

LAWYERS AS PROBLEM SOLVERS*

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INTRODUCTION

A client with a problem consults a lawyer rather than, say, a psychologist, investment counselor, or business advisor because he perceives the problem to have a significant legal dimension. But few real world problems conform to the boundaries that define and separate different professional disciplines. It is therefore a rare client who wants his lawyer to confine herself strictly to “the law.” Rather, most clients expect their lawyers to integrate legal considerations with other aspects of their problems. Solutions are often constrained or facilitated by the law, but finding the best solution—a solution that addresses all of the client’s concerns—usually requires more than technical legal skill.

Thus, of the ten “fundamental lawyering skills” identified by the ABA’s MacCrate Commission Report, fewer than half relate exclusively to the law.¹ And it is noteworthy that the Report places the skill of “problem solving” at the very top of the list—even before legal analysis. In a recent survey of the partners of American law firms, “problem solving” was reported as the single most attractive aspect of the respondents’ work.² The primacy of problem solving reflects how lawyers view themselves and would like to be viewed by others—especially in the face of much popular rhetoric to the contrary.

We share this hopeful view of lawyers and the legal profession. At their best, lawyers serve as society’s general problem solvers, skilled in avoiding as well as resolving disputes and in facilitating public and private ordering. They help their clients solve problems flexibly and economically, not restricting themselves to the cramped decision frames that “legal thinking” tends to impose on a client’s situation. Good lawyers bring more to bear on a problem than legal

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1. The law-related skills are, in the order listed by the Report, (2) legal analysis and reasoning, (3) legal research, (8) litigation and alternative dispute-resolution procedures, and (10) recognizing and resolving legal ethical dilemmas. The more general skills are (1) problem solving, (4) factual investigation, (5) communication, (6) counseling, (7) negotiation, and (9) the organization and management of legal work. AMERICAN BAR ASSOCIATION SECTION ON LEGAL EDUCATION AND ADMISSION TO THE BAR, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM (REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP) 135 (1992) (the “MacCrate Report,” named for Robert MacCrate, Esq., Chair of the Taskforce).

2. 1999 *Partners Survey*, AM. LAW., June 1999, at 79, 80 (citing 65% “rainmaker” partners and 66% of non-rainmaker partners).

knowledge and lawyering skills. They bring creativity, common sense, practical wisdom, and that most precious of all qualities, good judgment.

In this Article, we explore two quite different models of problem solving in the contexts of everyday life and law practice. We inquire into the nature, strengths, and limitations of professional expertise, and we touch on the role that law schools can play in improving lawyers' problem-solving skills. For the reader who believes that this is rather a lot to bite off in twenty-two pages, this Article is the basis for an introductory chapter for a larger work in progress—a textbook entitled *Problem Solving, Decision Making, and Professional Judgment*.³

PROBLEM SOLVING

The academic literature contains a variety of definitions of the term "problem." Charles Kepner and Benjamin Tregoe define a problem as a situation where "something has gone wrong."⁴ However, there are many situations where nothing has gone wrong, but people must nonetheless make future-looking decisions where no one option clearly dominates—for example, decisions about what law school to attend, what job to take, or how to invest their assets. People often refer to these as "problems." Figuring out how to get the Apollo 13 astronauts back to earth was a "gone wrong" problem, while the underlying goal of the Apollo program—putting a man on the moon—involved a variety of forward-looking problems of design, investment, and organization. Clients who seek a lawyer's assistance in tax or estate planning or in entering into a business transaction often have problems of the latter sort. Indeed, the core of a lawyer's work as a planner involves anticipating problems that might, but may never in fact, arise.

Thus, we adopt the more inclusive definition suggested by Allen Newell and Herbert Simon: "A person is confronted with a problem when he wants something and does not know immediately what series of actions he can perform to get it."⁵ To phrase it even more broadly, a *problem* is any situation in which the state of affairs varies, or may in the future vary, from the desired state, and where there is no obvious way to reach the desired state.⁶ This definition

3. PAUL BREST & LINDA KREIGER, *PROBLEM SOLVING, DECISION MAKING, AND PROFESSIONAL JUDGMENT* (forthcoming). See *infra* 36-41 and accompanying text for a discussion of improving problem-solving skills.

4. CHARLES H. KEPNER & BENJAMIN B. TREGOE, *THE NEW RATIONAL MANAGER* viii (1981).

5. ALLEN NEWELL & HERBERT A. SIMON, *HUMAN PROBLEM SOLVING* 72 (1972). They go on to write:

The desired object may be very tangible (an apple to eat) or abstract (an elegant proof for a theorem). It may be specific (that particular apple over there) or quite general (something to appease hunger). It may be a physical object (an apple) or a set of symbols (the proof of a theorem). The actions involved in obtaining desired objects include physical actions (walking, reaching, writing), perceptual activities (looking, listening), and purely mental activities (judging the similarity of two symbols, remembering a scene, and so on).

Id.

6. Along the same lines, Gerald Lopez has suggested that problem solving involves "perceiving that the world we would like varies from the world as it is and trying to move the world in the desired

assumes that the person knows just what state of affairs he or she desires. Sometimes, however, we may have complex or conflicting desires, or goals that are opaque even to ourselves, and clarifying our goals is an essential part of the problem-solving process.

Examples from Everyday Life

To explore the concept of problem solving in greater depth, it will be helpful to refer to a scenario that presents both ordinary everyday problems and a legal problem (which we'll describe a bit later):

Ned, an associate, and Ellen, an experienced partner, are working late at the firm, catching up on various projects. Ned asks Ellen if she would review his decision to file a motion for summary judgment in a small contract case. Ellen replies: "I haven't eaten all day and I'm starved. Let's get a bite to eat and talk about it over dinner."

Ned suggests having pizza delivered, but Ellen says, "I think some fresh air would do us good." Ned mentions a new Italian restaurant that he's passed on the way to work and that has just announced its "grand opening." Ellen replies, "I'm tired of the usual places too, but let's not be guinea pigs."

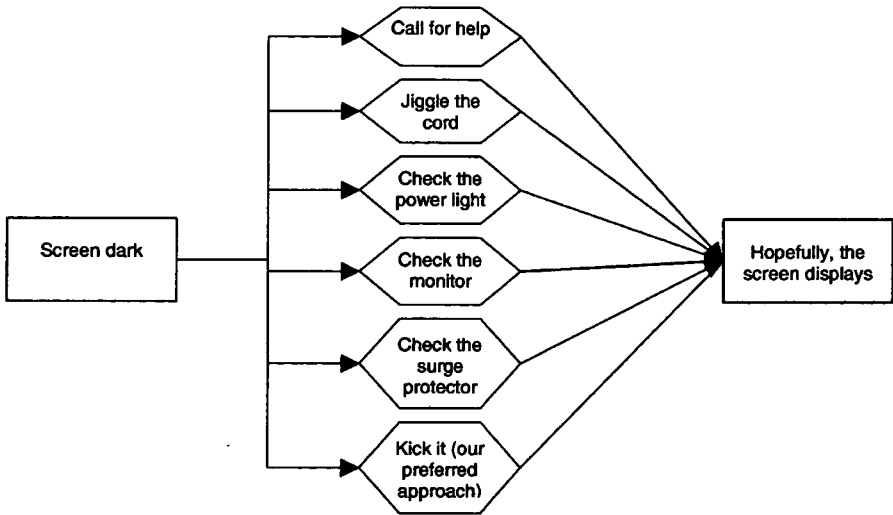
How will they find a restaurant where they haven't eaten before and that's known to be OK? After mulling it over a bit, Ned recalls that he's seen a restaurant guide on the web. He logs on, selects for nearby restaurants where a meal costs less than \$25—he doesn't want his senior partner to think he's extravagant—and suggests another Italian restaurant.

"I don't feel like Italian. How about something Asian?" Ellen responds. At this point Ned realizes and says that he had Continental cuisine in mind, but Ellen says, "I'd prefer any Asian restaurant." Ultimately they settle on a California-style restaurant that has some Asian dishes.

When they return from dinner, Ellen notices that her computer screen is dark and recalls that she had not saved the file for a brief she had been working on. "I'll bet the janitors accidentally unplugged the computer when they swept the floor," says Ned. "That's happened to me before." Looking at the plug behind the computer, he says "It's plugged in but it seems a bit loose. I'll jiggle it." As he does so, the background sound of the hard drive and fan, which they had not noticed until then, suddenly goes silent. The computer had not been off before, but it is now—with Ellen's unsaved work gone forever. Eventually Ellen and Ned figure out that, while they were at dinner, the janitor had brushed against the monitor switch and flipped it off while cleaning the screen.

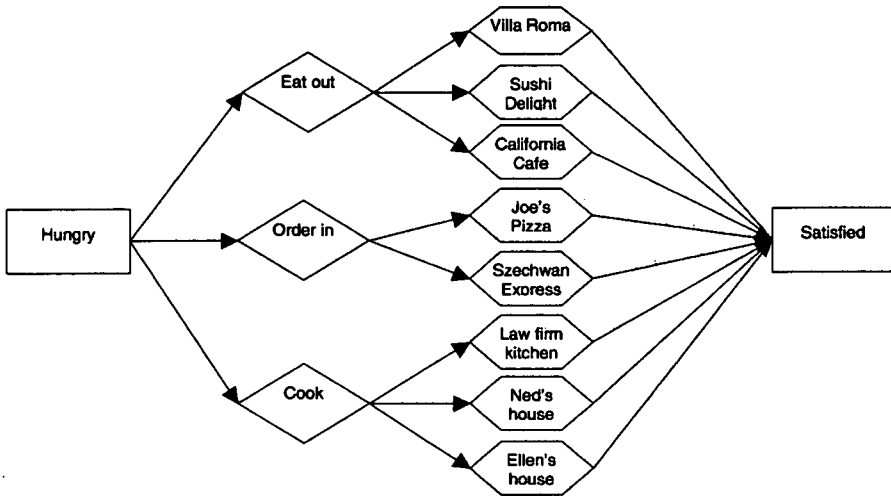
direction." Gerald P. Lopez, *Lay Lawyering*, 32 U.C.L.A. L. REV. 1, 2 (1984). Our only quibble with this definition is that some problems are best solved, not by changing the external world, but by changing the inner world of our desires.

Newell and Simon define the conceptual area between the existing and the desired state of affairs as the “problem space.”⁷ The problem space includes (among other things) a number of possible paths, one or more of which—if the problem is solvable—leads from the initial state to the desired state. In this simplified representation of the “dead computer” problem, the decision maker confronts a single decision point, or node, at which he must choose among different available courses of action:



If the dead computer exemplifies problems of a mechanical nature, Ned and Ellen’s dinner situation is typical of human problems, both because it requires satisfying multiple interests—each of the actors has several interests that may compete internally and that certainly compete with the other’s—and because it contains many possible sub-paths:

7. NEWELL & SIMON, *supra*, at 59-85, 809-34. “Problem space” is a complex concept, embracing many more components than the possible paths, but for present purposes it suffices to focus on the paths.



The initial state is hunger. There are at least three possible main paths through the problem space, reflecting the options of eating out, ordering in, and cooking. Each path presents further options, concerning where to eat out, order in, or cook.⁸ A solution is a sequence of moves that traverses the problem space from the initial state of hunger to the desired state of having one's hunger satisfied.

Of course, the various paths available to Ned and Ellen are not equally satisfactory. Some are superior to others because they meet objectives besides satisfying their hunger. From Ellen's point of view, the best solution will satisfy her culinary preferences (something Asian), her risk aversion ("let's not be guinea pigs"), and her desire to get out of the office for a while ("some fresh air would do us good"). From Ned's standpoint, the best solution will satisfy his own culinary preferences, get him back to work quickly, and not appear to be extravagant. The ideal solution will satisfy all of Ned's and Ellen's desires or interests.⁹

8. Our representation of the problem, showing the main paths as places to eat and the sub-paths as types of cuisine (rather than vice versa) is somewhat arbitrary and reflects an assumption about the actors' ordering of priorities. Also, each sub-path has sub-paths of its own (e.g., what to order from the menu) that Ned and Ellen must consider before their hunger can be satisfied.

9. We do not address the issues of authority and gender presented by Ned and Ellen's shared problem. Imagine, however, how their "negotiation" might have concluded had Ned been the partner and Ellen the associate.

The (Unimportant) Difference Between Problem Solving and Decision Making

There is considerable overlap between the concepts of problem solving and decision making. Although the distinction has no normative consequences, the concepts focus on different aspects of an overall process. The core of *problem solving* is understanding, specifying, or diagnosing the problem (knowing that you are hungry; “knowing” that the computer’s power is off). Especially when the focus of the problem is something that has “gone wrong,” problem solving may require understanding the causes of the problem (why the power is off). Problem solving also includes considering possible solutions (ordering in; taking out; kicking the computer). The core of *decision making* is selecting among and implementing alternative courses of action (how best to satisfy your hunger; what steps to take to fix the computer). A “decision” is the component of problem solving involved in selecting among available paths as one moves within the problem space from one node to another.

Two Models of Problem Solving and Decision Making

Having described problem solving in terms of the concept of a problem space, we turn to the question of how people actually navigate that space. The process can be described in two quite different ways, one that we’ll call “formal,” the other “naturalistic.” The *formal* model consists of essentially these elements:¹⁰

1. Define the problem (or decision)
2. Identify the relevant interests and objectives
3. Generate a range of plausible solutions or courses of action (options)
4. Assess the options in terms of the interests or objectives to be served
5. Select the best course option, all things considered
6. Implement the decision
7. Observe and learn from the outcome of the decision

Though this describes a plausible sequence for solving many problems, the formal model is as much logical as chronological in nature. For example, while it always makes sense to define the problem and the interests involved before generating alternative courses of action, the actual consideration of alternatives may cast the problem in a different light, elicit new interests, or change one’s views of the priority of the interests involved. Thus, a decision maker may cycle among the various steps of the process.

The core of the *naturalistic* approach is a strategy that Gary Klein refers to as “recognition-primed decision-making.”¹¹ According to this view, experience

10. Variations of this model appear throughout the literature. See, e.g., MAX H. BAZERMAN, JUDGMENT IN MANAGERIAL DECISIONMAKING 4 (3d ed. 1994); MacCrate Report, *supra* note 1, at 539.

11. GARY KLEIN, SOURCES OF POWER: HOW PEOPLE MAKE DECISIONS 17 (1999).

in the world gives us myriad problem “schemas”—mental maps that allow us spontaneously and effortlessly to “size up” a situation, see it as an example of a problem prototype, construe its meaning, and decide what action to take.¹² If the problem does not have an obvious solution, then, rather than systematically generate and compare a number of options (as in the formal model), we evaluate a single plausible option through “mental simulation”—by imagining ourselves carrying it out.¹³ If this does not seem to lead to a good outcome, we evaluate another possible option.¹⁴

In our view, the formal and naturalistic models mark two ends of a spectrum, and most real-world problem solving incorporates aspects of both. One’s initial “take” on almost any problem is essentially naturalistic. We approach the problem with an intuitive grasp of its nature and the interests involved, with hypotheses about its cause, and with corresponding solutions. The difference in the models lies in where our thought processes go from there—in how systematically we navigate the problem space.

Had Ned and Ellen followed the formal model in choosing where to eat, their problem-solving process might have looked something like this: They would have identified their several objectives, including satisfying their hunger, advising Ned on a legal issue, taking a break from work, minimizing the disruption of work, getting a reasonably-priced meal, and satisfying their culinary preferences. They would have identified alternative courses of action, including cooking, ordering in, and eating out; specified the pros and cons of each; and considered how a variety of establishments—Joe’s Pizza and Szechwan Express for take-out; Villa Roma and Sushi Delight for restaurants—would satisfy their needs.¹⁵ Had Ned followed the formal model in solving Ellen’s computer problem, he would have more thoroughly articulated the relevant interests or objectives (not losing Ellen’s unsaved data); taken more care to specify the nature of the problem (the screen was blank rather than the computer off); gathered more diagnostic information (the sound of the fan); and considered a number of (hopefully non-destructive) strategies for remedying the problem.

In actuality, Ellen’s and Ned’s decision processes bear more resemblance to the naturalistic than to the formal model. The recognition of being hungry and the decision to eat to satisfy one’s hunger are paradigms of recognition-primed decision making, albeit at a very primitive level. Rather than set out the problem of where or what to eat, or systematically consider alternative solutions, Ned and Ellen propose and consider solutions sequentially as they come to mind. For Ned, who has in (the back of his) mind a quick meal that would minimally

12. *Id.* at 17, 89.

13. *Id.* at 20, 21.

14. Again, in the process of solving the problem, we may change our understanding of the goal we are pursuing. *Id.* at 122.

15. We’ll say more below about the complication that two people’s interests must be satisfied. Note, however, that an analogue to Ned’s and Ellen’s competing interests may often occur within an individual decision maker: The same person could both need a break and want to minimize the time the meal took from work.

disrupt his work, this implies ordering in. Ellen's rejection of his suggestion involves a bit of "mental simulation"—imagining how the next hour would unfold if they ordered in or went out. Ellen and Ned do not consider all of their interests from the outset; for example, Ned isn't aware of his preference for Continental cuisine until they begin considering particular restaurants. The aspect of the decision-making process that most resembles the formal model is Ned's systematic canvass of restaurants on the web, having specified criteria of proximity and price in advance. Ned's approach to the computer scenario—considering only one possible cause and its obvious solution—is also paradigmatic of recognition-primed decision making: "dark screen means power off."

The Necessity of Naturalistic Decision Making and its Dangers

The predominance of naturalistic decision making is an inevitable aspect of the human condition of limited cognitive ability and time—what Herbert Simon has called the condition of "bounded rationality."¹⁶ In fact, we solve thousands of little problems and make thousands of decisions every day. Given God-like cognitive power and infinite time, we could apply the formal model to all of these actions. But under conditions of bounded rationality, we rely on naturalistic decision making most of the time. Indeed, we do not think of most of these as decisions at all; they are something we just "do." Even when we are self-conscious about decision making and employ something resembling the formal model, we seldom seek to optimize. This would require taking into account and ranking every criterion relevant to our satisfaction with the outcome. Rather, to use Simon's evocative neologism, we "satisfice,"¹⁷ opting for a reasonably good outcome rather than devoting excessive cognitive energy to seeking the very best.

If employing the formal model takes too much time—more, really, than we could spend on most decisions—the naturalistic model makes a virtue of "jumping to conclusions." It offers a degree of efficiency, without which we could not cope with the myriad problems and decisions we confront daily in our personal and work lives. However, reliance on mental shortcuts may lead the naturalistic decision maker to overlook significant aspects of problems and to consider an impoverished set of potential solutions. For example, naturalistic processes tend to use information that comes readily to mind. As a consequence, the decision maker may overvalue dubious information that is vivid or easily recalled.¹⁸ Consider in this regard Ned's proposal of the Italian restaurant, about which he knows only that he passed it on the way to work and that it was having

16. HERBERT A. SIMON, *MODELS OF MAN* 198 (1957).

17. *Id.* at 204-05. See also JAMES G. MARCH & HERBERT A. SIMON, *ORGANIZATIONS* 140-41 (1958) (discussing satisfactory versus optimal standards).

18. This is the phenomenon that cognitive psychologists refer to as "availability bias." See generally Amos Tversky & Daniel Kahneman, *Availability: A Heuristic for Judging Frequency and Probability*, in DANIEL KAHNEMAN ET AL., *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES* 163 (1982) [hereinafter KAHNEMAN ET AL.].

a “grand opening.”

Of course, failing to choose the best restaurant matters little in the larger scheme of things, so it makes sense for ordinary people (as distinguished from restaurant reviewers or spying chefs) to allocate relatively few resources to selecting a restaurant. But as Ned’s experience with Ellen’s computer demonstrates, a naturalistic approach to problem solving can lead to serious errors, which might be avoided through the application of a more systematic, formal approach. When Ned saw Ellen’s darkened computer screen, it triggered a “dead computer” schema, which included information gleaned from Ned’s prior experiences with malfunctioning computers. Once triggered, this schema automatically supplied Ned with a definition of the problem (the power is off), a causal theory (the plug is out), and a solution (jiggle the plug). The approach supplied by the schema was so compelling that Ned failed to generate or consider other causal theories and failed to notice evidence inconsistent with the schema (the sound of the hard disk and fan). In the absence of alternative hypotheses, engaging in a “mental simulation” of one causal explanation or course of action frequently leads to overconfidence and to ignoring disconfirming evidence.¹⁹ Errors of this sort pervade all problem solving, but are particularly endemic to naturalistic approaches. Like Ned, the naturalistic problem solver may structure the problem poorly, err in attributing causation, overlook relevant interests, and select a familiar, but quite suboptimal, solution.

* * *

In the real world, human decision making is a continual intermixture of naturalistic and formal processes, with the consideration of all interests, options, and constraints seldom, if ever, being fully pursued. When the stakes are high and the variables ascertainable, it often makes sense to follow a relatively formal route. For example, it makes more sense to articulate your criteria and engage in comparison shopping for a car than for an ice-cream cone. But sometimes, even though the stakes are high and time is limited, one has no choice but to rely on recognition-primed, naturalistic decision making. As Justice Holmes famously remarked in a self-defense case, “[d]etached reflection cannot be demanded in the presence of an uplifted knife.”²⁰ Consider the on-the-spot decisions demanded of firefighters,²¹ police officers, and, for that matter, trial lawyers.

In sum, real-world problem solving and decision making inevitably require tradeoffs between the importance of the decision, its urgency, and the costs of engaging in the process. By definition, a good problem-solving process maximizes the satisfaction of the parties’ interests, all things considered, including the costs of the process itself.

19. See KLEIN, *supra* note 11, at 65-69 (discussing process of disregarding contradictory evidence); Daniel Kahneman and Amos Tversky, *The Simulation Heuristic*, in KAHNEMAN ET AL., *supra* note 18, at 201 (addressing mental operation of the simulation heuristic).

20. *Brown v. United States*, 256 U.S. 335, 343 (1921).

21. KLEIN, *supra* note 11, at 7-14.

PROBLEM SOLVING IN A PROFESSIONAL CONTEXT AND THE NATURE OF
EXPERTISE

How does problem solving in a professional context differ from problem solving in everyday life?

Let us turn to the legal matter about which Ned sought Ellen's advice.²² The firm represents Clyde, a computer programmer who has sued Def Records, a small company that refuses to pay for accounting software he wrote, on the ground that the software does not do what Clyde said it would. This is one of the first cases that Ned has been assigned to handle on his own. Yesterday, he received a phone call from Clyde, who seemed upset that nothing had happened since the case was filed some months ago, and asked Ned to try to hasten its resolution.

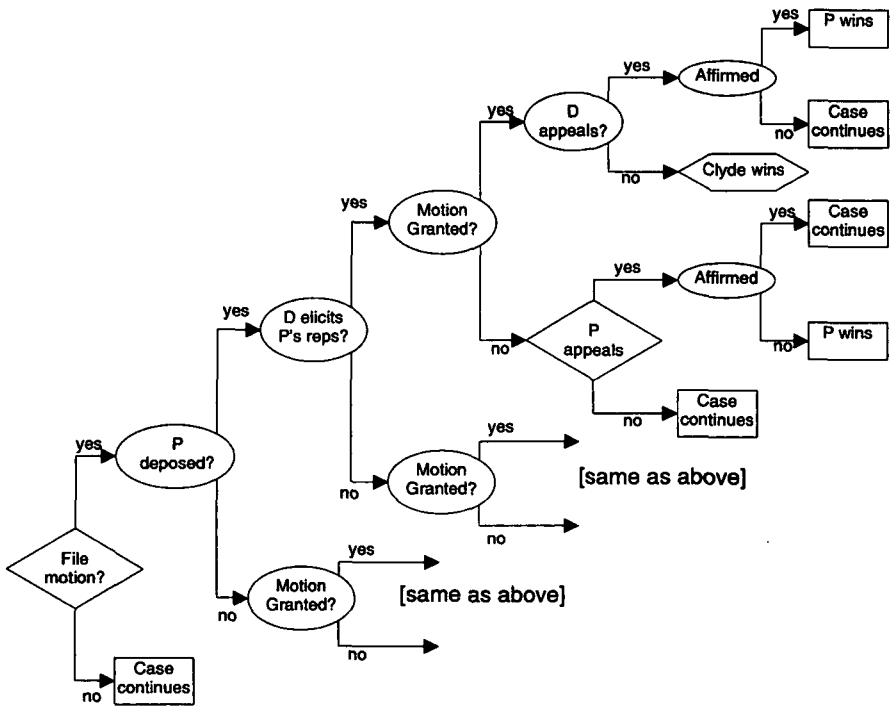
Based on his knowledge of summary judgment from Civil Procedure, his reading of the contract (which disclaims any warranty of performance), and his study of the relevant law concerning warranties, Ned believes that Clyde can win on summary judgment and proposes to file a motion. After examining the case file, Ellen, ever the mentor, takes the occasion to introduce Ned to the real world of litigation and to some basic problem-solving skills.

Ellen explains that while a motion for summary judgment might bring about a quick disposition of the case, it could have untoward consequences: The judge before whom the motion will be argued views summary judgment with considerable skepticism. The defendant's lawyer, a solo practitioner who has not served any discovery requests in the time the case was filed, probably hasn't been focusing on the case; but the motion may lead him to take Clyde's deposition, which could elicit the fact that Clyde made extravagant verbal representations about the software's performance. Even if those representations are not formally binding, they may bias the judge further against summary judgment. Moreover, litigating the motion for summary judgment will cost almost as much as going to trial. If the motion is denied, Clyde's costs will thus be doubled. If the motion is granted, Def Records will likely appeal, with attendant costs and the possibility of still having to incur the time and expense of trial.²³

While the analysis of this case seems pretty clear cut, Ellen explains that it is sometimes useful to chart such problems using a decision tree. Happily the restaurant has paper tablecovers and crayons. Ellen sketches the following diagram, and invites Ned to estimate the probabilities of each event occurring and the costs of the proceedings:

22. With modifications and an analysis with which he would not necessarily agree, we have borrowed the example from Gary Blasi's excellent article, *What Lawyers Know: Lawyering Expertise, Cognitive Science, and the Functions of Theory*, 45 J. LEGAL ED. 313, 321-22 (1995).

23. *Id.* at 337.



“I take your point,” says Ned. “We’ll just wait until the case comes to trial.” “Not so fast,” Ellen responds. “Did Clyde give you any indication why he was upset that the case wasn’t progressing? Surely you discussed the time frame with him at an earlier point.” Ned replies that Clyde mentioned that he hoped to use the funds from the judgment to start a new venture. Ellen asks whether Ned sees any options beside summary judgment and waiting for trial, and eventually they

discuss the pros and cons of approaching Def Records' lawyer with a settlement overture.

The Mix of Formal and Naturalistic Decision Making

Ellen's and Ned's problem-solving processes here are not essentially different from the mixture of formal and naturalistic processes they employed in the restaurant and computer problems. Of course, the lawyers have far more knowledge about litigation than laypersons, most of whom do not know what a motion for summary judgment is, let alone how opposing counsel and the judge might react to the motion under the circumstances. Experts differ from laypersons not merely in the quantity of detailed knowledge, but in the quality of its organization.²⁴ They possess domain-specific schemas that describe the attributes of problems and contain solutions to them.²⁵ As Gary Blasi writes:

The knowledge of experts is organized in ways that permit the expert to recognize patterns that are entirely invisible to novices in complex situations. In routine cases, this organized knowledge permits an expert merely to match a problem situation to a stored 'problem schema' and to retrieve from memory the associated solution procedure. In more complex and uncertain situations, the schematic knowledge permits experts to construct mental models that capture much of the complexity of the situation, and to 'run' the mental models in simulation in order to evaluate the likely consequences of alternative courses of action.²⁶

Naturalistic problem solving, under this conception, involves selecting a schema relevant to the problem at hand and drawing on a solution procedure suggested by the schema.²⁷ Ned's "summary judgment schema" is informed mainly by appellate decisions he studied in law school. Accordingly, Ned focuses on a narrow range of doctrinal factors in predicting what would happen if a motion were filed. By virtue of her many years of experience, Ellen's summary judgment schema is richer and more nuanced and contains practical as well as doctrinal knowledge.

Also, rather than accepting the limitations of Ned's structuring of the problem—"should we file a motion for summary judgment or wait for trial?"—Ellen broadens the frame of the problem to ask, "given the client's current objectives, what is the best course of action to take at this time?" This reflects both good problem solving in terms of the formal model and the fact that her summary judgment schema is embedded in a larger civil litigation schema, which includes settlement as well as pre-trial or post-trial judgment as a means by which clients' cases are brought to conclusion. Thus, she is able to identify potential solutions that evade Ned.

24. *Id.* at 313.

25. KURT VAN LEHN, *Problem Solving and Cognitive Skill Acquisition*, in FOUNDATIONS OF COGNITIVE SCIENCE 527, 545-46 (Michael I. Posner, ed., 1989).

26. Blasi, *supra* note 22, at 318.

27. VAN LEHN, *supra* note 25, at 545-49.

In analyzing Ned's particular question about summary judgment, Ellen tacitly assumes that Clyde's interests are to bring the litigation to an expeditious and successful conclusion while minimizing legal costs. She explicitly assesses two alternative courses of action (moving for summary judgment and doing nothing) and concludes that one is manifestly superior to the other. While she reaches this conclusion intuitively and quickly, she confirms her hypothesis more systematically by drawing a flow-chart of the options and assigning probabilities to the outcomes.

In these respects, Ellen's decision making resembles the formal model. However, each of the factors she considers (e.g., the opposing counsel's and judge's reactions to the motion) is a problem-solving exercise in itself, which she approaches largely naturalistically rather than through a sustained process of inferential reasoning. As Professor Blasi notes, Ellen "does not retrieve all the myriad irrelevant details of the past cases, but rather the schemas she has extracted from them all. If these schemas had names, they might carry labels like 'passive-acting opposing counsel provoked to prepare case.'"²⁸ Ellen's consideration of the likely success of the motion also involves mental simulation—imagining what might happen if the judge denied or granted the motion. The more systematically she considers each of these paths, the more formal her decision process appears to be.

The Downsides of Naturalistic Decision Making

Experts, as Professor Blasi notes, are "able simply to 'recognize' in the problem a pattern of a certain kind and to 'retrieve' a solution from a stored repertoire of solutions to similar problems."²⁹ Schematic structures enable experts readily to perceive, sort, and process relevant information, predict outcomes, and make decisions.³⁰ Yet all of this cognitive firepower comes at a cost—for any schema, no matter how well developed, necessarily constrains perception and judgment.³¹ For example, Ellen's expert schema does not encompass alternative sources of capital for Clyde's new venture—something that a more systematic generation of alternative solutions would have included (and, incidentally, that would likely have been second nature to any of the firm's transactional lawyers). More generally, the stock situation and responses embedded in a particular schema may lead a lawyer not to grasp the nuances of a client's particular story or recognize the client's particular interests. For example:

28. Blasi, *supra* note 22, at 355.

29. *Id.*

30. For an overview of schema theory, see generally William F. Brewer & Glenn V. Nakamura, *The Nature and Function of Schemas*, in 1 HANDBOOK OF SOCIAL COGNITION 119 (Robert S. Wyer, Jr. & Thomas K. Srull eds., 1984), and David E. Rumelhart, *Schemata and the Cognitive System*, in 1 HANDBOOK OF SOCIAL COGNITION 161 (Robert S. Wyer, Jr. & Thomas K. Srull eds., 1984).

31. For a useful description of the manner in which schemas can distort perception and judgment, see, e.g., Shelley E. Taylor & Jennifer Crocker, *Schematic Bases of Social Information Processing*, in 1 SOCIAL COGNITION: THE ONTARIO SYMPOSIUM 89 (E. Tory Higgins et al. eds., 1981).

- A plaintiff's injury lawyer, representing a poor tenant whose child was injured in a badly-maintained apartment building, negotiates a good monetary settlement that includes a standard non-disclosure agreement, not appreciating that the client's role in an informal tenants' organization and her interest in working with other tenants to improve conditions make the agreement undesirable and its breach inevitable.
- The lawyer for a discharged employee demands damages for emotional distress, thereby opening his client to embarrassing revelations of a hitherto concealed history of mental illness.
- The lawyer representing a large biotech firm in a negotiation to acquire a small firm insists that the parties adhere to the industry practice of putting funds in escrow until both parties have completed due diligence. The smaller firm is strapped for cash, cannot afford to investigate the acquirer's representations, and refuses to accept an onerous condition that would only benefit the acquirer. Although the acquirer is quite sure of the accuracy of the small company's representations, the lawyer refuses to deviate from the norm, and a potentially valuable deal falls through.

We suspect that the instinctual application of expert legal schemas to clients' varied problems accounts for some of the frustration that clients experience with their lawyers, and vice versa. Clients who may be deeply concerned about aspects of a problem that are irrelevant from a strictly legal point of view may feel that their lawyers aren't paying attention to their real concerns. Lawyers—especially those being paid on a contingency basis—may become impatient with clients' long-winded descriptions of legally irrelevant aspects of their stories, or with their demands for solutions that legal procedures cannot provide.³²

In sum, though naturalistic decision making plays a valuable, indeed essential, role in expert problem solving, the process is dangerously incomplete without some systematic consideration of the interests and options. A central feature of professional judgment is the ability to blend the naturalistic and formal processes.

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To answer the question with which we began this section, the fundamental process of problem solving in a professional context is not essentially different from problem solving in everyday life. The main differences are that lawyers are

32. Whether the very possession of professional expertise inevitably constrains the expert's understanding of a problem and the range of plausible solutions considered is an interesting question, to which we have no ready answer. Certainly all professionals are susceptible to "competency bias"—the tendency to frame and resolve in terms of their area of expertise, a tendency nicely captured by the quip, "to a hammer, every problem looks like a nail." We began this Article with the observation that "a client with a problem consults a lawyer rather than, say, a psychologist, investment counselor, or business advisor because he perceives the problem to have a significant legal dimension." Imagine the different approaches that these and other professionals might have to the identical problem and, indeed, how differently they might have defined what the problem was.

typically involved in a representative role and that they possess professional expertise. After three years of law school and several years of practice, Ned has considerable expertise compared to most laypeople. And after a dozen or more years of practice, Ellen has much more expertise than Ned. But precisely what does legal expertise comprise? How is it acquired and improved? As background, consider some vignettes of the tasks that lawyers perform:

- An appellate lawyer seeks to influence the course of legal doctrine by persuading a court that settled doctrine with respect to race and sex discrimination forbids discrimination on the basis of sexual orientation.
- A trial lawyer seeks to discover, organize, and present evidence to persuade the jury to return a verdict for her client.
- A business lawyer identifies risks involved in a movie deal, including other parties' incentives to behave strategically, and structures the transaction so as to mitigate the risks to his client.
- An estate planner assists a client in transferring wealth to her family and to charitable organizations in ways that are both tax-efficient and assure that she will have adequate income during her retirement years.
- A company's general counsel works with its chief operating officer to develop a procedure for responding to sexual harassment claims if any should arise, or responds to the crisis occasioned by a particular accusation of harassment.
- A lawyer for a tenants' organization seeks to persuade a regulatory agency to tighten standards and enforcement regarding lead paint.
- An environmental lawyer representing a local government agency negotiates an agreement with neighboring jurisdictions involving the quality of drinking water in their common watershed.

Lawyers bring different kinds of professional expertise to these diverse tasks. It is useful to differentiate among (1) knowledge about the law, legal institutions, and actors; (2) knowledge about particular substantive domains; and (3) expertise in problem solving as such.

Expertise in Law and Legal Institutions

In the first of these vignettes, the lawyer's task of persuading an appellate court to extend settled case law to a new area calls for creative problem solving with respect to both analogical reasoning and advocacy. The task draws on the skills of doctrinal analysis, legal research, writing, and advocacy—many of which play a background role in the other tasks as well. The foundations for these skills are laid in the traditional law school curriculum, which also prepares students to acquire specialized knowledge of new areas of doctrinal and statutory law as the need arises during their careers.

The vignettes also highlight other kinds of legal expertise, such as knowing how to persuade judges, juries, administrative officers, and other actors in the legal system. The traditional law school curriculum does not address the psychology of advocacy or prepare graduates to deal with masses of unorganized

facts, to present factual narratives, or to deal persuasively with various legal actors other than, perhaps, appellate judges. In view of the uneven mentoring our graduates receive, we might well do more to lay foundations for acquiring these skills.

Of course, much knowledge of this sort must be learned on the job. Just how one acquires expertise from experience is in itself a complex question, which we only touch upon here.³³ The last item in our description of the formal decision-making process on page 816 is: "Observe and learn from the outcome of the decision." As Gary Klein writes, experts learn from experience in several ways:³⁴

- They engage in reflective practice, so that each opportunity for practice has a goal and evaluation criterion;
- They compile an extensive experience bank;
- They obtain feedback that is accurate, diagnostic, and reasonably timely;
- They review experiences to derive new insights and learn from mistakes.

Learning from experience requires not only monitoring one's decisions, but avoiding various barriers or traps that hinder acquiring and analyzing relevant information. These include:

- hindsight bias (the phenomenon of believing that we "knew it all along" only after an event has occurred);
- absence of feedback from our decisions (consider the difficulty of a lawyer's assessing the wisdom of advice that a client *not* do something);
- over-generalization from scant data, or failing to generalize from adequate data;
- confirmation bias (seeking evidence that confirms our hypotheses, but not noticing evidence that would disconfirm them);
- rationalization and resistance to criticism.

In short, while experience is inevitable, learning from experience is not. Professor Blasi states that Ellen, the experienced lawyer, "has acquired a significant body of knowledge—about opposing lawyers, about trial judges, about the likely consequences of certain actions—from her many previous interactions with other lawyers, other judges."³⁵ It would be more accurate to say that Ellen has had the *opportunity* to gain this knowledge. For example, while her observation about the judge's reception to motions for summary judgment may well be correct, it may also be based on a few vivid personal experiences or on settled wisdom with little empirical foundation.

33. See Hillel J. Einhorn, *Learning from Experience and Suboptimal Rules in Decisionmaking*, in KAHNEMAN ET AL., *supra* note 18, at 268.

34. KLEIN, *supra* note 11, at 104 (with slight modifications of the text).

35. Blasi, *supra* note 22, at 355.

Expertise in Other Substantive Domains

In addition to knowledge of the law and legal institutions, many of the tasks outlined in the vignettes draw on experience beyond the domain of the law. In her preventive mode, the general counsel relies on her sense of how organizations function; and in her crisis prevention mode, she must know how to deal with the press, the public, and investors as much as with legal actors. The lawyer advocating for the tenants' organization must not only be familiar with the relevant administrative and legislative processes and the particular officials she wishes to persuade. She, and the environmental lawyer as well, must also have some grasp of the relevant science and technology.

Sometimes, the lawyer's knowledge merely shadows expertise possessed by others, such as an organization's chief operating officer, accountants, or engineers. Sometimes, however, the lawyer may have a broader perspective than his or her clients do—simply by virtue of having encountered analogous problems in other spheres. For example, over a professional lifetime, a good transactional lawyer develops a sense for what can go wrong with a deal and how to guard against it. A lawyer working with administrative agencies and legislatures develops both general know-how about the processes and knowledge about the particular officials. An estate planner encounters more and less successful approaches to meeting her clients' goals.

Problem-Solving Expertise

Finally, we turn to the lawyer's role as counselor, which lies at the core of the lawyer-client relationship, and which typically calls for problem-solving skills. Problem solving inevitably begins with an understanding of the interests at stake, but (in the absence of ethical dilemmas) it is the *client's* interests and not the lawyer's that govern. Thus, an essential aspect of the lawyer's role is to work with clients to identify and clarify their interests. In the foregoing vignettes, the counseling function is most evident in the estate planning scenario, but it is implicit in almost all of the examples—for decisions to litigate, lobby, or enter into transactions, all revolve around the clients' interests.

There are situations where clients not only fully comprehend their own interests, but have already engaged in whatever problem solving is required and have determined what actions to take. The lawyer's sole task here is to implement the decision. In most situations, however, the lawyer acts as the client's interlocutor, partner, or guide in identifying and clarifying objectives and determining the best course of action. The very dynamics of a good counseling relationship, including the ongoing dialogue between lawyer and client, conduce to an explicit consideration of interests and options, and tend toward a relatively formal decision-making process.³⁶

Problem-solving skills can be learned in academic settings as well as on the job. We believe—though we cannot be certain—that developing the systematic habits of thought inherent in the formal model improves subsequent problem

36. KLEIN, *supra* note 11, at 95-96.

solving done at the naturalistic end of the spectrum. We are attracted by the analogy in Constantin Stanislavski's description of an actor's preparation:

One cannot always create subconsciously and with inspiration. No such genius exists in the world. Therefore our art teaches us first of all to create consciously and rightly, because that will best prepare the way for the blossoming of the subconscious, which is inspiration. The more you have of conscious creative moments in your role, the more chance you will have of a flow of inspiration.³⁷

The core of the traditional law school curriculum—the analysis of appellate cases—focuses on problem solving in an essential legal domain, and arguably provides foundations for problem solving more broadly.³⁸ Beyond the core, many law schools offer clinical courses in negotiation and a number are experimenting with courses that focus on a range of problem-solving skills. NYU Law School's Lawyering Program, our course in "Problem Solving, Decision Making, and Professional Judgment," and others like them,³⁹ rely on a combination of readings, writing exercises, simulations, and situational case studies.⁴⁰ Our own course combines what might be termed positive and negative approaches to problem solving. On the positive side, it offers students opportunities to experience and reflect on "conscious creative moments" in a variety of lawyering roles. On the negative or cautionary side, it surveys cognitive, social, and motivational phenomena that impede people's perception of the external world,⁴¹ their understanding and pursuit of their own goals, and the limitations of professional expertise. Ideally, these two approaches to learning come together in simulated exercises, where students engage in creative problem solving and make and learn from mistakes.

A Note on Problem Solving with Multiple Decision Makers and Multiple Interests

Most of the preceding discussion has focused on situations where only one

37. CONSTANTIN STANISLAVSKI, AN ACTOR PREPARES 14 (Elizabeth Reynolds Hapgood trans., Theatre Arts Books 1948).

38. See Paul Brest & Linda Krieger, *On Teaching Professional Judgment*, 69 WASH. L. REV. 527, 529-32 (1994) (discussing lawyers' role in society); Russell Korobkin & Chris Guthrie, *Psychology, Economics, and Settlement: A New Look at the Role of the Lawyer*, 76 TEX. L. REV. 77 (1997) (discussing lawyers' role in settlements).

39. E.g., Judith Areen, Judgment and Decision Making Seminar, Georgetown School of Law.

40. These are case studies of the sort traditionally used in business schools that present more or less rich descriptions or scenarios of problems as a client might present them, and challenge law students to identify, analyze, and propose solutions to them.

41. See, e.g., KAHNEMAN ET AL., *supra* note 18, *passim* (discussing effect of cognitive biases); ROBERT B. CIALDINI, INFLUENCE: SCIENCE AND PRACTICE *passim* (3d ed. 1993) (discussing effect of social influence); Daniel Kahneman & Amos Tversky, *Choices, Values, and Frames*, 39 AM. PSYCHOLOGIST 341, 342-44 (1984) (discussing psychological process involved in making choices in risky and riskless contexts); Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 268-69 (1979) (discussing effects of risk on decision making); Amos Tversky & Daniel Kahneman, *Rational Choice and the Framing of Decisions*, 59 J. BUS. S251, S257-S260 (1986) (same); Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 453-55 (1981) (same).

person's interests are in the foreground. However, as Ned's and Ellen's dinner problem indicates, problem solving often requires identifying, eliciting, and reconciling multiple competing or conflicting interests. One or more people may engage in problem solving or decision making, and the actor may be concerned with only his own interests or with the interests of others as well. Consider these questions facing the guests at a restaurant.

	Unitary Interest	Multiple Interests
Individual Decision Maker	Shall I have cream in my coffee?	What wine shall I order for the table?
Multiple Decision Makers	How can we get the waiter's attention?	How shall we divide the check?

Unitary Interest/Individual Decision Maker. "Shall I have cream in my coffee?" is the paradigmatic case of individual decision making. While the individual may have to reconcile competing interests—she loves cream, but is trying to reduce cholesterol—the dynamics are purely intrapersonal. This category also includes a decision by an agent who is *solely* concerned with his principal's interests—for example, a parent ordering dinner for his young child. Ideally, this describes a lawyer's decision making on behalf of a client with respect to matters that do not call for consultation.⁴² Putting aside the crucial question of how one determines another's interests, this situation is not conceptually different from that of an individual decision maker considering only his own interests.

Unitary Interest/Multiple Decision Makers. In asking, "How can we get the waiter's attention?" there are no conflicts of interest—everyone has the same interest in getting served or getting the check. Collaborative decision making can improve the process by generating more ideas. However, the presence of multiple decision makers can also impair the process by consuming too much time or through a dynamic—sometimes called "groupthink"⁴³—that inhibits the rational consideration of alternatives. Though one would hope that the lawyer-

42. For a useful discussion of when consultation is not required, see DAVID A. BINDER ET AL., *LAWYERS AS COUNSELORS: A CLIENT CENTERED APPROACH* 266-70 (1991).

43. See generally IRVING L. JANIS, *VICTIMS OF GROUPTHINK: A PSYCHOLOGICAL STUDY OF FOREIGN-POLICY DECISIONS AND FIASCOES* (2d ed. 1983).

client counseling relationship improves decision making, it is not immune from this dynamic.

Multiple Interests/Individual Decision Maker. The person delegated to decide "what wine to order for the table" may like red, while her friends prefer white. Agents commonly find themselves in the position of representing others, but having interests of their own that are not entirely aligned with those of the principals. For example, the lawyer's commitment to serving her client's interests may compete with her own financial or reputational interests.⁴⁴

Multiple Interests/Multiple Decision Makers. "How shall we divide the check?" is a problem confronting multiple participants whose interests are not entirely congruent. Like Ned's and Ellen's decision about where to have dinner, this exemplifies one end of the spectrum: The divergences are small and the stakes low—especially when compared to the importance of the underlying relationships. At the other end of the spectrum lies a negotiation involving the bitter break-up of a business or personal relationship.

The question of how the participants should approach such disputes has received considerable academic attention in recent years, with an increasing number of scholars and practitioners advocating what they call a "problem-solving" approach to negotiation. In a seminal article, Carrie Menkel-Meadow proposed both process and outcome criteria for evaluating a negotiation.⁴⁵ The former includes the search for Pareto-optimal solutions, the minimization of transaction costs, and appropriate client participation. The latter includes an outcome that reflects both parties' "'real' needs, goals, and objectives, in both the short and long term,"⁴⁶ including whatever ongoing relationship they desire and a solution that is fair and lasting. More recently, Robert Mnookin and his coauthors have described the central activities of "problem-solving negotiation" as searching "for value-creating trades that can make one or both parties better off"⁴⁷ and "managing the tension between creating and distributing value."⁴⁸

The core commonality of problem solving in all of the situations described above is its basis in the parties' interests.⁴⁹ Writers thus distinguish an interest-based or problem-solving approach to negotiation ("Let's see if we can satisfy

44. William F. Coyne, Jr. writes: "[T]here are significant incentives for lawyers not to embrace early settlement. These incentives include the need to market services, the desire not to appear weak, the obligation to represent a client zealously, the thirst for justice, and last, but perhaps not least, the desire to maximize income." William F. Coyne, Jr., *The Case for Settlement Counsel*, 14 OHIO ST. J. ON DISP. RESOL. 367, 369 (1999).

45. Carrie Menkel-Meadow, *Toward Another View of Legal Negotiation: The Structure of Problem Solving*, 31 U.C.L.A. L. REV. 754, 760-61 (1984).

46. *Id.* at 760.

47. See ROBERT H. MNOOKIN ET AL., *BEYOND WINNING: HOW LAWYERS HELP CLIENTS CREATE VALUE IN NEGOTIATION* 11 (forthcoming).

48. *Id.* at 29.

49. Thus, Leonard Riskin uses "problem solver" to denote "a lawyer who focuses on the client's interests as well as legal entitlements, and who can select (with the client) and carry out the most appropriate methods for pursuing those interests." Leonard Riskin, *A Response to Professor Pipkin*, 50 FLA. L. REV. 757, 757-58 (1998).

both of our culinary tastes”) from one that views negotiation exclusively in positional or distributive terms (“I want Italian, you want Asian, and I’m going to do whatever I can to have my way”). An interest-based or problem-solving approach begins with each participant identifying his own interests and those of the other person. It is less a specific technique than a mindset that searches for common ground.⁵⁰

Not to identify one’s own interests would not be sensible problem solving under any circumstances. Not to identify the other person’s interests would forego opportunities for a relatively efficient and non-contentious negotiation, for a solution advantageous to oneself or that accommodated both parties’ interests, or possibly any solution at all. (For example, if Ned were indifferent to Ellen’s desire for Asian cuisine, he might continue insisting on continental restaurants until Ellen got angry or frustrated, which Ned doesn’t want). Problem-solving negotiation presumes that, unless considerations of fairness dictate otherwise, a Pareto-optimal solution—where one party can be made better off without the other being worse off in any way—is desirable, and that it is at least sometimes desirable to accommodate the other party’s interests even if one might not end up quite as well off. (Ned might have succeeded in inducing Ellen to dine at a Continental restaurant, when he could be entirely or substantially satisfied with pasta at the California-style restaurant.)

IS SOCIETY BETTER OFF WITH PROBLEM-SOLVING LAWYERS?

“Problem solver” is a term of approbation in our culture, and it is not surprising that lawyers find the characterization appealing. A problem-solving approach to conflict resolution is especially attractive in a society concerned about the high costs of litigation. Yet it is useful—indeed, an element of good problem solving—to approach the obvious with a bit of skepticism. After all, motherhood and apple pie were once treated as archetypal goods. Yet the world is overpopulated, the duties of childcare compete with women’s success in the workplace, and lard clogs the arteries.

While we do not see any real downsides to the idea of lawyers as problem solvers, we would like to express two cautions. First, lawyers who think they are more skillful problem solvers than they actually are, or who are overly impressed with their comparative expertise, may lure or press their clients into poor decision processes with bad outcomes. Second, being a good problem solver does not obviate the moral complexities of legal representation. The best interests of the client are not necessarily those of society at large, and even the brilliantly negotiated, “win-win” solution to a multiparty dispute may inflict harm on non-parties. On the flip side, the lawyer who views herself as “counsel

50. Carrie Menkel-Meadow, *The Limits of Adversarial Ethics*, in *ETHICS IN PRACTICE* (Deborah L. Rhode ed., forthcoming 2000). For an excellent survey of practical approaches to achieving agreement in situations involving multiple participants with multiple interests, see generally *THE CONSENSUS BUILDING HANDBOOK: A COMPREHENSIVE GUIDE TO REACHING AGREEMENT* (Lawrence Susskind et al. eds., 1999) (addressing ideal practices in consensus-building).

to the situation,"⁵¹ rather than her clients, may deprive the clients of the unqualified commitment they have reason to expect.

This said, however, the aspiration of lawyers to be problem solvers seems unequivocally good. Many lawyers are already quite successful in this enterprise. Their task, and the task of legal educators, is to disseminate their knowledge—and their aspirations—to others in or entering the profession.

51. Lawrence Sitzmann et al., *Counsel for the Situation: Conflict and Ethical Issues in Representing the Family Business Client*, 17 ALI-ABA 113 (1998) (quoting Justice Brandeis).