of the process is obviously a difficult experience for students, it often occurs because the player has either overplayed his or her hand or alienated a number of other participants. So, it offers an opportunity for reflection and learning. I assign eliminated players to be observers for the remainder of the process. I also ask all students to write short postexercise reflection papers.

Regardless of whether and when they are used, however, the existence of red cards influences every group that plays the game because they enable players to make direct or implied threats and to bluff (and to be called on their bluffs) in ways that cannot happen in architecturally static exercises.⁸ Moreover, the game-shaping potential of the red cards gives the exercise an extra visceral “edge,” because the players understand that they can actually eliminate other players, or be eliminated themselves.

While I know of few other negotiation exercises that offer game-shaping opportunities⁹ — and know of no others that incorporate red-card-type elements explicitly designed to influence the negotiation architecture — I believe that there are rich opportunities to develop more and to use them to teach the art of negotiation design. Should you decide to try developing such exercises, consider the following design principles:

- Consider what you would like the players to understand after having participated in the exercise. Which aspect or aspects of negotiation design would you like to highlight? Do you want players to better understand the interpersonal and substantive ramifications of negotiating who comes to the table? Do you want them to better understand the strategic aspects of adding, subtracting, sequencing, and/or linking issues? The understanding goal should drive the design of the exercise and not the other way around (Wiske 1998).
- Create exercises that have more than two parties, but not too many. There’s really not much that you can do to make two-party exercises interesting from a shaping-the-game point of view. At the same time, it is easy to go overboard and end up with exercises that are unmanageably complex. Apply similar prudence in deciding how many issues the players will have to manage.
- Design the exercise with a static architecture first. This means identifying parties, issues, linkages, and action-forcing events such that the game generates interesting process interactions in its static form. This also helps avoid creating exercises that overwhelm participants with their complexity and ambiguity.

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- Figure out which elements of the architecture will be made dynamic. In particular, decide whether and to what extent you will permit players and/or issues to be added or subtracted. Again, this should be driven by which aspects of game-shaping strategy you would like students to better understand.
 - Define the mechanisms through which players can seek to make changes in architecture. This could be done by setting up potential unilateral “moves” (using something like the red cards in *Bellicoso*) that players can make to influence who is at the table and which issues are on the agenda, along with associated criteria for success. Alternatively, one could design a two-stage negotiation exercise in which the ability to participate in the Stage Two substantive talks is contingent on having some minimum level of support from other players in Stage One. There are surely other mechanisms that would work as well.
 - Carefully think through the incentives and limits on players’ abilities to exercise these game-shaping options. Make sure that success is not guaranteed and failure has some cost. For instance, you might use a random number generator such as a die to determine success or failure, and increase the odds of success where players have taken steps — such as forming coalitions — that logically would make success more likely.
 - Conduct pilot tests with the exercise to calibrate it, so that players face real yet manageable tensions in terms of whether and when to try to shape the game.

In my experience, exercises on negotiation design are best used toward the end of a course, after the at-the-table dynamics have been taught (perhaps through architecturally static simulations) and after key ideas about negotiation architecture and shaping the game have been imparted (perhaps through hypothetical scenarios and case histories). I typically use the *Bellicoso* exercise, for example, as a course capstone.

In summary, then, it is possible to expand the envelope of simulation design to encompass exercises with manageably dynamic structures. If they are well-calibrated, the resulting exercises can be powerful pedagogical tools.

NOTES

1. In *The Manager as Negotiator* (Lax and Sebenius 1986), David Lax and Jim Sebenius introduced the idea of moves at and away from table. I combined this distinction with ideas about shaping the game to create a conceptual framework consisting of a two-by-two matrix with at-the-table versus away-from-the-table actions in the rows and play-the-game versus shape-the-game actions in the columns (Watkins 1998, 2002). Effective negotiation strategies involve coordinated actions in all four cells. David Lax and Jim Sebenius have developed a related conceptualization (Lax and Sebenius 2006; Sebenius 2003) they call “3-D negotiation,” with the three dimensions being interpersonal interactions, deal structure, and actions to “set the table” by defining architectural elements such as who participates and what the issue agenda will be.

2. The *Harborco* simulation is available from the Program on Negotiation Clearinghouse at <http://www.pon.org>. A nearly identical exercise by Jim Sebenius and David Lax, entitled *Deepport*, is available from Harvard Business School Publishing at <http://harvardbusinessonline.hbsp.harvard.edu>.

3. The Ben Fiorentino scenario, HBS Case #9-902-052, is available from Harvard Business School Publishing at <http://harvardbusinessonline.hbsp.harvard.edu>. It is based on a real situation involving a family-owned distributorship.

4. The *Negotiating Corporate Change* video, HBS Video #5932A, is available from Harvard Business School Publishing at <http://harvardbusinessonline.hbsp.harvard.edu> as well as from the Program on Negotiation Clearinghouse at <http://www.pon.org>.

5. The North Korea case, "Carrots, Sticks, and Question Marks: Negotiating North Korean Nuclear Crisis," was one of a series I developed with Susan Rosegrant at the Kennedy School of Government. It is available as a two-part teaching case series (KSG cases #1297.0 and #1298.0) from the Kennedy School Case Program at <http://www.ksgcase.harvard.edu/>. Other cases in this series include the building of the first Gulf War coalition, the Oslo Peace Process, and Richard Holbrooke in Bosnia. The full set of cases and in-depth analysis for teaching purposes also are available in *Breakthrough International Negotiation: How Great Negotiators Transformed the World's Toughest Post-Cold War Conflicts* (Watkins and Rosegrant 2001). Other good teaching case histories include Jim Sebenius and Daniel Curran's "To Hell with the Future, Let's Get on with the Past: George Mitchell in Northern Ireland" (HBS Case #9-801-393) and the cases developed by the Program on Negotiation for the "Great Negotiator" series, available through the PON Clearinghouse at <http://www.pon.org>. Recently, Charan Devereaux, Robert Lawrence, and I have published a two-volume set of twelve case histories and analysis of major trade negotiations (Devereaux, Lawrence, and Watkins 2006).

6. The nine roles for the Bellicoso exercise (HBS Cases #9-899-087 to #9-899-095 inclusive) are available from Harvard Business School Publishing. The exercise typically takes four to five hours to play and debrief, not including the time required for players to read the instructions and think through their strategies. The game can be played in a single block of time with participants moving between individual or small group interactions and plenary meetings. Alternatively, it can be run over several days with only the plenary sessions being formally scheduled. This configuration opens up rich opportunities for game-shaping activity between the formal meetings. Given the complexity and significant time investment required for the game, it is best used as a capstone exercise for negotiation or conflict resolution courses or longer executive programs.

7. For information on the El Salvador civil war and peace process, see Wood (2003).

8. Beyond the core objective of teaching students how to think about shaping the game and illustrating the pros and cons of trying to do so, Bellicoso can be used to highlight a number of other teaching points. These include the challenges for third parties of gaining standing to mediate in bitter conflicts and the limits of carrots and sticks in helping them to do so, the dynamics of escalation and entrapment in bitter disputes and the resulting barriers to agreement, and the pros and cons of using threats to advance one's interests.

9. One exercise that offers game-shaping opportunities is the four-party version of Michael Wheeler's *Windbam Negotiation*, A-1, A-2, B-1, B-2, C & D (HBS Case #5-902-038, available at harvardbusinessonline.hbsp.harvard.edu), which is a set of real estate negotiations with two buyers and two sellers, in which each buyer knows of the two sellers but not of the competing buyer, and each seller likewise knows that two buyers exist but has no idea that another seller exists. The design of this exercise gives each party room to influence who is at the table to link or unlink various issues or negotiations, and to develop their BATNAs in ways that static exercises do not. As another example, Larry Susskind has developed several exercises (all available from the Program on Negotiation Clearinghouse at <http://www.pon.org>) in which the parties are not fixed: in *Dirty Stuff* and *Development Dispute at Menebune Bay*, the parties can and often do ask the mediator or facilitator to leave, and in *Global Management of Organochlorines*, some of the parties have the freedom to negotiate whether and under what terms other parties will be allowed to participate.

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