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International Negotiation: Some Conceptual Developments

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Abstract

Negotiation is a central activity in international affairs, but it tends to be studied indirectly through particular cases. Considering it as a subject in itself brings out some important principles. The general literature on negotiation falls into five categories: advice from practitioners, studies of particular cases or contexts, statistical tests of data, psychological theories with experiments, and game theory models. Each approach complements the others, but there has been too little interaction among them. Game models, in particular, are important for the international context, which involves more planning and more experienced actors. They resist the generalizations to which other approaches are prone, often showing that whether a move is well-advised or mistaken depends on some easy-to-overlook detail.

INTRODUCTION

It is hard to name an instance of international progress that came about without a negotiation. Most IR theories de-emphasize the subject, however, as if states that want an agreement can just go ahead and sign one—as if wisdom, intuition, and skill were not at issue. International negotiation has been studied indirectly through cases or contexts, but seldom as an activity in itself. The first goal of this review is to show that certain generic ideas hold from one international context to another.

I divide general work on negotiation into five groups: advice from practitioners and teachers of law or business; statistical analyses of coded data; experimental studies by social and cognitive psychologists; studies of cases, like the Cuban Missile Crisis, or of contexts, like labor strikes or divorces; and game theory models. These have interacted to some degree but not enough, and a second purpose here is to present results from some fields that should interest researchers working in others. Game theory modeling has become especially detached from the rest, but it is essential for understanding negotiation, since it shows that some subtle aspects of a situation may be important. (Chatterjee 2014 gives examples in a management context.)

I define negotiation as communication between parties with the joint intention of making an agreement. An agreement comprises interdependent commitments that parties make for their mutual benefit (O'Neill 2018). In regular usage, "negotiation" is almost synonymous with "bargaining," but here it means an extended, fully communicative interaction. The communication includes various speech acts—questions, assertions, and especially promises (O'Neill 2018). This review concentrates on the process of negotiating rather than the shape of the agreement or its upkeep later on. It omits the decision whether to negotiate, prenegotiation, mediation, and crisis bargaining.

THE INFLUENCE OF A HYPOTHETICAL DISAGREEMENT

The Basics of the Game Theory Approach

In the simplest bargaining situation, two parties have a fixed time to decide how to divide a fixed commodity. Negotiators need to think hypothetically in the sense that their choice of what to offer or accept now depends on how well they would do with no deal. Here, no deal gives each a preknown outcome. They will not interact again, so they cannot gain an advantage by making threats about the future.

This situation illustrates two points about game theory approaches. First, to say simply that parties talk and then can agree does not define a game. A model needs precise rules: Do they take turns making offers? Must the next offer be as good as the previous one? A small change in translating the free-form situation into a game, e.g., in who makes the last offer, can reverse the outcome. Second, even with the rules supplied, equilibrium analysis typically does not predict a unique outcome. Suppose a piano player and a singer earn $100 when they perform together, and earn $40 and $10, respectively, for solo gigs. To decide on the split, they simultaneously make a demand from $0 to $100 inclusive, and if the total is no more than $100, they get their demands; otherwise they perform separately. Any two demands summing to $100 is an equilibrium, as is each musician demanding $100 and getting nothing, since neither could gain by unilaterally switching to another demand. The excessive number of equilibria is not blamable on the one-offer rule; even if each made 20 offers, the game would have an infinity of them. Game theorists have tried to narrow their predictions, but in the end, multiplicity typically persists. That is not a flaw; it is the theory recognizing the need for the other four approaches—practitioners' advice, statistical analysis, psychology, and case studies (Kreps 1990).

To make the predicted outcome unique, we could stipulate that each musician faces the same loss from saying no. They would receive equal increments of $25 over their solo fees, giving the piano player $65 and the singer $35. This is sensible, but it is not the direction that most game theory takes, since it requires a commodity that is comparable across parties. If a couple discusses different restaurants for dinner, or Israeli and Palestinian leaders bargain over peace terms, they have no externally measurable commodity. They may hold utilities for different agreements, but their utility increments over a disagreement cannot be equated interpersonally. "I have the same utility gain from this agreement that you do" has no semantic meaning in standard game theory. Nash (1950) suggested maximizing the product of the utility increments, since whether an agreement does that is independent of how one compares utilities across bargainers.

Game theory has gone on to consider players who are unsure of each other's goals, or can make threats about future encounters, or number more than two, or use certain negotiating procedures, but the musicians' simple situation is enough to define some concepts.

A party's BATNA (best alternative to a negotiated agreement) is the situation it would face if the negotiation failed (Raiffa 2002); here, playing solo is the BATNA of each musician. It is "best" because a party on its own would maximize its benefit. The idea leads to nontrivial advice such as to cultivate your BATNA—before you negotiate over your favorite house, spend time locating and learning about your second choice.

The zone of agreement is defined as the set of agreements that do not waste benefit and that both parties value at least as highly as their BATNAs. If it is empty, they should not make a deal. The musicians' zone comprises all divisions of $100 where the piano player gets at least $40 and the singer at least $10. Analyzing the Iran nuclear negotiations, Sebenius & Singh (2012) concluded that the zone was empty, at least under President Ahmadenijad, so the United States's problem was not choosing a negotiation tactic but opening up the zone, e.g., worsening Iran's BATNA or enhancing its value for certain agreements. The BATNA concept let the authors organize their analysis, but their conclusion depended less on theoretical logic than on their view of each side's goals, and it would not persuade those who saw Iran as less bent on nuclear weapons.

A party's outside option is defined as its best situation if it deliberately leaves the negotiation. It is easy to confuse with the BATNA, which arises from either a choice to exit or an exogenous ending. (This situation goes beyond the two-musicians example, since they could not trade threats to leave but only state offers.) When a better offer is on the table, threatening to leave lacks credibility and, indeed, experimental subjects responded less to it than to an exogenous ending (Binmore et al. 1989). Slapin (2009) considers an instance of the same parties negotiating twice with different outside options. In 1974, Prime Minister Harold Wilson threatened to leave the European Community unless Britain got special concessions, but in the 1980s, Prime Minister Margaret Thatcher's threat was to stay in and obstruct legislation through the veto. Slapin's model connects the changed threat to a higher cost of exit, since by Thatcher's time leaving was not a credible threat. The general importance of his model is that exit is typically available in international organizations, whereas internal resistance is the typical threat in federal systems.

Another phenomenon beyond the musicians' situation involves an agreement that harms one's outside options in future negotiations. Urpelainen (2012) notes that if a state joins a military alliance, then specializes in producing certain weapons, it may become less able to defend itself outside the alliance. Abolishing tariffs might end certain industries and reduce a state's later bargaining strength, so the state might reject the agreement in the first place. He discusses how to avoid renegotiation problems by assigning future terms to an international organization. A party might even feign future vulnerability to gain a better agreement. He discusses how to prove one's vulnerability through a costly signal.

Sometimes the BATNAs mean taking the dispute to an international body, but these generally lack enforcement power, so why do their decisions matter? One notion is that a state that ignores the court's ruling will have trouble finding treaty partners in the future. Schelling (1960, p. 43) points out that when a business incorporates, it is subjecting itself to lawsuits, making its promises more credible. Johns (2012) notes that the rulings of the International Court of Justice (ICJ) are sometimes not followed, and it may not even issue a decision. She suggests two further dynamics: that an ICJ ruling helps parties narrow the legal principles under negotiation, and, complementing Schelling's argument, that other countries punish one that ignores the ICJ because they themselves might need the Court someday. The world criticized French nuclear testing in the Pacific, as well as Nigeria's ignoring the ruling that the Bakassi Peninsula belonged to Cameroon.

Negotiating with the Prospect of a Vote

Many negotiations follow what Thomson et al. (2006) call the two-stage model. First parties talk freely, seeking information, making informal coalitions, possibly coming to an agreement. The second stage solidifies the result by applying the organization's rules, perhaps taking a vote, or resolving differences left from the first stage. The first stage must take account of the parties' strengths at the second. Thomson et al. (2006) offer an extremely careful study of this process in the EU Parliament, Commission, and Council of Ministers.

Voeten (2001) models the deliberations of the UN Security Council as two stages, a negotiation and a possible vote. It can authorize a military intervention unless a permanent member casts a veto. A typical pattern has been the United States wanting an extensive intervention led by itself with contributions from the rest, the United Kingdom supporting action almost as strong, France wanting a limited intervention with joint control, and China and Russia preferring no action. Even without Security Council support, the United States can act, unilaterally or with the United Kingdom. Voeten shows that the other permanent members may look down the game tree and reluctantly approve an action that they regard as worse than doing nothing at all. Credibility of a separate move is key; in Kosovo, NATO ended up having to act without the Security Council because Russia doubted it would be willing to do so.

TIME COSTS AND DEADLINES

Time pressure might arise from an abrupt ending point or a gradual dwindling of the prize's value. The abrupt end might be foreseen or come randomly. Time costs and deadlines are not necessarily bad, since they give the bargainers a reason to compromise; without the pressure, each would wait for the other to move first. On the other hand, following this review's theme that what helps here can sometimes hurt there, time costs can be a reason not to compromise. Given uncertainty about each other's goals, each party might wait and risk a breakdown to signal that it has a good BATNA.

Gradual Time Pressure

Rubinstein's (1982) model of gradual time pressure is widely used because it merges easily with other game assumptions. In the basic version (Muthoo 1999), two parties can divide one unit. Player A proposes a division, and if B accepts, they get those shares. Otherwise the total shrinks to δ, between 0 and 1, and B proposes how to divide that lesser amount. Imagine an ice cream pie melting away or income disappearing as a labor strike goes on. They alternate proposals for the geometrically shrinking prize until a current offer is accepted—or forever. The game has a unique subgame equilibrium (one that is an equilibrium starting at any point in the game tree),

which results in A immediately proposing $[1/(1+\delta), \delta/(1+\delta)]$ and B accepting. Note that A gets a higher payoff than B, and also benefits from greater time pressure (lower δ).

Instead of interpreting δ as an objective drop in the prize, we can see it as the parties' decreasing patience. A variant assumption allows different degrees of patience, δ_A and δ_B. Rubinstein models usually imply that, all else equal, the more patient bargainer does better, but in Blaydes's (2004) application, impatience pays. States negotiate oil quotas, and after an agreement they do not immediately consume their shares, but extract benefits continually with the same δs they held during the bargaining. For a given quota allocation, the utility increment over the BATNA decreases with impatience. Since the party loses less by refusing the deal, it can demand more. In the 1980s, Nigeria faced difficulties in its oil sales, and the richer oil-producing countries, being less pressed for immediate profits, cut their outputs, allowing Nigeria a larger quota. Blaydes's statistical analysis cleverly operationalizes patience by a state's oil reserves per capita. Those with more reserves should be more stable politically and have a higher value for the future. The model shows again how a subtle detail can turn a disadvantage into an advantage.

Deadlines

If losing patience is like a downward slope, a sharp deadline is like a cliff. Think of negotiating a loan from the International Monetary Fund while facing a default date, or trying to sign a treaty before a ceasefire ends or a hawkish administration enters office. Iran released US hostages on the very day that Ronald Reagan took the presidential oath. Berridge (2005) discusses more examples.

These deadlines involved an outside event, but one or more parties can proclaim their own deadline. Doing it themselves presents a credibility problem; if the time arrives and they want to keep talking, what stops them? In 2015, the Iran/P5+1 nuclear negotiators extended their talks twice. Such "pseudo-deadlines" might have some deterrent value, since violating them increases mutual pessimism and the risk of final failure. One must find a different way to rationalize President George H.W. Bush's declaration of January 16, 1991, as the last moment for President Saddam Hussein to leave Kuwait. This was another pseudo-deadline because if Saddam had withdrawn a day or so late, Bush would not have invaded. He really meant the vague threat that he would invade at some time after that date, but in effect he was promising not to invade before it.

If I am impatient, I should not tell the other party, who would be happy to oblige my impatience at a price. If I face a deadline, should I reveal that? Even experienced negotiators say no (Gino & Moore 2008), but they are often wrong. If I need to take the five o'clock flight home, the negotiation ends for the other party too, so I face no relative disadvantage. Gino & Moore see the mistake as reflecting a broader one in informal thinking about negotiation: insufficiently considering the situation from the other's viewpoint. Parties overly focus on the deadline's effect on their own loss.

Sometimes a deadline is prompted by symbolism; for example, the 1998 Northern Irish peace agreement was to be signed by Good Friday. Pinfari (2011, 2013) considered 68 peace negotiations from 1990 to 2000, comparing each agreement's later durability when the talks had faced practical versus symbolic, versus artificially set deadlines. Artificiality had little negative effect on durability. In some cases, serious negotiations began only after the deadline had passed, but when the issues are complicated and information is ambiguous, Pinfari suggests, deadlines reduce good judgment and integrative bargaining.

The Rubinstein model is the common way to represent time pressure, but no model has become prevalent for deadlines. A technical problem is combining continuity up to the endpoint with discontinuity at it. Experimental studies (e.g., Roth et al. 1988) find that most agreements are made just before a deadline, but the notion of getting serious at the last minute lacks a formal interpretation of "the last minute." In Ma & Manove's (1993) interesting model, the parties know

when the negotiation will end but not how long each of their negotiating moves will take. When A makes an offer to B, a random duration elapses before B sends a response. Perhaps A's transmission is delayed or B needs to confer with some domestic actor. If the negotiation is still on, B accepts A's offer or makes a counter-offer, which faces its own delay, and so on, back and forth. The equilibrium involves each party trying to slip in an offer that is just attractive enough and just late enough that the other does not dare say no.

BARGAINING POWER

The folk approach to bargaining stresses the concept of power. Students starting my experiential course tell me that they try to assess the "balance of power," "take control," and gain the "upper hand" over their partners. An underlying metaphor seems to be each party loading their resources on a pan balance to see how it tips. However, their focus on power may induce them to see their situation as purely competitive, an attitude they are already too inclined to adopt.

Bargaining power comes up in popular books and in academic research. In the academic literature, weaker versions of the concept simply judge which resources—preparation, expertise, allies, etc.—lead to success. Stronger versions test a relationship between measures of each party's powers and favorability of the outcome.

In the weaker approach, the resources can set a baseline from which a deviation in reality gives the analyst something to explain. A frequent conclusion is that some resources do not help as much as one would think. In 1971, Malta gained impressive compromises from Britain over the latter's naval base (McKibben 2013), even though it had less than one hundredth the population. Discrepancies between resources and power in the EU Council came out in Thomson's (2011) interviews with professionals, who saw Germany as less influential than France or Britain even though it was larger. Spain's influence exceeded its size but Italy had less than expected. Slapin (2006) examined the 1997 Amsterdam negotiations on the European Union, comparing members' preferences on 228 issues appearing in the drafts with 69 outcomes in the final treaty. He found only a weak relationship between economic size and favorability of outcomes. Schneider (2011) argues that weak states often gain power from their veto rights, particularly over EU enlargement. Bailer (2010) gives a good orientation to the large-versus-small literature on the European Union.

Bailer (2004) uses coded data and interviews to argue that patience is important for power. Panke's (2010) statistical analyses indicate that small states try harder, build up diplomatic and negotiation expertise over time, seek information, lobby, argue skillfully by framing the issues in persuasive ways, and build coalitions and networks. Some small countries train their officials in the ways of Brussels to gain what Panke calls "smart power." This fits Rubin & Zartman's (1995) general thesis that the weak get their way surprisingly often.

For the EU Council, Thomson (2011) systematically compares power from negotiation with power from procedural rights. In effect, he is investigating the importance of each stage in the two-stage model of Thomson et al. (2006). His prediction uses the actors' policy positions weighted by their "capabilities" and their saliences for the issues, and he calculates a prediction in two ways. In the procedural model he uses the outcome preferred by the player whose support just defeats the status quo, and in the negotiation model he uses the outcome maximizing Nash's product of utility increments. Nash's theory did somewhat better.

The statistical approach, known as bargaining power theory, has been prominent in research on international business negotiations (Nebus & Rufin 2010). Kobrin (1987) asked whether the developing countries that host multinational corporations (MNCs) achieve better terms over time as they acquire technology. If gaining technology counts, the shift would plausibly be greater in manufacturing than in natural resource extraction. A total of 563 MNCs and host countries were

coded on 19 variables, each variable categorized as either a power resource or a constraint. MNCs' resources included, for example, technology (the parent company's research and development expenditure as a proportion of its sales), and their constraints included competition (out of the sales by the world's 20 largest firms, the proportion made by the top three). A host country was constrained by the MNC's global integration (the parent corporation's sales of the exports to its own affiliates). Favorability of the outcome was measured by the proportion of the subsidiary owned by each party. A probit-type analysis found success to be correlated most strongly with global integration and technology, but not with competitiveness, conditional on the other two variables.

Bargaining Power as Phlogiston

It is not clear that the concept of power adds to these analyses. Game theory scarcely mentions the word. (The exception is the literature on voting power, discussed below.) It does not need "power," since the players' goals and beliefs and the game's rules of interaction lead to the outcome, and lead to it in intricate ways that cannot be summarized by assigning a number to each player. Is making the first offer a resource for power? It helps sometimes but not always. How about knowledge? In a Chicken-like game of facing each other down, A's knowledge that A has a certain weakness may harm A only if A knows that B knows it.

A focus on bargaining power as resources ignores the cost of using the resources. In the Vietnam War, the larger country lacked motivation to continue and ended the war. An airplane pilot has power over the lives of passengers, but exercising it would be suicide.

If power means no more than holding certain resources, it is superfluous. The eighteenth-century concept of phlogiston has been criticized (somewhat unjustly) as meaning simply the disposition to burn or oxidize, so that a substance burns because it has phlogiston. To say a party succeeds because it has power is just as empty. It sounds like a theory but does not help us explain observable regularities.

Kobrin's (1987) study of MNCs constructs a complex verbal theory around bargaining power. To deal with the costs of using resources, he talks about "potential power" and "constraints," but it is not clear how a resource yields power if the holder is constrained from using it. To my mind it demonstrates that negotiating strategy is too intricate a topic for the ambiguity of everyday language. To avoid a muddle, one needs the precise definitions and logic of mathematics. Harsanyi (1962) shows how social power can be interpreted within the Nash bargaining model.

McKibben's (2013) work on concessions in the EU Council can be seen as confirming that bargaining success is predicted not only by parties' resources but also by the situation's structure. Structural variables noted by McKibben include the possibility of issue linkage, the scrutiny each parliament will give the deal, the voting rule, and media attention.

Measuring Voting Power

According to the two-stage model of international organizations, the first, informal negotiation is influenced by the prospect of a later vote. The parties' second-stage voting powers should reflect their real political influence; otherwise they might try to revise the agreement later. How can we measure voting power? One elegant proposal, which has produced a large literature, is the index of Shapley & Shubik (1954). It measures naïve voting power—that which an observer would assess knowing only the rules, not the parties' persuasive skills, or the similarity of their preferences on the issues, etc. (though it can be modified to take account of the latter; see O'Neill 1996, Shapley 1977).

The index takes any well-defined voting rule and assigns a power value to each voter. The World Bank and the International Monetary Fund, for example, use voting weights, roughly the

countries' contributions, and a motion passes if its total support achieves some quota. For large assemblies, the Shapley-Shubik measure is almost proportional to weight, so applying it does not add much. However, it can be quite different in small bodies, and it also makes assignments when the rules do not use simple weights, e.g., when a motion must pass two houses. The EU Council of Ministers uses an interesting procedure: A motion must achieve a majority by both the number of its supporters and their total weight. Kauppi et al. (2004) found that EU budget shares were predicted by the Shapley-Shubik index better than by countries' resources or needs.

The bargaining power approach would take the voting weights as one of the parties' resources, so voting power indices seem to be a counterexample showing that power is not superfluous. This situation is the exception: It is because voting power differs from voting weight or else some systems do not use weights that there is a reason to define a power measure. The precision of the voting rule makes a numerical measure possible.

LEADERSHIP

The United Nations has its secretary-general, the International Monetary Fund its managing director, and the EU Council its president. How do they influence negotiations? Should they stay neutral, and if they do not, are they violating group norms to promote their self-interest?

Using interviews and documents, Blavoukos & Bourantonis (2011) study factors that empower UN leaders—political capital, legitimacy, access to special information, a committee chair's mandate, and more. In 1992, the Soviet Union had just dissolved and the Security Council president, who was British, took the unusual initiative of convening the heads of state of the permanent members. The goal was to come to a common position where Russia would inherit the Soviet Union's permanent seat. To make the negotiation workable, the president set an agenda that avoided the impossible issue of Security Council reform.

Tallberg (2008, 2010) challenges the notion that the president of a major intergovernmental organization (IGO) has responsibility but no power. Over the decades, he states, power has moved to that office because leadership is a needed resource. The president shapes the agenda, brokers agreements, and represents the IGO to outside parties. States share information with a chair or president, a go-between who uses the knowledge to help the group resolve impasses. Presidents shift the outcome in their favor, so why is the organization ready to give one country this extra power? The EU Council presidency changes every six months, rotating through the membership. Tallberg compares the system of rotating chairs with elected or supranational chairs, as used by the United Nations and the World Trade Organization (WTO), respectively, and argues that rotation admits logrolling among the members. Rotation works for the European Union because it is small enough that every state will hold the chair before long. Niemann & Mak (2010) note some EU customs that promote impartiality, for example, the Tour des Capitales, where the incumbent visits all member states to hear their viewpoints, and the Troika, where past, current, and future presidents work out a common approach.

Odell (2005) sees the WTO as confronting special difficulties. Its 164 members face an immense information load in assessing each other's goals and BATNAs. Also, the organization's size worsens a certain free-rider effect: Advocating a compromise reduces the credibility of one's commitment to one's position, so it is better to let some other member propose it. From interviews with officials and observers, Odell sees the role of the director-general as listening, communicating, reformulating, and sometimes manipulating.

Monheim (2015) considers six IGO negotiations where initial failure was soon followed by success. The 2009 Copenhagen climate summit broke down, but only 11 months later, the Cancun

meeting succeeded. He emphasizes personal trust in the new organizer, which flows from the latter's charisma and skill. The leader must both be trustworthy and have a reputation for that.

DEADLOCKS

A central question is why parties get into deadlocks and how they can get out of them. It has generated research from game theorists, practitioners, and social psychologists.

The Impossibility of an Efficient Procedure

A deadlock does not always reflect poor negotiating. Consider a seller who holds an object and a buyer who wants it. Each is aware of their own values for it but uncertain about the other's, believing that to be from $0 to $100, each value equally probable in their view. Their own value is not evidence for the other's. Each makes a single demand, as in the musicians' situation. A little algebra on the equilibria gives the unsurprising result that the buyer sometimes offers less than his true value, or the seller demands more than hers, or both. If they shade their positions, the object might not get sold and they might miss mutual gains.

Myerson & Satterthwaite (1983) proved that for a range of situations there is no procedure by which negotiators will always achieve the available gains. The power of their theorem is that it applies to any bargaining procedure, not just this one-offer example, and does not depend on the probability distributions, although it requires each to have the form of being positive over a single interval and to make the parties uncertain that mutual gains exist. As an impossibility theorem, it is as fundamental to bargaining as Arrow's theorem is to social choice.

Jackson & Sonnenschein (2007) present a result that might mitigate it. If parties bargain repeatedly, each one's distortion of its value for the object will cost it credibility. To reflect this, each party's set of offers must follow a budget; i.e., they must use a profile that is consistent with the probability distributions. If they do this, they will be closer to their BATNAs and forgo less mutual gain.

Metaphors for Impasse and Progress

In everyday talk, impasses are described by various metaphors, which researchers have systematized. One is that a dispute becomes "ripe" for settlement: the process evolves on its own and the time is right just once, so that the best the parties can do is know when to move. Zartman (2007) states that disputes become ripe when (*a*) both disputants enter a mutually hurting stalemate when they see unilateral action as a dead end, and (*b*) they sense a way out by becoming either aware of a new path or more optimistic about ones they have already identified. A peacemaker's task might be to convince the antagonists of the new situation. It seems harsh for the peacemaker not to try to end the conflict earlier, but Zartman's ripeness theory suggests that even if the disputants could be brought to the table earlier, they would negotiate unsuccessfully and become pessimistic.

Ripeness is insufficient for an agreement, since the parties might react to mutual hurting with increased hostility or simply be unable to agree. However, the theory is not tautological, since it says that without those conditions negotiations are very likely to fail. It has further testable content in that one can investigate whether success follows leaders becoming pessimistic about unilateral action and optimistic about a proposal. O'Kane (2006), analyzing the Northern Ireland peace process, still maintains that the theory lacks predictive power. One response would be to add testable claims about how ripeness operates, and Stedman (1991) connects parties' recognition of

the hurting stalemate to their internal decision structure. In civil wars, a leadership change helps, but it is often the military that resists recognizing a stalemate.

Related to ripeness are Druckman's (2001) "turning points," events that promote mutual optimism about a settlement. Ripeness theory has parties' realizations growing continuously and internally, but turning points comprise a small number of discrete events that arise either within the negotiation, e.g., a shift from a plenary meeting to working groups, or the adoption of a deadline, or outside it, e.g., new national leadership. From expert interviews, Druckman et al. (1991) list seven turning points that led to the 1987 Intermediate-Range Nuclear Forces Treaty, including concessions on inspections, separation of intermediate-range missiles from strategic and space weapons, and the Reagan/Gorbachev summit at Reykjavik.

Since important concessions typically come from higher up, turning point theories tie in with the literature on summitry (Weihmiller 1986). Summits force each side to make decisions on central issues and impose psychological deadlines, but they do not solve technical details and risk a demoralizing failure with no higher recourse.

Assembling direct data on negotiations is hard because secrecy usually prevails during and afterwards. Each party has an eye on the future and does not want to reveal that it was cut down to its BATNA, or, for that matter, that it did far better than its BATNA. Accordingly, Druckman (2001) coded Pew Foundation teaching cases. He concludes that turning points in trade negotiations are often procedural changes or concessions, whereas security negotiations respond to outside events. Perhaps in the security context a government is averse to making a bold concession, so that only an objective change can prompt one.

Another metaphor is "momentum" (Bjola 2015). Some events raise expectations about success, triggering further positive actions, e.g., President Nixon's 1971 visit to China. If nothing happens for a while, the sequence of causation is broken and the momentum may die out. Bjola's concept is more strategic than ripeness or turning points—momentum is determined by the participants' mutual beliefs that they will reach an agreement, which interact synergistically. Indices of momentum have been developed for stock markets, and he applies them to negotiations over climate change.

The thesis of "inaction inertia" (Terris & Tykocinski 2016) holds that someone who did not accept an especially good opportunity will tend to pass over further good ones. They are rationalizing their first mistake in order to avoid regret. Investors who held onto stocks when the market started downward continue to do so even when their future loss becomes clear. The notion is the passive version of the "too much invested to quit" phenomenon that sucks parties into escalation (O'Neill 1986). In an experiment designed after the freeing of the Israeli soldier Gilat Shalit, Terris & Tykocinski asked subjects whether they would accept a certain offer under various experimental conditions. One condition was that they had already turned down a much better offer (having to free fewer of the other side's prisoners in return); a second condition was that the earlier offer had been only moderately better; and in a third condition there had been no past offer. As predicted, the stronger the offer they had refused, the less likely they were to accept the current offer. The authors found evidence of inaction inertia in the actual negotiations over Shalit.

Decision-Making Heuristics

In the context of single-person decision making, the need to simplify a decision leads to psychological shortcuts that produce systematic biases (Kahneman 2015). Kahneman & Tversky (1979) integrated some of these into what they called "prospect theory," intended as a more empirically based version of utility theory. Several authors have drawn implications for international negotiation

(McDermott 2009). Some findings for negotiation in general, adapted from Bazerman et al. (2000), are as follows:

1. Parties are especially resistant to losses, so negotiations go better when each thinks, "I have the opportunity to achieve gains over a disagreement," and they go worse with "If I want an agreement, I must accept less than my ideal." The inaction inertia hypothesis fits here, as investors focus on how well they were doing before the decline, rather than how poorly they will do if they keep their stocks.
2. Negotiators engage in anchoring. They make initial estimates of features or outcomes, and, as the interaction proceeds and evidence comes in, they adjust them but do so insufficiently. For example, they are anchored to their initial aspiration levels, the degrees of benefit that they started out hoping to achieve.
3. A negotiator tends to be optimistic about how well he or she can do in an agreement as well as in a disagreement. In experiments involving a hypothetical legal suit, the plaintiff and defendant had identical information about the case but usually held average probabilities of winning in court that summed to more than 1.
4. Negotiators overlook trade-offs and miss joint gains. If I prefer the pie's crust to its filling, I assume that you do too.
5. Negotiators escalate conflict when they should not.
6. Each party takes insufficient account of the other party's perspective and misses important inferences. When used-car buyers were told to speak their thoughts aloud, they seldom took the owner's willingness to sell the car as evidence of what it would be worth to them.
7. When one party offers a certain option, the other often lowers his preference for it.

None of these biases clearly makes agreement easier. Numbers 1, 2, and 6 seem neutral, but the other four suggest that agreement is harder. Thus, overall, our decision-making heuristics tend to encourage or maintain deadlocks.

COALITIONS

When three or more parties are negotiating, they can form coalitions. Besides deciding what to demand, they decide whom to partner with in demanding it, and this element fundamentally changes the game. Tough bargaining may help one's payoff if only two parties are involved, but with three or more it may scare away a potential partner. International scholars speak of "balancing" against a powerful state, and game theorists discuss the "truel," a three-person duel, in which the player who is the best shot draws fire from the other two and may have the worst prospect of surviving.

There is no accepted definition of a coalition outside of particular mathematical frameworks. I define a coalition as a set of parties who hold a joint intention to act in certain ways, in order to advance their interests. Their intention being joint means that they share knowledge of each other's intentions, and this knowledge is a reason for their planned actions. Communication is unnecessary; a group counts as a coalition as long as they intend their actions to mesh, as when hawkish politicians in rival states realize their mutual interest in promoting international tension. Coalitions formed over one issue often continue to coordinate on others, perhaps with logrolling, where members keep the coalition going by supporting measures they would otherwise oppose.

Coalitions often help the weaker players. Narlikar (2012) compares the General Agreement on Tariffs and Trade with the WTO agreements and observes that small-state coalitions became more formal and more functional in their composition, their basis shifting from a common experience (e.g., a colonial past) to like-mindedness on the issues. In the 1990s the latter kind of coalition

tended to be brief and vulnerable to cross-cutting loyalties, but by the 2003 Cancun Conference coalitions mixed features of the two types (bloc-based and issue-based) and cooperated more, internally and with nongovernmental organizations.

Allan & Dauvergne (2013) note that developing countries stuck together in several environmental negotiations, but not in the talks on Reducing Emissions from Deforestation and Degradation. The authors explain this by the countries' different bases of influence: possessing large forests versus possessing moral authority versus possessing expert authority. Other states courted them for one attribute, reducing the stability of coalitions of the like-minded.

In the standard game theory conception, coalitions cover the whole group and do not overlap (Humphreys 2008). The idea follows the adage that friends of my friends are my friends, and friends of my enemies are my enemies. In the end only the coalition of all players forms, the subcoalitions being like BATNAs, with players considering their prospects for every pattern of disagreement before they make their demands. In reality, we constantly see continuing subcoalitions, like the Regional Groups in the United Nations. O'Neill (1994) discusses how caucuses in the Vienna conventional arms talks made plenary negotiations more manageable. The traditional game theory notion that subcoalitions are only steps to the grand one may have suppressed interest in coalition formation, but that field has grown (Ray & Vohra 2015).

Are international coalitions determined by states' overall left/right political positions? In bargaining over an EU constitution, position was less important than size and length of time in the European Union, according to Hosli & Arnold (2010). The newer members tended to be Central or Eastern European, and the cleavages reflected tendencies to nationalism and autocracy.

OPEN VERSUS SECRET PROCEEDINGS

The standard view is that negotiations should be private; otherwise parties will grandstand for domestic audiences and avoid making concessions. Diplomats have advocated secrecy at least since the seventeenth century (Colson 2008), but the recommendation is not always followed. The 2016 Trans-Pacific Partnership was negotiated in secret, but the 1998 talks leading to the establishment of the International Criminal Court were open.

The open approach can be rationalized from the democratic peace literature, in that parties want the public to know their offers in order to visibly commit themselves against their making concessions. Also, if the state is a democracy, public discussion makes its BATNA apparent, bolstering its threats and reducing the uncertainty penalty of Myerson & Satterthwaite (1983). Other rationales for openness are that the agreement has legitimacy, and that citizens know that their leaders are acting in their interests.

Several models incorporate openness versus secrecy, and an interesting point of comparison is how they represent the parties' motivations for one or the other. Perry & Samuelson (1994) have state A's agent and citizens receiving the same payoff, a share of a unit pie, but everyone has a different BATNA and the composition of the citizenry changes continually, so a deal accepted today may not be ratified tomorrow. State B's agent is autonomous. In both the open and closed conditions, A's citizens approve the final deal, but with open negotiations, A's citizens observe the proceedings and continually vote whether to let them continue. On the one hand, with an open policy, each vote by the A citizens to continue might embolden B. On the other hand, an open policy exposes B to the risk of a midway termination by A's changing population, and this dampens B's demands. The authors were surprised to find that the latter effect prevails, and A prefers an open policy.

Stasavage's (2004) secrecy mechanism involves the negotiator's desire to be viewed as loyal. Each constituency is unsure about the value of the rival constituency's BATNA, but their agents have somewhat better information. The public in state B trusts that its agent wants to maximize B's

share, but A's public suspects that its agent may disloyally want to maximize B's share. Finally, A's agent is concerned both by A's share and by the A public's post-negotiation estimate of his loyalty. In the open case everyone learns who proposed or accepted what, but in the closed case they learn only the outcome. Stasavage finds that an A agent concerned about reputation may take a harder line than is optimal for the public. He compares his results with decisions by the eighteenth-century British House of Commons, the French National Assembly, and certain EU organs.

Using interviews and primary documents, Nasiritousi & Linnér (2016) investigated nonstate actors sitting in on climate negotiations. Nongovernmental organizations and grassroots groups helped the negotiation's goals by spreading the news about events at the table, but the principal negotiators' decision to permit their presence included other factors, such as whether they might provide information to the negotiators or might lobby for ratification, as well as simply what the practice had been before.

Back-channel negotiation (BCN) is defined as being officially sanctioned, but its existence is mostly secret from the public. In this it differs from track-two diplomacy, which is typically known to be happening, not necessarily officially mandated, and often aimed at reducing tension. A notorious practitioner of BCN was Secretary of State Henry Kissinger, who took initiatives with China, the Soviet Union, and Vietnam unknown to Nixon's cabinet members and ambassadors. Wanis-St. John (2006, 2011) points out that all the major negotiations between Israel and the Palestinian Liberation Organization included both BCNs and nonsecret processes. The same issues may be on both tables, but the far-away table is less vulnerable to domestic interests and media publicity. The BCNs reduced the spoiler leverage of Israeli settlers and Palestinian hard-liners. The back-channel agents in the study were closer to top decision makers and had more autonomy than the regular delegates. BCNs are useful when one party has set preconditions or denies another's legitimacy to negotiate. However, their drawbacks mirror their advantages. Peace agreements often require general changes of attitude, and the public needs to be readied for the new way. Also BCNs can aggravate public distrust in the leadership.

INTERNAL DECISION-MAKING STRUCTURES

States often require that agreements be ratified. This practice can increase a party's share by allowing its agent to credibly refuse low offers. A car salesperson tells a customer, "I have to consult my manager on that," and brings back news that the customer will have to do better. Putnam (1988) viewed an international negotiator as holding a place at two tables. At the international one sit his foreign counterparts, and at the domestic one are legislators, party figures, and representatives of interest groups. Evans et al. (1993) tested the two-level idea through structured, focused comparisons for 11 cases involving both successes and failures in different issue areas. Domestic constraints seemed to extract more concessions in talks on trade and economic issues than in those on security or territory. Milne (2011) suggests that while domestic politics are important, at least for the 1968 Vietnam negotiations President Johnson was more concerned about prevailing in the war than about the fate of the Democratic Party. McLean & Stone (2012) ask: Did states objecting most to the Kyoto Protocol receive special favor in the negotiations, i.e., did they delay accepting it as two-level theory suggests? Looking at the negotiation outcomes and times to ratify, they conclude instead that the quotas were not aimed at winning over reluctant states. EU members ratified the Protocol quickly, largely for the sake of maintaining the European Union as a unified actor. Reluctant members were appeased by side payments.

Ásgeirsdóttir (2008) considers negotiations between Iceland and Norway on "straddling" fish stocks, populations that cross several countries' maritime zones. They constitute a common pool resource, tempting states to overfish. An answer is to make a prior agreement on quotas. Here

its structural terms were constrained by the Law of the Sea Treaty, so the remaining issue was allocating the catches between the states. Since this bargaining is more or less unidimensional, Ásgeirsdóttir could compare the outcomes across time. Consistent with two-level games, Iceland got a better agreement as the domestic power of its fishing industry grew, and Norway switched its focus to oil.

The car dealer and salesperson have similar goals, but interesting issues arise when the ratifier's and negotiator's interests do not coincide. Perhaps the president wants a trade agreement but some senators are promoting protectionism. The topic has inspired many game models, perhaps because they can state precise rules for ratification, comparing simple majorities with supermajorities, presidential with parliamentary systems, and so on. The context presents clear questions: What is the balance between helping one's payoff by reducing the zone of agreement versus risking no agreement? When the sides have different domestic voting systems, which does better?

The US Congress can give the president fast-track authority (FTA) over trade negotiations, meaning that it commits to vote the deal up or down without amendment. One would expect a president to want this power, but during the 2008 campaign President Obama spoke against FTA and never asked for it later. Conconi et al. (2012) combine a game model with extensive data by considering 13 such congressional votes. They categorize districts as export oriented, import oriented, or nonspecialized and test predictions of when a representative will vote for FTA as a function of their preferences and the composition of the government.

Cordona & Ponsati (2015) consider the choice among ratifying rules. Before the negotiation, a group votes either to give full authority to one group member or to require that the representative bring the agreement back to them for ratification. If the group chooses the latter, it also chooses the majority quota. A result is that in situations where it is optimal for a group to give its representative full power, it chooses someone less amenable to an agreement than its median member. One notices that when countries have been in an ongoing conflict, the populace often elects an especially hawkish leader.

The European Union generates a two-level structure when it negotiates as a unit. Forming a coalition typically increases the group's total effectiveness, but what common position should it adopt to maximize its benefit, and what are the effects of different rules for choosing that position? Jupille (1999) uses a spatial model of preferences to compare the Council of Ministers setting the position by unanimity versus by weighted majority. Negotiations under the former unanimity rule tend to continue status quo positions, while the latter are more revisionist.

LINKING ISSUES, ORDERING THE AGENDA

Sometimes the nature of the issues requires settling them together. For example, the choices of strategic weapons limits and verification procedures are mutually dependent. In this context, linkage means settling issues together, when they could be separated. A benefit of linkage is to allow logrolling. Suppose I like the pudding more than the whipped cream on top, but your tastes are the opposite. If we negotiated for one at a time, we might split each equally, but we can both do better by agreeing in one stage that we each take all of our favorite.

Advantages of an issue-by-issue agenda are its simplicity and the benefits of achieving time-critical partial agreements, like arranging a ceasefire. Discussing the easy issues first promotes confidence in the process. Also, a party may want to delay bargaining over what is more important to the other in order to impose time pressure. Many game models have laid out conditions where linkage is better or worse (Maggi 2017). Heifetz & Ponsati (2007) provide an interesting example.

McKibben & Western (2014) distinguish linkage within a content area (e.g., connecting trade in one commodity with trade in another) versus linkage across areas (connecting trade with human

rights). They discuss problems with the latter kind of agreements, in which different ministries within a country would have to compromise their interests. They use the prevalence of within-content-area linkage to explain why EU majorities are well beyond the required quotas. Poast (2012) supports the traditional view that linkage helps, even across contexts. He collected data on trade treaties and military alliance negotiations, including failed ones, from 1860 to 1945. Using matched pairs, he finds that a trade pact was associated with a 36% higher probability of agreement on a military alliance. Davis (2004) argues that to reduce the influence of the agricultural sector and ministry in maintaining protection, those issues were linked with industrial export issues. She discusses the domestic constraints on international linkage using documents on British–Japanese relations before World War I (Davis 2009).

For some issues the European Union requires unanimity and for others only some kind of majority. Aksoy (2012) shows that logrolling is more common in the face of a unanimity rule, since members can exploit their veto power. To spot logrolling she uses the Decision-Making in the European Union data set, which includes who changed positions during the negotiation.

DIFFICULT ISSUES

It is our nature to treat certain goals as sacred. These include the preservation of honor, the lives of loved ones, the land and religion of our ancestors, and our moral principles. They are seen as on a level higher than money, pleasure, or physical convenience, and we reject the thought of compromising them or even putting them at risk for the sake of regular goals. Our daily lives constantly require such trade-offs, however, and a psychological literature discusses how we maintain the fiction that we do not make them (Tetlock 2003).

In negotiations, the no-sacred-trade-offs attitude makes it harder to construct compromises. The other party's pressure to make a trade-off can trigger moral outrage and rigidity. Atran & Axelrod (2008) argue against using material compensation to try to induce such a sacred compromise. Such an attempt challenges the other's claim that they hold the values as sacred and constitutes an insult. Atran & Axelrod suggest moves that symbolically respect the other's sacred values, such as recognition of their rights, acknowledgment of historical facts, or apologies. The no-sacred-trade-offs attitude also hinders negotiation by allowing a party to resist a concession by falsely pretending it violates a sacred value.

O'Neill (2003) considers negotiations over points of honor like home territory or religion. The relevant kind of honor combines two goals: the negotiator wants to defend the group and also wants the group's belief in his readiness to defend the group. The latter belief bolsters the group's confidence that the members will stand by each other, but it causes trouble in negotiations. If one party compromises in an honor-free negotiation and in the end gets no agreement, it has no cause for regretting the compromise. However, compromising on a point of honor lowers the public estimate of the party's core value and is costly even with no agreement. The problem might be reduced by negotiating in secret or using a mediator who does not reveal either side's position unless they achieve a deal.

PROCEDURAL JUSTICE

Albin & Druckman (2014) define procedural justice by four principles. The first is fair representation, the presence of the parties affected. Next is fair treatment, meaning consistency and impartiality in the process's conduct. Making then withdrawing offers would count against this. The third principle is no coercion in making the agreement, and the fourth, transparency, means an open and accessible process. Albin, Druckman, and their coauthors have produced many

detailed studies. Albin & Young (2012) focus on fair agendas, attributing the success of the World Trade Organization talks in Geneva (compared to those in Cancun) to rebundling the issues at the prenegotiation stage and prioritizing them to take account of interests beyond those of the United States and European Union.

Albin & Druckman (2014) relate procedural fairness to an index of negotiation effectiveness, which aggregates various features including the number of issues resolved and the time to sign. Ten arms control agreements were coded from published accounts. A procedural fairness lapse in the Threshold Test Ban meetings, for example, was the back-channel diplomacy of US Secretary of State Henry Kissinger and Soviet Foreign Minister Andrei Gromyko, which damaged the authority of the official delegates. In the bilateral cases, procedural fairness was correlated with the number of issues settled and other measures.

CONCLUSION

The fractionation of research into the five categories identified herein has hindered our understanding. This is not to say that every paper should use several approaches. However, a researcher working within one category should be aware of and guided by relevant findings from the others.

Odell (2010) makes a similar argument. His three "islands of knowledge" are negotiation analysis by practitioners, political economy, and constructivist research. My cartography is different, including coded data analysis, social psychological research, and game theory models, which were stressed in this review. Any given game model omits important variables; otherwise it would be too complicated to yield theorems, but it brings out the skeletal logic of the situation and shows unsuspected connections. Ideally, when the model has shown a connection, we should be able to understand the mechanism intuitively without the mathematics. To risk an oxymoron, the games yield sophisticated common sense. Sophistication is appropriate here, since international negotiators are especially likely to choose their moves knowledgeably and strategically.

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