PERSPECTIVES
On the Professions

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Professional Judgement"

Michael Davis, Editor, CSEP, Illinois Institute of Technology

Professionals offer (and, we hope, deliver) honest and competent judgment. *Perspectives* has devoted many issues to the first of these, honesty, what we tend to call "professional ethics:' We have had little to say about the second, technical competence, what makes honest judgment professional. We have, it seems, simply taken it for granted. Yet, an engineer without engineering judgment, a lawyer without a lawyer's judgment, or any other professional without the particular form of judgment distinguishing his or her profession from all others, would be an incompetent "layman" who could not honestly practice the profession in question.

What is professional judgment? It is, of course, good judgment-good enough at least to make us want it instead of lay judgment. But what makes judgment good (in the way professional judgment is supposed to be)? One witty answer is: "Good judgment comes from experience; experience, from bad judgment." The pieces that follow suggest that we may not yet have a better answer.

That, of course, is not all bad-if it leads us to think more about professional judgment. While we cannot walk well if we think about walking as we walk, we cannot learn to walk better if we do not think about walking at all. If good judgment comes from bad judgement, only through reflection can the transformation be accomplished.

Edwin Delattre, our first contributor, argues that good judgment is everywhere essentially the same -and the essence is good character. A professor of education (and now a dean too), Delatrre makes his case using the police as his example. This is not as odd as it may appear. Delattre has studied police for a long time and recently published a book on the subject. The police he describes are not those showing bad judgment-as in the beating of Rodney King last March-but those who act as they should. On Delattre's analysis, police judgment, good police judgment, rests on such familiar virtues of character as honesty, humility, and decisiveness. Training apparently plays only a subsidiary role.

Billy Koen's description of engineering judgment has a different emphasis. In place of character, he puts "heuristics" and "rules of thumb." A good engineer, an engineer exercising good engineering judgment, satisfies the state of the art defining engineering practice at the time. Good judgment for a particular engineer is judgment meeting the standard of his or her profession. It is inherently a professional judgment, good because it satisfies standards set by the profession, standards that (presumably) must be learned. Engineers do not think like other people. Other people think in Platonic terms, seeking ideal solutions. Engineers merely optimize.

Arthur Elstein's description of good judgment in medicine is surprisingly close to Koen's. Good clinical judgment, like good engineering judgment, optimizes (that is, tries to maximize expected utility). But empirical research into clinical judgment is more advanced than such research into engineering judgment. (I first realized this reading Elsteins anthology, *Professional Judgment*). That is why Elstein knows something Keen does not, that many physicians will reject the optimizing answer to a clinical problem even when they fully understand what is being suggested.

In Koen’s terms, the state of the art is itself controversial. For physicians (and perhaps for engineers), considerations other than expected utility seem relevant even after considerable reflection. Elstein thus forces us to distinguish sharply between what the state of the art may in

fact be and what it should be. That in turn forces us to ask what should be taught as state of the art and what should be the measure of competent judgment.

David Van Zandt continually averts to these questions as he reviews a century of theorizing about judicial judgment. There are at least four "models" of judicial judgment, each a way of picturing what judges do and generally also a recommendation concerning what judges should do. While none quite fits the views of Delattre, Keen, or Elstein, there are enough similarities to invite reflection. For example, Delattre's emphasis on character brings his model of police judgment close to Van Zandt's third, that of practical reason. Are Van Zandt's criticism of that model also criticisms of Delattre's? Perhaps, but Van Zandt's own position is also close to Delattre's. For Van Zandt, a judge simply brings ordinary modes of reasoning (ordinary intellectual virtues) to court cases.

"Judgement in Police Work"
Edwin J. Delattro, Education, Boston University

Human beings are human beings, to paraphrase John Stuart Mill, before they are professionals and public servants. And, as Mill saw, if they become able, judicious, and competent human beings, they will be prepared to become able, judicious, and competent in the specific walks of public and private life that they enter. This is true of people who enter policing, just as it is true of the rest of humanity.

The fundamentals of good judgment-and the fundamentals of character excellence-do not vary significantly from one walk of life to another, even though the domains of required factual and technical competence often do. A competitive police examination for promotion and a qualifying examination for certification as a professional engineer cover very different ground. But assiduous preparation and diligent attentiveness are suited to both, and cheating is wrong no matter the topic.

Honorable and wise individuals who can be trusted to exercise discretion and authority have much in common, whether they are conducting themselves as surgeons or teachers, police or engineers, parents or neighbors. The habits of justice, temperance, courage, fortitude, honesty, and compassion constitutive of the achievement of integrity transcend vocation. S0. too, do the intellectual virtues constitutive of wisdom- concentration, a balanced sense of proportion and relative importance, a keen eye for relevance and rigor, generous understanding, intellectual honesty and humility, timely decisiveness without arrogance or delusions of infallibility, and a reliable knowledge of one's own strengths and weaknesses.

These common features of the human condition suggest why it is misleading to speak of medical ethics rather than ethics in medicine, business ethics rather than ethics in business, professional ethics rather than ethics in the professions, police ethics rather than ethics in policing, and so on. Ethics is ethics, however diverse may be the range of its applications.

Similarly, the transvocational status of integrity and wisdom make it both possible and necessary to identify and describe the fundamental ethical and intellectual purposes of general education without referring to subject matter specific to any vocation. Such a description, much needed in our own time, was offered with particular eloquence by a nineteenth century English schoolmaster, cited by Michael Oakeshott in *Rationalism in Politics*: "[Y]ou go to a great school ...for arts and habits; for the habit of attention, for the art of expression, for the art of assuming at a moment's notice, a new intellectual position, for the art of entering quickly into another person's thoughts, for the habit of submitting to censure and refusion, for the art of indicating assent or dissent in graduated terms, for the habit of regarding minute points of accuracy, for the art of working out what is possible in a given time, for taste, discrimination, for mental courage and mental soberness. And above all you go to a great school for self-knowledge."

The indispensability to responsible policing of these moral and mental accomplishments cannot be lost on experienced insiders or knowledgeable observers. Nor is there any escape from the staggering price of their absence. Variations in the character, judgment, and conduct of police illuminate in practice the insight of James Madison that for governments to advance justice, they must be based on constitutions whose first purpose is to secure public servants who have "most wisdom to discern and most virtue to pursue, the common good of the society."

Not long ago, I entered a crime scene in a midwestern inner city with a lieutenant of homicide. A man's body lay on the floor of the bloody kitchen in the small house where he lived. The man had been beaten to death so savagely that homicide detectives and medical examiners at the scene were unable to tell whether he had also been shot.

Well-trained patrol officers outside the house kept the curious at a distance as attendants carried the body to the ambulance. Investigators who had canvassed the neighborhood in search of witnesses throughout the afternoon spent time discussing their next steps, explicitly organizing for the sake of mutual cooperation.

Plainclothes detectives and supervisors-women and men ranging from their late twenties to their forties-mingled with uniformed officers as they sealed the crime scene. Talk was as strictly business, respectful of the victim, with no grisly jokes to counter the grim and gory reality.

The homicide lieutenant in charge was a born teacher. Well educated, articulate, experienced, he carefully instructed each of his people about their follow-up responsibilities. He took questions patiently. In this city, unlike many larger ones, most homicides are solved, and these police were determined to keep it that way.

An hour later, several of the same police worked the street where two teenage boys-one, certainly, a member of the local gang-had fought with a knife and an axe over a bicycle that neither of them owned. Both were hurt, neither would die.

The uniformed police at the scene were impressively competent. Most of them conducted interviews well. They clearly knew how much of policing consists of talking with people - asking the right questions, listening diligently, giving people room to tell their stories. With girls, boys, and women alike-there were few grown men to be seen-the police were respectful but insistent, taking care to pronounce difficult and unusual names correctly, comparing notes, covering the ground again.

The officers' notes of interviews with witnesses were well written, thorough, legible, to the point, their drawings prepared with due attention to relevant detail. They reviewed with the lieutenant what they had done and proposed charges to be filed.

Where he approved, he explained why, and where he thought another course might be wiser, he asked whether they had considered it. Young officers, properly trained and already fit to bear the public trust, visibly learned in his presence. His instructions were unambiguous, and differences of race, ethnicity, and gender among these police posted no obstacles to communication and cooperation. It is not everywhere so in America.

Such high levels of character and judgment can be found in virtually all police departments of any size. But not all departments enjoy an abundance of personnel who are so thoroughly fit to bear the public trust.

Standards of recruitment are not everywhere high enough, sometimes because of mandates to change the composition of the department, sometimes in order to enlarge the applicant pool, sometimes to compete for personnel despite low salaries. Some departments try to meet high standards but lack the money to conduct rigorous background investigations and psychological testing essential to weeding out prospective candidates who are unsuited for policing. In one small Virginia town, the entire police department was suspended in 1991 when officials learned that no background investigations had been conducted for anyone.

Where recruitment standards are too low, training is often more difficult and less effective, and as a result, closer field supervision than can be provided, is often needed. Unfortunately, budget cuts often lead to reductions in supervisory personnel, a profoundly dangerous outcome for public and police alike.

The effects are disheartening to watch. In one mid-Atlantic city, beset by a history of corruption in government and poor performance by some police, inexperienced officers sometimes jeopardize others and themselves by failing to take proper control in risky situations. They seem not to know how to use their legitimate authority to minimize danger, and their judgment is too lacking in foresight to prevent clever and assertive suspects from manipulating them.

Such incompetent officers are normally vulnerable to panic, and therefore to brutality. When they feel a situation getting away from them, they tend to behave rashly and unpredictably. This makes them dangerous to suspects, bystanders, and each other. One distinguished senior officer, after we had observed this problem

together, said to me, "They don't want to listen. We can't seem to teach them much:'

In a city two thousand miles to the west, the situation is discernibly different. Plagued by the incursion of Los Angeles-based gangs, the police department formed one of the best qualified gang enforcement units in the country. Though skeptical of state laws that legalize concealed sophisticated weapons, and of media coverage that glorifies gangs and spurs their members to violence, these police are not cynical. Limited by lack of funding for drug stings, they persist.

The command sergeant-with eighteen years experience-hand picked that officers for the unit. He also wisely secured for his staff police confined to light duty by injury or pregnancy to maintain daily updated computer intelligence on all known gang members and activities.

The gang unit members provide instructions on gang enforcement for police departments throughout their region, commonly traveling on their own time and at their own expense, except for motel costs. Why? In their reasoning, they show that the comprehensiveness of their judgment goes far beyond immediate questions of what to do in specific critical situations. They say simply, "If we don't do this, the gangs will have an easy time of it all around us. We will be surrounded:' This is the quality of judgment required in any walk of life to anticipate and avoid the consequences of narrow self preoccupation.

Since the savage beating of Rodney King in Los Angeles on March 3, 1991, when working on ethics with police, I am now often asked, "What should we do about video cameras out there?" The answer is not complex: if police are busy second-guessing themselves or looking behind them to see whether they are being taped, they will not handle the situations in front of them reliably. So I tell them, "Do your job the right way, the way you have been trained -use only minimum necessary force, and respect the people you serve- and you don't have to worry about cameras." And I remind them always that nothing is incorruptible -except personal character that will not be corrupted.

"Professional Judgement in Engineering"

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Engineering's fundamental Rule of judgment is easy to state: *Evaluate an engineer or an engineering design against the state-of-the-art that defines best engineering practice at the time the design is made*.

The objective of this article is to explain what this rule means. We begin with an increasingly popular definition of the engineering method. This will require the introduction of two technical engineering terms: *heuristic* and *state-of-the-art*. Next we contrast the engineer's and the nonengineer's notions of *best* to understand the engineering concept of best engineering *practice*. Within this new context, we reconsider the Rule of Judgment.

For purposes of this discussion engineering method (often called "engineering design") will be defined as: *the use of engineering heuristics to cause the best change in a poorly understood situation within the available resources.*

In this definition, a *heuristic* is anything that provides a plausible aid or direction in the solution of a problem but which, in the final analysis, is unjustified, incapable of justification, and potentially fallible. In essence, *heuristic* is your best bet in a specific situation whether based on a mathematical calculation, experience, or a wild guess. A near synonym of the word *heuristic* and, perhaps, a more familiar term, is *rule-of-thumb*.

Engineers use rules-of-thumb in all aspects of design. For example, the nuclear engineer might use the rule-of-thumb that one gram of uranium consumed equals one mega-watt day of energy created in a nuclear reactor. Even the most complicated mathematical calculations used in engineering should be considered as heuristics because the engineer multiplies the calculated answer by an experience-based factor of safety to arrive at the value that will be used in the actual design. The "leaf springs" in an automobile, for example, use a factor of safety of 1.2; commercial airplanes, a safety factor of 1.5. No rule-of-thumb guarantees the correct answer, but each is a plausible aid in the solution of a problem.

This definition of engineering is not meant to imply that engineers just use heuristics from time to time in design. Instead, the

implication is that the engineering method and the use of engineering heuristics is an absolute identity.

Instead of a single heuristic used in isolation, most engineering design requires a set of heuristics. State-of-the-art (sota) is the technical term for such a set of heuristics. Since many different sets of heuristics are possible, so too are many different sota. To avoid confusion, each should carry a label to differentiate it. Since the sota also changes in time, it must also be identified with a time stamp to indicate when it is valid. A specific engineer uses a specific sota at a specific time in the design of a specific project.

The definition of engineering method and the technical definitions of the heuristic and the sota are essential background for understanding the Rule of judgment in engineering. We begin our analysis of this rule by examining what is meant by *best engineering practice*.

The word best is used differently by the nonengineer and the engineer. This difference represents a fundamental difference in worldview. It accounts for the confusion in establishing the proper basis judging engineering projects.

Perhaps under the influence of our Western heritage, the average nonengineer defines best in terms of an absolute. Plato held, and unconsciously the nonengineer accepts, the assumption that there is an absolute ideal form for every concept. The perfect circle, perfect beauty, perfect justice exist and a specific example of each is judged as good, better, or best according to its approach to that absolute standard. Carrying this notion over into engineering, the nonengineer judges one engineering design as better than another because it is closer to the assumed ideal of truth or reality. For example, when asked whether a Mercedes or a Mustang is a better automobile, the nonengineer typically answers, "The Mercedes:' The implication is that there exists same absolutely best automobile and that the Mercedes is more like it.

If an engineer is asked whether a Mercedes or a Mustang is a better automobile, the likely answer is that the two cannot be compared-that each is the solution to a completely different design problem. Understanding this response is essential to understanding the Rule of judgment in engineering.

Consider a television set with one control knob. Assume that turning this knob to a higher number will produce a better picture but at the same time worsen the sound while turning it to a lower number will worsen the picture but improve the sound. Confronted with such a device, it would be relatively simple for you to satisfy your personal preference. But would the setting you choose necessarily satisfy your neighbor? If you were a hi-fi buff, the knob would be at a relatively low setting, one favoring the sound. On the other hand, if you were a professional photographer, you would choose a higher number, one favoring the picture. The engineer would say that each of you was using a different *trade-off* between the two important variables in the proposed design. The basic concept is that there is not just one best setting independent of the relative value of sound and picture to you. The necessity of such trade-offs is well-known to all engineers and embodied in the technical discipline called Optimization Theory.

The same analysis holds for determining the best automobile, but now the number of important variables is not just two but thousands. An engineer could conceivably argue that designing an automobile similar to the Mercedes is a better goal than designing one similar to the Mustang because the Mercedes would last longer, conserve natural resources, promote national pride, or whatever. And, of course, a second engineer may feel that he could have produced a better final product than the first engineer given the same problem statement. But one thing is sure. Saying that a Mercedes is a better automobile than a Mustang is incorrect if *better* is being used in an engineering sense. Each solution is the optimum for a different specific design project.

Optimization (or the process of finding the engineer's best design) requires compromises. One cannot have the best of all possible worlds in our example of the television set, the world of sight and the world of hearing. The most one can hope for is the best in the combined, real world. Whether mathematically or intuitively, the engineer (as such) always chooses the best course of action based on a complex system of trade-offs.

Let us now return to the Rule of judgment and try to understand it based on the context we have developed. When an engineer makes a design, he uses the heuristics at his disposal-simple rules-of-thumb, heuristics expressed in the mathematics he uses, heuristics that determine which factors are important to this

particular design, heuristics that assign the relative importance of the design variables, and so forth. This state-of-the-art (sota) should be evaluated at the time he must make the design decisions. To demand that the engineer use heuristics that will only become available at a later time is to demand clairvoyance. The final project, therefore, should be the engineer's optimal solution based on his or her own personal sota at the time he or she does the design.

Not all engineers have the same sota, however. They attend different universities, have different past experiences in design, and exhibit different skills. Best engineering practice is the sota of a hypothetical engineer who has access to the heuristics known to the engineering community as a whole. The Rule of judgment in engineering is: *Evaluate an engineer or an engineering design against the state-of-the-art that defines best engineering practice at the time the design is made*.

"Balancing Risks and Benefits in Clinical Decision Making"

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Consider this clinical dilemma: A 68-year-old male diabetic has suffered for several years from progressive chronic peripheral vascular disease. After an injury to his foot, a severe infection has developed, with possible gangrene. Two treatments are available: (a) a trial of antibiotic therapy, and (b) immediate below-the-knee amputation. With the first option, the infection might heal and surgery be avoided altogether. But, if the antibiotic therapy fails, the infection will probably spread, and an above-the-knee amputation will be necessary under less favorable circumstances. The surgical mortality from above-the-knee amputation is higher than from below-knee amputation; the quality of life for the survivor, somewhat lower, since learning to walk with an above-the-knee prosthesis is more difficult. While the second option, immediate below-the-knee amputation, would leave the patient with an amputated limb, his chances of surviving this surgery now are better than if the surgery were delayed and more extensive surgery became necessary. On the other hand, surgery now forecloses the possibility that antibiotic therapy might save the whole leg. What should be done? How should we decide?

This clinical vignette (adapted from Weinstein et al., *Clinical Decision Analysis*, 1980) omits many details but highlights the character of many clinical dilemmas. The patient's diagnosis is known, but the choice of treatment is still a problem because there is no completely safe and effective therapy. Each of the available therapeutic approaches (in this case, surgery or a trial of antibiotic therapy) has potential risks and benefits. Such uncertainty pervades many medical decisions, particularly those where no dominating therapy has emerged. For approximately 15 years, some clinicians and researchers have been studying the application of decision analysis and the theory of decision making which it implements, expected utility (EU) theory, to similar dilemmas. For simple clinical problems, the analyst must identify the relevant risks and benefits, quantify them as probabilities and utilities, and select the strategy that maximizes expected utility. A substantial literature has developed applying the necessary mathematical techniques to a wide variety of clinical situations and health policy problems. (See, for example, Kassirer, J. P et al., *Annals of Internal Medicine* 106 (1987): 275-291.)

EU theory sidesteps the question of what we ought to value, what is good or right, and instead concentrates on the problem of how we ought to choose among competing risks and benefits so as to maximize benefit while minimizing risks. It is a theory of trade-offs amidst uncertainty. Its roots lie in probability theory and economics. One way of looking at expected utility theory is as an account of the idealized functioning of a perfectly rational actor. The central problems of EU theory are the assessment of uncertainty (probabilities) and value (utilities).

Behavioral decision research describes how people actually behave. Psychological research on decision making describes and analyzes the cognitive processes and principles employed in decision making under uncertainty. It is concerned with what people actually do, not with what they should do; the normative theory (EU) serves as the standard of comparison. Current psychological research in clinical judgment and decision making has been influenced significantly by expected utility theory. In the early days of this research, the expected utility

hypothesis was taken as a fairly good approximation of what people actually do or at least of what they would want to do. More recently, psychologists have increasingly criticized the validity of this hypothesis as a first approximation of actual decision making, and there is some concern about whether people want to follow EU principles. Alternative theories have been advanced to account more adequately for human decision processes.

Departures from the normative theory can be demonstrated in each phase of the decision analytic process: problem structuring, probability estimation, probability revision, utility assessment, and synthesizing these estimates to reach a decision. The most troubling psychological problems have arisen in situations where decision makers do not obey expected utility rules and, even after their inconsistencies are pointed out, insist that they do not want to change their decisions. What does this imply? Several interpretations have been advanced: (1) that presumably intelligent people do not always think straight (imperfect or limited rationality); (2) that defining rationality as EU maximization is an error; (3) that people want to obey EU axioms, but their understanding of the tasks is different from what the experimenters intended.

The second and third interpretations of these results explain them away by arguing that they are not really errors. The second interpretation basically claims that people are right in what they choose and the theory is descriptively and normatively incorrect. The third interpretation argues that observed choice behavior is not mistaken but is rational with respect to a different problem than the experimenter had in mind.

Only the first interpretation finds a serious problem with human decision making. It argues that the discrepancies between normative and descriptive theories are caused by imperfect rationality Because we are imperfectly rational, the ways we make decisions often do not conform to EU. EU is a normative theory-an ideal-not an account of how people actually make decisions.

Several important questions arise: Why do people violate the normative model? Is the normative model defective? If so, how should it be changed? Assuming that the normative model is essentially correct, how can we get people to improve their decision making? Based on the psychological research conducted so far, some answers are beginning to emerge:

1) Often people do not try to maximize expected utility because it too hard. The computational burden often far exceeds the capabilities of unaided human thinking. The principle of limited information processing capability means that most people will prefer satisfactory short-cut solutions to more difficult strategies that optimize or maximize expected utility. Sometimes it is difficult to show that the amount of extra benefit gained by an optimizing strategy is worth the extra effort. Still, even when microcomputers make it possible to carry out the computations required for a decision analysis quickly and inexpensively, many decision makers are uninterested.

2) The expected-utility model is often difficult to explain. It is complex and very explicit about uncertainties and risks; many patients and physicians would rather not confront these uncertainties directly. For example, a surgeon once told me that unless he believed he was better at a particular procedure than anyone else in the world, he could not bring himself to operate. To maintain such an attitude, one must generally avoid comparative inquiry into one's own surgical results.

3) A decision-analytic model generally evaluates each outcome independently of the route by which it was reached. For example, it counts each death regardless of whether the patient died from surgical intervention or "natural causes." This approach generally ignores the regret we experience over outcomes for which we feel causal responsibility. Some theorists have endeavored to work regret into the utility function. While this is desirable from a psychological standpoint, it has had the undesirable side-effect of making a complex theory even more complex.

Thus, a decision-analytic approach to clinical dilemmas is both difficult to implement and at times contrary to some deep-seated psychological intuitions. Despite these shortcomings, I believe expected utility analyses of complex clinical issues are more correct than our intuitive analyses of them. My own program for teaching EU strategies to health professionals (physicians, nurses, and so on) begins with trying to get them to

be more skeptical about their own intuitions and then moves on to showing how quantification and formal problem structuring can help straighten out their thinking.

"How Do Judges Think?"

David E. Van Zandt, Law, Northwestern University

How do judges think? My short answer is: just like everyone else. While that answer may seem obvious, legal scholars have expended much effort on the question. The question is important because the results of judges' thinking-judicial decisions-can change people's lives. Scholars are concerned about judge's thinking both to understand judicial decisions and, in some cases, to redirect them.

Given the importance of the question and the amount of attention it has received, one might think that judges' reasoning processes have received careful empirical analysis. Unfortunately, that is not so. While there have been some good studies of the decision making of that other important decision maker in the court system-the jury-similar empirical studies of how judges reach their decisions are few. The main reason is access: judges are busy public officials.

So, it is not surprising that most studies of judicial reasoning have been based only on the judge's written decisions or on the author's own experience as a judge's law clerk or, in some cases, as a judge. The studies must piece together the picture of judicial reasoning using a good deal of imagination.

These efforts have led to four distinct models of judicial reasoning. These all start out as models of how judges actually think. However, advocates of each model usually also assert that the model is normatively desirable because following it would lead to better judicial decisions.

The first model, the "legal science" or the "legal formalist" model, asserts that a judge reasons like an idealized scientist. When faced with a decision, a judge first reviews all the prior cases similar to the case at hand. From the results in those cases and the reasoning in the written decisions, he or she works out a general principle from which each of the results in those cases can be derived. The general principle is then applied to the facts of the case at hand. A good written decision is an accurate, if truncated, description of the process of reasoning.

This model of reasoning is called legal science because the judge (or legal scholar) treats the prior written decisions as the empirical evidence that he or she manipulates to yield general principles. To paraphrase Christopher Columbus Langdell, the turn-of-the-century Harvard Law School dean who popularized this model, the judge's laboratory is the law library. The judge is merely a good scientist who discovers the principle contained in the cases, not the creator of it. The term "science" is used here in a very old-fashioned way. The science is normative or moral. This model of judicial reasoning assumes that the normative principle resides in the written decisions of past cases to be discovered.

The second model, pressed by the pragmatists and legal realists scholars of the 1920s and 1930s, stands this aspect of the legal science approach on its head. It suggests that a judge surveys all the facts of the case before him or her and decides which party should win. This decision is attributed variously to the political philosophy, psychology, social or economic class, or even the breakfast menu of the judge. In one famous account written by a sitting judge, the decision was said to be the product of "hunch." Having reached that decision, the judge then writes an opinion to defend the result. The written opinion may or may not reflect the true reasons for the decision. It does, however, follow the convention of asserting that the result follows from some general legal rule accepted by most people. But the actual decision precedes this defense and is not affected by it. John Dewey and others argued that this model was a more accurate representation of how judges actually think than the deductive model of legal science.

A more recent model, called "analogical reasoning;' is a product of the legal process school which flourished in the 1950s and 1960s. It is probably the model that most lawyers would identify as most descriptive of good legal reasoning, no doubt in part because their law teachers and casebooks were heavily influenced by it. This view was best expressed by a University-of-Chicago Law School dean (and former Attorney General), Edward Levi: "[Legal reasoning is] reasoning from case to case:" The judge first finds a prior case

that has factual similarities to the case at hand. He then identifies the rule of law inherent in the first case. That rule is then modified to apply to the case at hand. The crux of the method is establishing and defending factual analogies between cases. If the judge finds factual reasons to distinguish the prior case from the case at hand, the rule of the prior case is not relevant; if, however, the facts of the case at hand are not "relevantly" different from those of the prior case, the rule of the prior case should be applied.

In a popular, current model of judicial reasoning that seems to meld both the realist and the analogical approach, some legal scholars have appealed to the idea of "practical reason" as a model for judicial reasoning. Leaning on Aristotle's distinction between theoretical and practical reason, this view suggests that a judge must evaluate a case in its context. The judge must both sympathetically understand the opposing litigants' positions and evaluate them with detachment. A good decision is one that balances the particulars of a case with more abstract principles. Most scholars of this genre assert that the ability to judge is learned only through experience in judging.

All of these models may seem somewhat mysterious to the layperson. That is because they all assert that judges employ a method of reasoning different from that ordinary people seem to use. While law schools would be delighted if that were s0. we should prefer a more parsimonious explanation.

My own view is that the reasoning processes that judges employ are no different from those we all use everyday. Our goal in reasoning about practical problems is to produce useful information in the most cost-effective way to assist us in achieving our desires. We rarely "reinvent the wheel" through systematic investigation and analysis; instead, we rely on our stock of knowledge, that collection of moral and empirical information about the world that we have developed from our past experiences. We tend to interpret and judge the problem before us in terms of some related element of information in that stock of knowledge, unless we have strong reasons for doing otherwise.

Judges are no different. They are under great pressures to make decisions quickly; they do not have the luxury of the systematic analysis that most of the models 1 described above suggest. Instead, judges resort to their own stock of knowledge for a wide range of information about the world and about what is right and wrong. When faced with a case, they tend to base their decisions on the knowledge that they share with the rest of us-unless there are good reasons to dig further or to rethink an issue. The very idea of precedent in law reflects this economy of information. A reason why judges would follow the ruling in a prior case is that, absent other good reasons, they have no reason to rethink a result that other judges have reached in the past.

This view provides a better description of what is happening in the realist model when a judge gets a "hunch" about the correct decision, or in the practical reason model when a judge reaches a decision by "balancing the particulars" in a case. It also suggests why the analogical judge finds certain facts more "relevant" than others and why the legal science judge sees certain "general principles" in a group of cases. This view also explains why most judges tend to be conservative in the literal meaning of the word: their decisions tend to follow the extant community standards of what is right and wrong and to reflect community beliefs about empirical facts.

Finally, this view has the virtue of driving a wedge between the normative and the descriptive accounts of judicial reasoning. As we all know, commonsense works well in some cases, but fails miserably in others. Because judges' reasoning is simply human reason applied in the legal sphere, we should not expect it to have a higher success rate.

"Announcements"

SEMINARS, *Ethics and the Professions: Moral Theories and Contemporary Problems*, June 6-13, 1992, will bring together a group of professional school faculty to explore some major ethical theories and apply them to important moral problems arising in the professions. The aim is to clarify ethical theories, define moral concepts, and stimulate both discussions and papers that illuminate these problems. Participants will receive $1,000 stipend and accommodations, including breakfast. Contact: Stephen Kalish, College of Law, University of Nebraska, Lincoln, NE 68583-0902 (ph. 402-472-2161).

CONFERENCES. The first annual meeting of the *Association for Practical and Professional Ethics* will be held in Indianapolis, Indiana, March 6-7, 1991. The keynote speaker will be Michael Walzer. Other speakers will include Deni Elliott, Dartmouth; Amy Gutmann, Princeton; Michael Pritchard, Western Michigan; Henry Shue, Cornell; David Smith, Indiana; Nicholas Steneck, Michigan; and Dennis Thompson, Harvard. Contact: APPE, 410 N. Park Ave., Bloomington, IN 47405(ph.812-855-0261 or e-mail APPAOIUBACS (Bitnet) or APPAQ@UCS.INDIANA.EDU (Internet).

The *American Association for the' Advancement of Science* (AAAS) will hold its annual meeting in Chicago, February 6-11,1992. Contact: AAAS, Meetings Office, 1333 H Street, NW, Washington, DC 20005.

NEW PUBLICATIONS: *The Journal International de Biothique/International Journal of Bioethics* began publication in 1990 to encourage multidisciplinary debate in bioethics internationally. It is the review of the association Science, Ethics and the Law (called the MILAZZO Group). Contact: C. Byk, 162 avenue Lacassagne-69003 Lyon, France (ph. 72 33 40).

The Center for the Study of Ethics in the Professions at the Illinois Institute of Technology was established in 1976 for the purpose of promoting education and scholarship relating to ethical and policy issues of the professions.

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