

TOWARD AN INTEGRATED PRACTICE OF
BEHAVIORAL CONFLICT MANAGEMENT

Gregory Jones
Georgia State University College of Law/Robinson College of Business
gjones@quantlaw.com

ABSTRACT

Conflict resolution is about decision making. Because decision outcomes for conflicting parties depend, at least to some extent, on the decisions of other parties to the conflict, as well as a multitude of external circumstances and third party decision making, these decisions are always made under conditions of uncertainty or risk. Conflict management is about guiding this decision making in such a manner as to mitigate this risk to the greatest extent possible.

Expected utility and subjective expected utility have contributed to the development of a normative theory of decision making under uncertainty that is economically maximizing, with possible allowances for differently shaped utility curves. On the other hand, substantial empirical efforts have contributed descriptive theories of decision making under uncertainty that attempt to address departures from the purely rational model – departures that importantly often prove to be quite robust and predictable across a wide range of decision making contexts.

This Essay proposes an agenda for conflict management research that seeks to leverage both the rational expectation models and the behavioral theories describing predictable deviations from these models to arrive at prescriptions for conflict management practice that can build a bridge between theory and practice, offering practical techniques and concrete guidelines for improvement. Specific ways that these insights can contribute to the development of conflict management practice are considered.

Key Words: negotiator rationality; biases and heuristics; third party intervention

TOWARD AN INTEGRATED PRACTICE OF BEHAVIORAL CONFLICT MANAGEMENT

INTRODUCTION

Conflict resolution is about decision making. One or more competitive or opposing parties are faced with decisions about how to reconcile incompatible needs or desires. Sometimes parties may decide to forgo their demands; in other circumstances, previously rival parties may jointly decide to compromise. In extreme cases, one or more parties may decide to resort to violence.¹ In reaching these decisions, parties may be characterized with varying levels of cooperation or non-cooperation. Nonetheless, because decision outcomes for conflicting parties depend, at least to some extent, on the decisions of other parties to the conflict, as well as a multitude of external circumstances and third party decision making, these decisions are always made under conditions of uncertainty or risk. Conflict management is about guiding this decision making in such a manner as to mitigate this risk to the greatest extent possible.

The analysis of risky decisions is not new. Since von Neumann and Morgenstern (1944) laid the foundations of rational expectations theory and Savage (1954) first described the expected value criterion, much work has contributed to the development of a normative theory of decision making under uncertainty that is economically maximizing, with possible allowances for differently shaped utility curves. (Baron, 2000; Clemen, 1996; Hirshleifer & Riley, 1992; Keeney & Raiffa, 1976; Laffont, 1989; Luce & Raiffa, 1957; Macho-Stadler & Perez-Castrillo, 2001; March & Shapira, 1987; March, 1994; Moore, 1983; Raiffa, 1996;

¹ See Yarn (2000) for an account of the institutionalization of dueling as a conflict resolution mechanism.

Shapira, 1995). Expected utility and subjective expected utility remain among the most important theories in twentieth-century social science. (Einhorn & Hogarth, 1987).

On the other hand, substantial empirical efforts have contributed descriptive theories of decision making under uncertainty that attempt to address departures from the purely rational model – departures that importantly often prove to be quite robust and predictable across a wide range of decision making contexts. Kahneman and Tversky, along with others who have developed and extended their work, have offered behavioral evidence of cognitive shortcuts, or heuristics, that tend to bias actual decision making outcomes as compared with the normative rational models in ways that are quite foreseeable. (Dawes, 1988; Gardenfors & Sahlin, 1988; Goldstein & Hogarth, 1997; Hammond, Keeney, & Raiffa, 1999; Hastie & Dawes, 2001; Kahneman, Knetsch, & Thaler, 1991; Kahneman & Lovallo, 1993; Kahneman, Slovic, & Tversky, 1982; Kahneman & Tversky, 1973, 1979a, 1979b, 2000; Plous, 1993; Russo & Schoemaker, 2002; Tversky & Kahneman, 1974, 1981, 1983, 1986, 1991, 1992).

This interdisciplinary work has been applied to, *inter alia*, questions of economics, business, law, medicine, and negotiation. (Bazerman & Neale, 1992; Connolly, Arkes, & Hammond, 2000; Harvard Business Review, 2000; Lax & Sebenius, 1986; Raiffa, 1982, 1996, 2002; Walton & McKersie, 1993). Attempts have been made to rescue decision making from the irrationality of heuristics and biases by examining the causes of these behaviors (Payne, Bettman & Johnson, 1993) and considering the importance of intuition in adaptive decision making. (Hogarth, 2001; Klein, 1999; Piattelli-Palmarini, 1994). And signaling a science of “correct” decision making that has come full circle from its Socratic roots, recent attention

has been refocused on ethical decision making in the context of fairness and morality (Brams & Taylor, 1996; Schick, 1997; Young, 1994).²

Considering the development of an integrated behavioral theory of conflict management, many of the necessary building blocks are already in place. Raiffa, the undisputed father of negotiation analytics, trained as a game theorist, mathematical statistician, and decision theorist, has built substantial normative scaffolding which much of the research that follows depends on for support. (Raiffa, 1982, 1996, 2002). His most recent work is one of the first efforts to attempt a comprehensive integration of normative archetypes of negotiation with behavioral or descriptive theories. (Raiffa, 2002). Brams and Taylor have built substantially upon Raiffa's game theoretic foundations, offering a set of economic procedures, or algorithms, for negotiation along with proposals for applying their proposals to actual conflicts or disputes. (Brams, 1990; Brams & Taylor, 1996).

The behavioral, or descriptive, study of conflict management is not left wanting for pioneers either. Bazerman and Neale, a team of management theorists, along with a number of collaborators, have applied Kahneman and Tversky's heuristics and biases to better understand actual practice in negotiation and conflict management. (Bazerman, 2002; Bazerman, Magliozzi, & Neale, 1985; Bazerman & Neale, 1992, 1983; Huber, Neale, & Northcraft, 1987; Neale & Bazerman, 1991; Northcraft & Neale, 1986). Gigerenzer and Sedlmeier have offered adaptive views of decision making and negotiation under uncertainty

² These evolutions are not uncommon in many of the other social sciences. Note particularly a conspicuous sub-discipline of conflict management, the law, which has been aptly draped in normative economic principles by Richard Posner (1981) and a legion of disciples. Cass Sunstein (2000) along with an equally formidable group of interdisciplinary scholars has offered descriptive alternatives, proclaiming the creation of the new science of behavioral law and economics.

that suggest heuristics and their associated biases to be a function of a shifted rationality best understood in terms of evolutionary theory (Gigerenzer, 2000, 2002; Gigerenzer & Selten, 2001; Sedlmeier, 1999).

The contribution of this Essay is decidedly prescriptive. I propose an agenda for conflict management research that seeks to keep both the rational expectation models and the theories that describe predictable deviations from these models as useful tools. The Essay begins with a brief consideration of the foundations of a negotiation theory built upon principles of subjective rational expectations. Next, the Essay explores pathologies of the rational model that have been demonstrated in the contexts of negotiation and conflict resolution. In what constitutes the central thesis of the Essay, possible intervention strategies are examined that may leverage rational benchmarks and a understanding of behavior that predictably deviates from these benchmarks as means of performance improvement for parties to the conflict as well as for third party neutrals who seek to mediate the conflict. Finally, the Essay concludes that the process of building a bridge between theory and practice will require an examination of conflict management using the perspective of multiple metaphors, or paradigms. In fact, the Essay suggests, the normative and descriptive models are so mutually interdependent as to be rendered of little use in isolation from the other. Specific ways that these insights can contribute to the development of conflict management practice are considered.

Rational models view decision making as choices among risky alternatives and assume that judgments regarding odds are Bayesian in nature and maximizing in expected utility. (Kahneman & Lovallo, 1993; March & Shapira, 1987). Becker's account of these principles is representative:

[A]ll human behavior can be viewed as involving participants who (1) maximize their utility (2) from a stable set of preferences and (3) accumulate an optimal amount of information and other inputs in a variety of markets. (Becker, 1976, p.14).

Economists acknowledge that these principles are normative – that they suggest an approach to decision-making that is not necessarily employed by real people, but instead by a super-human rational man. Even so, the influence of rational expectations theory has been far reaching, exerting influence in many disciplines beyond economics including psychology (Simon, 1978), political science (Green & Shapiro, 1974), and virtually all of the other social sciences (Hogarth & Reder, 1987b).

Additionally, this normative framework has been extensively applied to negotiation and conflict resolution. (Brams, 1990; Lax & Sebenius, 1986; Raiffa, 1982, 1996, 2002). In these contexts, parties to disputes are understood to arrive at the negotiating table with a stable set of preferences (desired outcomes to be derived from the attempt at conflict resolution), with complete information (a complete understanding of all available alternatives and their consequences in terms of specific preferences), and with the cognitive ability to maximize their utility (to decide upon an outcome that maximizes overall benefit³ based upon an

³ It should be kept in mind that this maximizing outcome may be to walk away from the negotiations. "Negotiating rationally means making the best decisions to maximize your interests. However, we are not concerned with 'getting to yes.' Our work shows that in many cases, no agreement at all is better than 'getting to yes'." (Bazerman & Neale, 1992).

appropriate weighting of each preference for each alternative).⁴ The extent to which negotiator behavior deviates from these rational norms and the extent to which these deviations are predictable are what afford opportunity for process improvement, particularly for third parties who endeavor to manage a given conflict. These opportunities are more fully considered later in this Essay.

As early as 1954, Meehl published evidence of a divergence between decision making models based on simple linear combinations, and therefore consistent with the fundamental tenets of rational expectation, and descriptive models of actual decision making behavior. As Simon later put it, “[t]he rational person of neoclassical economics always reaches the decision that is objectively, or substantively, best in terms of the given utility function. The rational person of cognitive psychology goes about making his or her decisions in a way that is procedurally reasonable in light of the available knowledge and means of computation.” (1987, p. 27). These distinctions lead to a natural shift in emphasis aptly described by Kahneman, Slovic, & Tversky in the introduction to their groundbreaking text, *Judgment Under Uncertainty: Heuristics and Biases*. “The matching of human judgments to normative models was to become one of the major paradigms of research on judgment under uncertainty. Inevitably, it led to concerns with the biases to which inductive inferences are prone and the methods that could be used to correct them.” (Kahneman, Slovic, & Tversky, 1982, p. vii). The next section examines some of these biases and their influence in the specific context of negotiation and conflict resolution.

THE PATHOLOGIES OF RATIONAL NEGOTIATION

⁴ This weighting is normatively accomplished using rational expectations theory. For a complete discussions, see Clemen (1996) and Savage (1954).

Extensive descriptive research has led to the conclusion that normative rational models fail to accurately describe the behavior of parties engaged in conflict resolution efforts. (Bazerman, 2002; Bazerman & Neale, 1992, 1983; Neale & Bazerman, 1991; Raiffa, 2002; Young, 1991. For excellent reviews of the intellectual foundations for these works, see Kahneman, Slovic & Tversky (1982); Kahneman & Tversky (2000); and Plous (1993)). A number of negotiating behaviors that deviate from rationality have been observed, and importantly, these behaviors deviate in predictable ways. Studies have observed an unwillingness to recognize sunk costs and the resulting irrational escalation of commitment to positions that are no longer optimal. (Northcraft & Neale, 1986; Bazerman & Neale, 1983). Attitudes towards risk are often affected merely by the manner in which alternatives are framed as either potential gains or potential losses. (Huber, Neale, & Northcraft, 1987; Neale & Bazerman, 1985; Tversky & Kahneman, 1974; Bazerman, Magliozzi, & Neale, 1985). New information is underutilized in updating positions that are anchored by previous estimates or prior information. (Tversky & Kahneman, 1974; Huber & Neale, 1986; Northcraft & Neale, 1987). Parties are generally extremely overconfident with regards to their likelihood of success and to their ability to predict uncertain events. (Neale & Bazerman, 1985; Bazerman & Neale, 1982). Related to this overconfidence is the tendency to reactively devalue information or any concession offered by opposing parties (Stillenger, Epelbaum, Keltner, & Ross, 1990). Even information offered by third party neutrals is typically dramatically undervalued and underutilized. (Jones, 2002; Jones & Yarn, 2002). In what follows, this Essay examines selected heuristics and biases in more detail, with particular attention paid to the affect that they may exert on the efficacy of conflict management efforts.

Heuristics & Biases

Subjective assessment of probabilistic information is often constrained by a bounded rationality that, while maintaining rationality as the driver of individual judgment, concedes that decision makers benefit from only limited information owing to time constraints, cost restrictions, and cognitive limitations. (Simon, 1957; March & Simon, 1958). Tversky and Kahneman (1974) built upon the concepts of bounded rationality by identifying simplifying strategies, or rules of thumb, known as heuristics, that are relied upon in order to reach decisions in spite of informational and cognitive limitations. These heuristics lead to biases which are often predictable. (Tversky & Kahneman, 1974). Selected heuristics are enumerated in the sections that follow and the theoretical and practical implications for the practice of conflict management are considered.

Sunk Costs. Too often, particularly in competitive situations, decision makers tend to allow their preferences to be dominated by “sunk costs,” that is, historical investments in time and money that cannot be recovered and, as such, should not be considered in evaluating future courses of action. (Staw & Ross, 1989; Bazerman & Samuelson, 1983; Brockner & Rubin, 1985; Kagel & Levin, 1986). “Our reference point for action should be our current state, and we should consider all alternative courses of action by evaluating only the future costs and benefits associated with each action.” (Bazerman, 2002, p. 77). Nonetheless, past investments tend to skew negotiations in such a way that often results in nonrational escalation, defined by Bazerman as “the degree to which an individual escalates commitment

to a previously selected course of action to a point beyond that which a rational model of decision making would prescribe.” (2002, p. 76).

Risk Aversion. It is commonly held that individual decision makers are risk averse, that is, they prefer a certain outcome to a gamble, even when the gamble is of equal expected value. (Bateman & Zeithaml, 1989; Fishburn & Kochenberger, 1979; Kahneman & Lovallo, 1993). Although “the standard interpretation of risk aversion is decreasing marginal utility of gains,” (Kahneman & Lovallo, 1993, p. 18), Tversky and Kahneman (1986) have demonstrated that the extent to which risk aversion biases decisions depends to a great extent on whether the alternatives are framed as gains or as losses. (See also Redelmeier & Tversky, 1992). Decision makers tend to be more risk averse when considering alternatives framed as gains and more risk seeking when considering alternatives framed as losses. As Tversky & Kahneman (1986) have shown, such distinctions can often be merely a matter of semantics. Bazerman, Magliozzi, and Neale (1985) have shown that decision framing systematically affects negotiation behavior and that the selection of frames can make the difference between settlement and impasse.

Anchoring. Research has demonstrated that decision makers tend to develop estimates of alternatives by starting with an anchor that is based upon whatever information is initially available⁵ and then making adjustments to this anchor using new information as it is acquired. (Samuleson & Zeckhauser, 1988; Slovic & Lichtenstein, 1971). In general, the adjustments made away from these anchors are insufficient to fully account for the value of new information. Ritov (1996) has demonstrated that very small differences in the way

⁵ This anchoring effect has proven to be extremely robust even when the initial information provided is irrelevant to the decision at hand. (Bazerman, 2002).

negotiations are anchored, by initial offer posturing, for example, can have dramatic effects on final outcomes.

Overconfidence. When engaging in risky decision making, most individuals tend to underestimate the extent of their uncertainty and to express overconfidence in their own estimation abilities. (Alpert & Raiffa, 1969; Fischhoff, Slovic, & Lichtenstein, 1977; Griffin & Tversky, 1992). Overconfidence can, of course, have detrimental effects on the ability to identify a possible range of agreement in negotiation and can, in fact, lead to a reactive devaluation of any information offered by an opposing party. (Raiffa, 2002). Bazerman (2002) has noted that this bias is most likely to occur when a party's knowledge is in some way limited and the tendency is to follow the intuitive cognitive rule, "When in doubt, be overconfident." Bazerman has suggested "that negotiators . . . seek objective value assessments from a neutral party, realizing that this neutral assessment is likely to be closer to the other party's position than the negotiator might have intuitively predicted." (2002, p. 141).

Non-Probabilistic Thinking. There is significant evidence that innumeracy pervades our thinking in all aspects of life, including decision making and negotiation. (Gigerenzer, 2002; Paulos, 2001; Sedlmeier, 1999). Humans are not particularly well suited to probabilistic thinking. Recent negotiation research has demonstrated instances in which evaluative information offered by neutral third parties has been dramatically undervalued and once acquired, inadequately integrated into prior probabilities. (Jones, 2002; Jones & Yarn, 2002). Other research has shown that extreme conditional probabilities tend to dominate prior

probabilities resulting in a near complete disregard for relevant base rates. (Gigerenzer, 2002; Lynch & Ofir, 1989; Sedlmeier, 1999).

INTERVENTION STRATEGIES:
IMPROVING CONFLICT MANAGEMENT DESPITE HEURISTICS & BIASES

Given rational benchmarks for negotiation decision making and a growing understanding of the heuristics and biases that cause parties to fall short of these benchmarks, how can we go about using these insights to improve the management of conflict? We begin with debiasing – the effort to mitigate the effects of the heuristic biases where possible. There is not a great deal of consensus with regard to the promise of debiasing. Tversky and Kahneman (1987) have warned that there may be biases that defy improvement, at least in the contexts of realistic decision making. Other researchers have treated specific biases that have benefited from intervention. (Bazerman, 2002; Koriat, Lichtenstein, & Fischhoff, 1980; Lichtenstein, Fischhoff & Phillips, 1982; Paulos, 2001). Hogarth (2001) has proposed that even our hard-wired intuition can be educated and improved. Kahneman and Lovallo (1993) have described a systematic approach to a shifting of viewpoint, described in more detail below, that improves probabilistic thinking. Finally, there remains the possibility, even where debiasing mechanisms are not available or effective, that identification of bias can, in and of itself, guide decision making in a way that minimizes risk and improves the practice of conflict management.

Debiasing

A number of studies have reported successful corrective procedures for addressing the influence of heuristics and biases on rational decision making. (Dawes, 1979; Fishhoff, 1982; Kahneman & Tversky, 1979; Nisbett, Krantz, Jepson, & Fong, 1982). In the context of the specific heuristics and biases considered above, Lichtenstein, Fischhoff and Phillips (1982) have found that giving parties direct feedback with regard to anchoring and overconfidence can reduce the impact of these biases. Koriat, Lichtenstein, and Fischhoff (1980) have demonstrated that a program in which decision makers are asked to be their own critic with regard to the extent that estimates may be overconfident or that adjustments may be inadequate can at least effect recognition of these biases. According to Bazerman (2002), objective value assessments from a neutral party can also be helpful. Paulos (2001) and Gigerenzer (2002) have proposed that expressing probabilities as natural frequencies rather than percentages results in modification of prior probabilities that more closely resemble Bayesian outcomes.

The Party as Neutral

Kahneman and Lovallo (1993) have proposed that all decision makers maintain two perspectives on the judgments that they make. The insider perspective is one that views each decision circumstance or each negotiation in isolation. The outsider perspective instead views a given circumstance in the context of other decisions or negotiations and is therefore “more capable of generalizing across situations and identifying similarities.” (Bazerman, 2002, p. 157). As a particularly apropos example, while my outsider perspective is well

familiar with the fact that the many papers I have written always take longer than I expect to complete, using my insider perspective to evaluate this project in isolation, I nevertheless anticipated that I would finish this paper ahead of schedule. Of course, I was wrong . . . again. Kahneman and Lovallo have suggested that estimates made utilizing the outsider perspective, because they leverage relevant global data from previous decisions, tend to be more reliable. In response, Bazerman (2002) has proposed that bias can be reduced by soliciting the views of a neutral outsider. Another possibility is to guide parties to abstract themselves from the decision at hand and to imagine what advice they might give if they, in fact, were a neutral outsider. This “party turned neutral” perspective could provide a level of temporary objectivity that could alter positions and help to achieve consensus.

Explicit Recognition of Irreconcilable Deviation

Tversky and Kahneman have suggested that decision making efficiency can be improved by learning, but have warned that “effective learning takes place only under certain conditions: it requires accurate and immediate feedback about the relation between the situational conditions and the appropriate response.” (1987, pp. 90-91). But even when debiasing or learning are not possible strategies, explicit recognition of deviations from normative ideals that do not lend themselves to correction can be useful in coordinating the behavior of neutrals and parties alike. According to Payne, Bettman, & Johnson, “an individual’s use of multiple decision strategies in different situations, including various simplifying methods or choice heuristics, is an adaptive response of a limited-capacity information processor to the demands of complex decision tasks.” (1993, p. 2). Awareness of these strategies and the circumstances in which they may arise along with some ability to predict their influence in

various environments offers a great deal in terms of focusing efforts and determining the likelihood of successful management of a given conflict.

[W]e argue that the specific strategies used to solve particular decision problems are usually intelligent responses under the assumption that people have multiple goals for decisions, including both the desire to be accurate and the desire to conserve limited cognitive responses. Thus, we believe that how people decide how to decide is predictable when both the benefits and the costs of specific decision strategies in particular task environments are taken into account . . . (Payne, Bettman, & Johnson, 1993, p.2).

Therefore, the mere explicit recognition of heuristics and the circumstances in which they occur can be of practical usefulness to conflict management practitioners. For example, simple awareness of the role that initial offer posturing can have on anchoring and adjustment biases can lead to effective strategies in which offers are strongly discouraged until late in the mediation process. While the anchoring and adjustment biases are not debiased, or mitigated in the strict sense, the recognition of their possible existence and the utilization of appropriate intervention strategies prevent them from influencing the course of the negotiation.

CONCLUSIONS

A carpenter's rule is probably the most important tool in his pouch. Discovery that his rule was inaccurate without a readily available replacement would create enormous problems for the trade. However, what if we could mitigate the carpenter's problem to some extent with the discovery that the rule is biased in predictable ways. Would it then be rational for the carpenter to discard the faulty rule, keeping in mind that he lacks a replacement? Surely not. If the carpenter were alerted to the fact that the rule overestimated each yard measured by an inch, then the rule would be quickly returned to productive use. The utility of the rule would

simply now depend on the knowledge of its predictable bias. But even more importantly, the knowledge of the predictable bias is useless without the rule. Both the normative benchmark of the rule and the descriptive knowledge of its inaccuracy are required in order for the carpenter to do his job.⁶

Similarly, the field of conflict management is equipped with a “rule” of rational negotiation theory that provides benchmarks for the behavior of both parties and third party neutrals. Like the carpenter, conflict management practitioners are well aware that the rational “rule” is not adequate to explain behavior and to guide practice. Fortunately, much has been done to describe the manner in which the “rule” is biased under particular circumstances and a great deal of this bias is systematic and predictable.⁷ The work that now remains is the identification and testing of conflict management practitioner rules – the equivalent of “measure the required length and then subtract one inch per yard” – that will integrate the “rule” and the knowledge of systematic bias into systems that offer practical utility.⁸

⁶ While drafting this argument, a concrete example of similar logic at use in directing public health policy was in press (Brener, in press). Researchers at the Centers for Disease Control and Prevention (CDC) use an elaborate survey instrument, the Youth Risk Behavior Surveillance System (YRBSS) to monitor and prioritize health risk behaviors among high school students. The system has been criticized due to a lack of reliability and validity of self-reported measures. “[B]iasing BMI [body mass index] on self-reported height and weight clearly leads to underestimates of the prevalence of obesity in this population.” (Brener, in press, p. 7). But Brener, et al., offer a solution: “Perhaps, as has been suggested, prevalence estimates should be corrected using a conversion factor that takes this misreporting into account. If such a method is used, results from this study indicate that separate conversion factors should be calculated for each demographic subgroup.” (In press, p. 7).

⁷ More work is required to extend behavioral decision theory into the domain of conflict management. As has been noted by Simon, “to extend the theory into domains where there are no data on certain key variables may require empirically untested auxiliary assumptions the validity of which is essential to accurate prediction.” (Hogarth & Reder, 1987b, p. 10). The field of conflict management still suffers from a dearth of empirical testing.

⁸ Such rules would also have other implications, including weighing in on the evaluative/facilitative mediation debate and providing a framework for the development of more effective negotiation support systems. These implications are beyond the scope of this Essay.

To accomplish these tasks, both normative theory and descriptive knowledge will be required.⁹ Hogarth and Reder have suggested that decision making, and consequently in our context, conflict management, are sufficiently complex phenomena as to benefit from research approaching the fields from “multiple metaphors.” (Hogarth & Reder, 1987b). “[M]ore can be gained by viewing the world from the perspective of multiple metaphors. In addition, since the phenomenon of concern are complex, we believe it would be foolish to abandon either approach. Indeed, in the division of labor that is necessary to make scientific progress, much can be gained by adhering to the ‘law of comparative advantage.’” (Hogarth & Reder, 1987b, p. 17). To eschew one paradigm of thought in favor of another is tantamount to using Simon’s one-bladed scissors (Simon, 1987). It is time for the field of conflict management to fashion a set of complete, complementary instruments capable of trimming down theoretical underpinnings to reveal practical techniques and concrete guidelines that can offer tangible contributions to practice.

REFERENCES

- Alperrr, M., & Raiffa, H. (1969). A progress report on the training of probability assessors. In D. Kahneman, P. Slovic, and A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.
- Baron, J. (2000). *Thinking and deciding*. Cambridge: Cambridge University Press.
- Bateman, T. S., & Zeithaml, C. T. (1989). The psychological context of strategic decisions: A model and convergent experimental findings. *Strategic Management Journal*, 10, 59-74.
- Bazerman, M. H. (2002). *Judgment in managerial decision making*. New York: John Wiley & Sons.

⁹ Neither the rational expectations model nor the heuristics that deviate from it will be of use in isolation. It has been suggested, in fact, that the rational choice paradigm can itself be considered a heuristic device (Hogarth & Reder, 1987b).

- Bazerman, M. H., Magliozzo, T., & Neale, M. A. (1985). The acquisition of an integrative response in a competitive market. *Organizational Behavior and Human Performance*, *34*, 294-313.
- Bazerman, M. H., & Neale, M. A. (1982). Improving negotiation effectiveness under final offer arbitration: The role of selection and training. *Journal of Applied Psychology*, *67*, 543-548.
- Bazerman, M. H., & Neale, M. A. (1983). Heuristics in negotiation: Limitations to dispute resolution effectiveness. In M. H. Bazerman & R. J. Lewicki (Eds.), *Negotiating in organizations*. Beverly Hills, CA: Sage Publications.
- Bazerman, M. H., & Neale, M. A. (1992). *Negotiating rationally*. New York: The Free Press.
- Bazerman, M. H., & Samuelson, W. F. (1983). I won the auction but don't want the prize. *Journal of Financial Economics*, *27*, 618-634.
- Becker, G. S. (1976). *The economic approach to human behavior*. Chicago: University of Chicago Press.
- Brams, S. J. (1990). *Negotiation games: Applying game theory to bargaining and arbitration*. New York: Routledge.
- Brams, S. J., & Taylor, A. D. (1996). *Fair division: From cake-cutting to dispute resolution*. Cambridge: Cambridge University Press.
- Brener, N. D., McManus, T., Galuska, D. A., Lowry, R., & Wechsler, H. (in press). Reliability and validity of self-reported height and weight among high school students. *Journal of Adolescent Health*, *32*, 1-7.
- Brockner, J., & Rubin, J. Z. (1985). *Entrapment in escalating conflicts*. New York: Springer-Verlag.
- Clemen, R. T. (1996). *Making hard decisions: An introduction to decision analysis*. Belmont, CA: Duxbury Press.
- Connolly, T., Arkes, H. R., & Hammond, K. R. (Eds.). (2000). *Judgment and decision making: An interdisciplinary reader*. Cambridge: Cambridge University Press.
- Dawes, R. M. (1988). *Rational choice in an uncertain world*. Orlando, FL: Harcourt Bruce Jovanovich.
- Dawes, R. M. (1979). The robust beauty of improper linear models in decision making. *American Psychologist*, *34*, 571-582.
- Einhorn, H. J., & Hogarth, R. M. (1987). Decision making under ambiguity. In R. M. Hogarth & M. W. Reder, (Eds.), *Rational choice: The contrast between economics and psychology*. (pp. 41-66). Chicago: The University of Chicago Press.

- Fishburn, P. C., & Kochenberger, G. A. (1979). Two-piece von Neumann-Morgenstern utility functions. *Decision Sciences*, 10, 503-518.
- Fishhoff, B., (1982). Debiasing. In D. Kahneman, P. Slovic, and A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.
- Fishhoff, B., Slovic, P., & Lichtenstein, S. (1977). Knowing with certainty: The appropriateness of extreme confidence. *Journal of Experimental Psychology: Human Perception and Performance*, 3, 552-564.
- Gärdenfors, P., & Sahlin, N. (Eds.). (1988). *Decision, probability, and utility*. Cambridge: Cambridge University Press.
- Gigerenzer, G. (2000). *Adaptive thinking: Rationality in the real world*. Oxford: Oxford University Press.
- Gigerenzer, G. (2002). *Calculated risks: How to know when numbers deceive you*. New York: Simon & Schuster.
- Gigerenzer, G., & Selten, R. (Eds.). (2001). *Bounded rationality: The adaptive toolbox*. Cambridge: The MIT Press.
- Goldstein, W. M., & Hogarth, R. M. (Eds.). (1997). *Research on judgment and decision making: Currents, connections, and controversies*. Cambridge: Cambridge University Press.
- Green, D. P., & Shapiro, I. (1994). *Pathologies of rational choice theory: A critique of applications in political science*. New Haven: Yale University Press.
- Griffin, D., & Tversky, A. (1992). The weighting of evidence and the determinants of confidence. *Cognitive Psychology*, 24, 411-435.
- Hammond, J. S., Keeney, R. L., & Raiffa, H. (1999). *Smart choices: A practical guide to making better decisions*. Boston: Harvard Business School Press.
- Harvard Business Review. (2000). *Harvard Business Review on negotiation and conflict resolution*. Boston: Harvard Business School Press.
- Hastie, R., & Dawes, R. M. (2001). *Rational choice in an uncertain world*. Thousand Oaks, CA: Sage Publications.
- Hirshleifer, J., & Riley, J. G. (1992). *The analytics of uncertainty and information*. Cambridge: Cambridge University Press.
- Hogarth, R. M., & Reder, M. W. (Eds.). (1987a). *Rational choice: The contrast between economics and psychology*. Chicago: University of Chicago Press.

- Hogarth, R. M., & Reder, M. W. (1987b). Introduction: Perspectives from economics and psychology. In R. M. Hogarth & M. W. Reder, (Eds.), *Rational choice: The contrast between economics and psychology*. (pp. 1-23). Chicago: The University of Chicago Press.
- Hogarth, R. M. (2001). *Educating intuition*. Chicago: University of Chicago Press.
- Huber, V. L., & Neale, M. A. (1986). Effects of cognitive heuristics and goals on negotiator performance and subsequent goal setting. *Organizational Behavior and Human Decision Processes*, 38, 342-365.
- Huber, V. L., Neale, M. A., & Northcraft, G. B. (1987). Judgment by heuristics: Effects of rater and ratee characteristics and performance standards on performance-related judgments. *Organizational Behavior and Human Decision Processes*, 40, 149-169.
- Jones, G. T. (2002). *Evaluative ADR, uncertainty & information*. [On-line]. Available: The ABA Section Of Dispute Resolution, <http://www.abanet.org/dispute/essaycomp.html>.
- Jones, G. T., & Yarn, D. H. (2002). *Alternative dispute resolution under uncertainty: An empirical look at Bayes' theorem and the expected value of perfect information*. Paper presented at the annual meeting of the Society for Evolutionary Analysis of Law, Vanderbilt Law School, Nashville, TN.
- Kagel, J. H., & Levin, D. (1986). The winner's curse and public information in common value auctions. *American Economic Review*, 76, 894-920.
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). The endowment effect, loss aversion, and status quo bias. *Journal of Economic Perspectives*, 5, 193-206.
- Kahneman, D., & Lovallo, D. (1993). Timid choices and bold forecasts: A cognitive perspective on risk taking. *Management Science*, 39, 17-31.
- Kahneman, D., Slovic, P., & Tversky, A. (1982). *Judgment under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.
- Kahneman, D., & Tversky, A. (1973). On the psychology of prediction. *Psychological Review*, 80, 237-251.
- Kahneman, D., & Tversky, A. (1979a). Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263-290.
- Kahneman, D., & Tversky, A. (1979b). Intuitive prediction: Biases and corrective procedures. *Management Science*, 12, 313-327.
- Kahneman, D., & Tversky, A. (2000). *Choices, values, and frames*. Cambridge: Cambridge University Press.
- Keeney, R. L., & Raiffa, H. (1976). *Decisions with multiple objectives: Preference and value tradeoffs*. New York: John Wiley & Sons.

- Klein, G. (1999). *Sources of power: How people make decisions*. Cambridge: The MIT Press.
- Koriat, A., Lichtenstein, S., & Fischhoff, B. (1980). Reasons for confidence. *Journal of Experimental Psychology: Human Learning and Memory*, 6, 107-118.
- Laffont, J. (1989). *The economics of uncertainty and information*. Cambridge: The MIT Press.
- Lax, D. A., & Sebenius, J. K. (1986). *The manager as negotiator: Bargaining for cooperative and competitive gain*. New York: The Free Press.
- Lichtenstein, S., Fischhoff, B., & Phillips, L. D. (1982). Calibration of probabilities: The state of the art to 1980. In D. Kahneman, T. Slovic, & A. Tversky (Eds.), *Judgment under uncertainty: heuristics and biases*. (pp. 306-334). Cambridge: Cambridge University Press.
- Luce, R. D., & Raiffa, H. (1957). *Games and decisions: Introduction and critical survey*. New York: John Wiley & Sons.
- Lynch, J. G., & Ofir, C. (1989). Effects of cue consistency and value on base-rate utilization. *Journal of Personality and Social Psychology*, 56, 170-181.
- Macho-Stadler, I., & Perez-Castrillo, J. D. (2001). *An introduction to the economics of information*. Oxford: Oxford University Press.
- March, J. G. (1994). *A Primer on decision making: How decisions happen*. New York: The Free Press.
- March, J. G., & Shapira, Z. (1987). *Managerial perspectives on risk and risk taking*. *Management Science*, 33, 1404-1418.
- March, J. G., & Simon, H. A. (1958). *Organizations*. New York: Wiley.
- Meehl, P. E. (1954). *Clinical versus statistical prediction: A theoretical analysis and a review of the evidence*. Minneapolis: University of Minnesota Press.
- Moore, P. G. (1983). *The business of risk*. Cambridge: Cambridge University Press.
- Neale, M. A., & Bazerman, M. H. (1985). The effects of framing and negotiator overconfidence on bargainer behavior. *Academy of Management Journal*, 28, 34-49.
- Neale, M. A., & Bazerman, M. H. (1991). *Cognition and rationality in negotiation*. New York: The Free Press.
- Nisbett, R. E., Krantz, D. H., Jepson, C., & Fong, G. T. (1982). Improving inductive inference. In D. Kahneman, P. Slovic, and A. Tversky (Eds.), *Judgment under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.

- Northcraft, G. B., & Neale, M. A. (1986). Opportunity costs and the framing of resource allocation decision. *Organizational Behavior and Human Decision Processes*, 37, 348-356.
- Northcraft, G. B., & Neale, M. A. (1987). Experts, amateurs, and real estate: An anchoring-and-adjustment perspective on property pricing decisions. *Organizational Behavior and Human Decision Processes*, 39, 228-241.
- Paulos, J. A. (2001). *Innumeracy: Mathematical illiteracy and its consequences*. New York: Hill and Wang.
- Payne, J. W., Bettman, J. R., & Johnson, E. J. (1993). *The adaptive decision maker*. Cambridge: Cambridge University Press.
- Piattelli-Palmarini, M. (1994). *Inevitable illusions: How mistakes of reason rule our minds*. New York: John Wiley & Sons.
- Plous, S. (1993). *The psychology of judgment and decision making*. New York: McGraw-Hill.
- Posner, R. A. (1981). *The economics of justice*. Cambridge: Harvard University Press.
- Raiffa, H. (1982). *The art and science of negotiation: How to resolve conflict and get the best out of bargaining*. Cambridge: Harvard University Press.
- Raiffa, H. (1996). *Lectures on negotiation analysis*. Cambridge: The Program on Negotiation at Harvard Law School.
- Raiffa, H. (2002). *Negotiation analysis: The science and art of collaborative decision making*. Cambridge: Harvard University Press.
- Redelmeier, D. A., & Tversky, A. (1992). On the framing of multiple prospects. *Psychological Science*, 3, 191-193.
- Ritov, I. (1996). Anchoring in simulated competitive market negotiations. *Organizational Behavior and Human Decision Processes*, 67, 16-25.
- Russo, J. E., & Schoemaker, P. J. H. (2002). *Winning decisions: Getting it right the first time*. New York: Doubleday.
- Samuleson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, 1, 7-59.
- Savage, L. J. (1954). *The foundations of statistics*. New York: Dover.
- Schick, F. (1997). *Making choices: A recasting of decision theory*. Cambridge: Cambridge University Press.
- Sedlmeier, P. (1999). *Improving statistical reasoning: Theoretical models and practical implications*. New Jersey: Lawrence Erlbaum Associates.

- Shapira, Z. (1995). *Risk taking: A managerial perspective*. New York: The Russell Sage Foundation.
- Simon, H. A. (1957). *Models of man*. New York: John Wiley & Sons, Inc.
- Simon, H. A. (1978). Rationality as process and as product of thought. *American Economic Review*, 68, 1-16.
- Simon, H. A. (1987). Rationality in psychology and economics. In R. M. Hogarth & M. W. Reder, (Eds.), *Rational choice: The contrast between economics and psychology*. (pp. 25-40). Chicago: The University of Chicago Press.
- Slovic, P., & Lichtenstein, S. (1971). Comparison of Bayesian and regression approaches in the study of information processing in judgment. *Organizational Behavior and Human Performance*, 6, 649-744.
- Staw, B., & Ross, J. (1989). Understanding behavior in escalation situations. *Science*, 246, 216-220.
- Stillenger, C., Epelbaum, M., Keltner, D., & Ross, L. (1990). *The 'reactive devaluation' barrier to conflict resolution*. Working paper, Stanford University, Palo Alto, CA. Cited by Neale & Bazerman (1991).
- Sunstein, C. R. (Ed.). (2000). *Behavioral law & economics*. Cambridge: Cambridge University Press.
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1131.
- Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211, 453-458.
- Tversky, A., & Kahneman, D. (1983). Extensional versus intuitive reasoning: The conjunction fallacy in probability judgment. *Psychological Review*, 90, 293-315.
- Tversky, A., & Kahneman, D. (1986). Rational choice and the framing of decisions. *Journal of Business*, 59, S251-S278.
- Tversky, A., & Kahneman, D. (1987). Rational choice and the framing of decisions. In R. M. Hogarth & M. W. Reder, (Eds.), *Rational choice: The contrast between economics and psychology*. (pp. 25-40). Chicago: The University of Chicago Press.
- Tversky, A., & Kahneman, D. (1991). Reference theory of choice and exchange. *Quarterly Journal of Economics*, 1039-1061.
- Tversky, A., & Kahneman, D. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, 5, 297-323.

von Neumann, J., & Morgenstern, O. (1944). *Theory of games and economic behavior*. Princeton, NJ: Princeton University Press.

Walton, R. E., & McKersie, R. B. (1993). *A behavioral theory of labor negotiations: An analysis of a social interaction system*. Ithaca, NY: ILR Press.

Yarn, D. H. (2000). The attorney as duelist's friend: Lessons from the code duello. *Case Western Reserve Law Review*, 51, 69-113.

Young, H. P. (Ed.). (1991). *Negotiation analysis*. Ann Arbor: The University of Michigan Press.

Young, H. P. (1994). *Equity in theory and practice*. Princeton, NJ: Princeton University Press.