Decision Theory And The Legal Process, Stuart S. Nagel and Marian G. Neef. Lexington, Mass.: D. C. Heath and Co., 1979. Pp. 294. $31.25 (cloth)

Even the most casual observer of common law legal systems will have noted that at a variety of levels in the legal process *decisions* are made on what are or ought to be *rational* bases. Judges and juries decide guilt and civil liability, prosecutors decide whether to go to trial, litigants decide whether to settle out of court, lawyers decide how much time to spend preparing various cases, and so on. In these and similar situations a decision is made which affects the present or future lives of one or more people. Because lives are affected, the decisions cannot be made in a frivolous or careless way, and elementary justice requires a degree of consistency between decisions. As a result, members of the legal system, officials and ordinary citizens alike, expect these decisions to be based on carefully considered reasons. These reasons provide one of the prime means of assessing the decision, so one might wonder whether there is some general theory or model of reasoning which can make this assessment process uniform and objective. If such a model is available, it can be used to guide decision-making and will provide a basis for criticizing both specific decisions and legal structures and procedures which affect rationality and justice.

In a recent book entitled *Decision Theory and The Legal Process,*[1] Stuart Nagel and Marian Neef have attempted to provide just such a general theory. The theory itself is not new. Philosophers and social scientists have for some time worked to develop what is called decision theory.[2] The details of the theory can be complex and even controversial, but the basic idea is both simple and widely accepted. Roughly stated, in the present context the theory would hold that rational decisions are those which embody the greatest expected benefits minus costs of any available

[1]S. Nagel and M. Neef, *Decision Theory and The Legal Process* (D.C. Heath, Lexington Books, 1979).

[2]See for example, R. D. Luce and Howard Raiffa, *Games and Decisions.*

alternatives. This deceptively simple proposition summarizes a very powerful insight into decision-making.

What makes the book special is its single-minded attempt to uniformly apply this perspective to a wide range of decisions in the legal process. The prospect is both exciting and disturbing. It is exciting because it offers the hope of bringing order, consistency, and perhaps justice to a chaotic variety of legal decisions rendered under a bewildering variety of circumstances by individuals with widely divergent social, political, and philosophical backgrounds and biases. The rule of law would clearly be advanced by any theory which could increase uniformity of decision in our legal system. At the same time, the prospect is disturbing, for at first glance it would appear that such a perspective would be utilitarian at best, and egoistic at worst. Either of these results would apparently threaten the rule of law, which arguably necessitates ignoring the desirability of specific outcomes in favour of uniformity in the application of rules or principles. In the language of contemporary rights theorists, application of decision theory to every kind of decision-making process in a legal system appears to sacrifice individual rights to other social values. On the face of it, making choices based solely on maximizing expected benefits leaves no room for individual rights,[3] even though many would argue that rights are the cornerstone of justice.

The authors deal with five different legal situations, carefully showing how decision theory can be used to clarify the logical nature of what is occurring, and how it can provide a means of evaluating and improving existing practices. Among the five examples they include not only the obvious cases of setting bond, plea bargaining, allocating resources by legal counsel, and seeking to encourage socially desirable behaviour (or discourage socially undesirable behaviour), but also the somewhat suprising case of juror decisions. For purposes of this review, a brief discussion of the application of decision theory to setting bond and juror decisions will suffice to illustrate the approach taken in the book.

When a judge is faced with setting bond in a specific case there are a number of important factors which bear on his decision. The most obvious is the probability that the accused will appear for trial. But this is not the only relevant matter. The judge will also be concerned with the likelihood that the accused will commit another crime if he is freed on bail. When one considers these two factors, additional complications spring to mind. The social costs of the crime which might be commited are relevant, as are the costs of rearresting the accused if he fails to appear. These and similar factors might be characterized as *releasing costs.* Conversely, there are *holding costs* such as the expense of feeding and guarding someone in jail, the social disruption incarceration would cause

[3]For a discussion of rights as "political trumps held by individuals" which at least sometimes override considerations of utility, see Ronald Dworkin *Taking Rights Seriously* (Harvard, University Press Cambridge, Massachusetts, 1978).

the accused's family and employer, the bitterness produced if in the end he is found not guilty, the lost wages and productivity, and so on.

While the decision which considers all of the contingent factors mentioned above will be ideal, in the real world it may prove impossible for judges to accurately quantify all of the costs in each individual case. As a result, a judge's behaviour in making a decision about bail may be adequately analysed and predicted simply by considering the probability that the accused will appear and the probability that he will commit a crime while released. Analysis will likely show that a judge tends to have certain 'threshold' probabilities for appearance and not committing a crime which, if exceeded, will result in a decision to release. For example, a judge may release defendants in theft cases when the probability that they will appear is .75 or greater and the probability that they will not commit a crime while released is .6 or greater. If a specific defendant is perceived by the judge as exceeding these probabilities, he will be released with little or no bond, while if he is seen as being below the appearance threshold, bond may be set at a level which either raises the probability above the threshold or prevents the accused from being released.

The logic of all of this is developed in simple, step-by-step fashion in the book, using what are called "payoff matrices" and simple mathematics. The authors do not claim that judges either do or should construct payoff matrices when faced with a specific defendant, or explicitly consider the mathematical formulae discussed. They do, however, suggest that this approach provides "an understanding of what may be implicitly happening in an inexact way in a judge's mind".[4] What the authors are doing, in other words, is developing a *model of judicial reasoning.*

The decision theory used in the book appears to be a reasonably successful attempt at providing a general model for human reasoning, but if it is to supply insights into specific instances of reasoning governed by institutional rules and political or social norms, a deeper analysis than that developed in the book is necessary. The judge setting bond is not an abstract rational being. He is a person with specific values, factual beliefs, and ideological positions, all of which contribute to his consideration of benefits and costs in a specific case. Modelling the decision he makes is further complicated by the fact that he is making the decision in an institutional capacity. This not only affects the outcome of what he decides, but also engages, as it were, a new set of values incorporated into his institutional responsibilities. Now, there is no reason why these additional complicating factors cannot be included in a decision-theoretic approach. In the present book, however, this is not done. Furthermore, the analysis is developed in such a way that the layman might well conclude that the analysis as it is presented is theoretically complete. Although this approach simplifies the argument, it also makes it difficult

[4] *Supra*, footnote 1, at 22-23.

for the layman to see how complicating factors such as political ideologies and rights of the accused can be understood as relevant to the decision. In short, the discussion is interesting and helpful as far as it goes, but it gives the novice little guidance as to how the approach can be extended to provide an understanding of the significance of ideology and individual rights.

On the assumption that judges are attempting to make reasonable decisions, the model developed in the book has very important uses in the legal field. The theory traces the full logical connections between many of the factors legally trained individuals recognize as significant in these contexts. It thereby provides a mechanism or calculus for estimating the probable effects of various changes in these factors. In the bond-setting situation, for example, it would provide us with a way of estimating what would happen to the decisions made by a specific judge if he were made more acutely aware of the social costs of holding people before trial, or if he were given more accurate knowledge of the probabilities that persons accused of rape will appear for trial. If we had sufficiant data about his prior beliefs, we could predict how these changes would affect his decisions.

The understanding and ability to predict decisions which is thus afforded by the theory can prove very useful. It puts us in a position to guide decision makers in ways that are just or socially desirable. If an undesirably large number of arrested persons are being held before trial, we can check each factor and step in the underlying decision procedure and devise ways to discover where the problem lies. The solution might be something as simple as publicizing among judges statistics on the number of accused persons of various descriptions who fail to appear on various charges, or increasing the judiciary's knowledge of just how costly, in social terms, holding a person can be. The decision theory developed in the book gives us the means of determining, or at least estimating, what effects such tactics might have on the decisions rendered. Several pages are devoted to exploring this issue of unnecessary pre-trial holding, and while the discussion contains nothing particularly new or startling, it does show how a surprisingly larger number of factors can be integrated into a single theory and their significance assessed.

The terms and mathematical formulae of decision theory may be unfamiliar to most of the legal community, but the basic approach holds no unpleasant surprises in the area of setting bond. It is unfortunate that the authors failed to develop the theory in such a way that the layman reader could easily integrate other factors of interest, particularly rights, but aside from this omission the discussion is essentially correct and interesting. In setting bond it is clearly appropriate to balance values and probable outcomes, and come to some overall assessment of what is best, having regard to both the interests of the accused and society as a whole. Decision theory simply makes this process precise. There is a

similar sense of appropriateness when the book deals with establishing non-discretionary bond schedules, plea bargaining, out-of-court settlements, allocating resources among cases, and seeking to regulate social behaviour. In each of these cases there are individual and/or social interests which oppose one another and which must be considered under conditions of risk or uncertainty. The decision will then be made so as to maximize the expected benefits minus costs.

The authors also deal with juror decisions, however, and here the approach taken by decision theory might seem inappropriate. The currently popular rights theory of Professor Dworkin holds that in matters of judicial decision-making judges typically do, and ought to, consider only the rights of the parties.[5] Utilitarian calculations of the values of outcomes will often sacrifice the rights of the individuals involved, thus producing clearly unjust results, even though the overall good of society might be increased. How, then, can decision theory, which tells a decision-maker to maximize benefits minus costs, be applied to a juror's decision without following this path of injustice? The authors do not face this issue squarely, and their discussion suffers accordingly. However, by taking a very cautious and restricted approach, they manage to avoid the undesirable result in the analysis they provide.

For the sake of simplicity, let us consider only a criminal trial, although the same analysis would apply to a civil action. Similarly, let us restrict our discussion to a single juror, although there is no reason why the same analysis, at least at the level it is pursued in the present book, could not be directly applied to a judge sitting alone, in so far as he functions as the trier of fact. The argument presented in the book then goes something like this. A juror consciously or subconsciously seeks to produce the greatest expected benefits minus costs. He can make either of two decisions: guilty or not guilty. From an objective point of view the defendant is either guilty or innocent, so there are four possible outcomes facing the juror:

1) The defendant is guilty and the juror votes to convict.
2) The defendant is innocent and the juror votes to convict.
3) The defendant is guilty and the juror votes to acquit.
4) The defendant is innocent and the juror votes to acquit.

By comparing the subjective satisfaction a juror would receive in each of these cases with the satisfaction he would receive in the alternate outcomes, we can determine the probability of guilt that the juror must perceive before he will vote to convict. As an example, the authors show that if someone holds that it is ten times better to free a guilty man than to convict an innocent one, that person will convict only if the perceived probability of guilt is .91 or greater. This then becomes that person's

[5] *Supra*, footnote 3, chapter 4.

'threshold probability' of conviction. The higher the threshold, the more certain a person must be before he will vote to convict, and the lower the threshold, the less certainty he must attain before he votes to convict. The threshold probability, in other words, is a fairly precise measure of the degree of proof the Crown must achieve in order to convince a juror to vote for conviction.

If we assign some rough probabilities to phrases like "beyond a reasonable doubt" and "on the balance of probabilities" we are in a good position to determine whether different individuals have the same view of the effects of these phrases, and whether there are differences which correlate with sexual, economic, social, educational, or other differences between jurors. In addition, it would be a fairly simple matter to determine the effects of different jury instructions, and whether it would be desirable to vary the instructions with the crime involved. Such information is of obvious use to theoreticians, politicians, and practitioners alike. The authors increase the usefulness of their discussion by not only developing the theory but also providing a sample questionnaire which can be used to determine a person's threshold probability of conviction. The questionnaire and the theory provide an interesting and potentially powerful tool for research into a number of aspects of the jury system.

In one of the most fascinating sections of the book the authors discuss preliminary research using this method. They found for example, that in a criminal context "the actual threshold probabilities tended to average about .55 and thus were no different from what one might expect to find if the respondents were operating under the civil case standard of *by a preponderance or a majority of the evidence,* rather than the criminal standard of *beyond a reasonable doubt*".[6] This result was surprising not only to the authors but to the respondents themselves, some of whom considered themselves strong civil libertarians. This sort of finding is of obvious significance to the jury system, or, indeed, to the trial system itself, since the same kinds of studies could include judges as well as jurors. Such research could be used to determine the most effective jury instructions, and perhaps identify judges whose threshold probabilities were significantly out of line with other judges and with some kind of ideal standard.

The analysis of juror decision-making sketched above clearly illustrates the usefulness of decision theory in pinpointing weaknesses in the trial system and providing insights into the real-world process of deciding guilt or innocence. But once again one might question whether the analysis goes deep enough to cover all issues of practical and theoretical significance. Even preliminary research reported in the book suggests that further analysis is necessary. The authors found that the threshold probability and the perceived probability of guilt are not always independent, as the simple analysis discussed earlier would imply. The au-

[6]*Supra,* footnote 1, at 196.

thors hypothesize that the extent to which perceived probability of guilt and threshold probability are truly independent and functional elements leading to a decision rather than simply rationalizations depends on the costs of gathering and processing relevant information. At this point a person's commitment to liberalism or conservatism becomes a critical factor in the decision.[7]

The discussion of a person's liberalism/conservatism is an important beginning for the deeper analysis which is needed, but it is neither developed nor generalized. What is needed is a more general approach which accommodates the numerous interests and values affecting an individual when he assumes the institutional role of juror or judge. Acceptance of the instutional role is itself a decision which an individual implicitly or explicitly makes, and so is amenable to a decision-theoretic analysis. This preliminary decision is fundamental to understanding the subsequent behaviour of the individual in judging a specific case. If all people had the same degree of acceptance and understanding of the role, this logically prior decision might safely be ignored in empirical studies. But even in the face of such uniformity no deep understanding of juror decision-making is possible without adequate consideration of the fundamental role-decision, for it is that decision which helps account for the juror's objective or detached approach to the trial issues, and is vital to understanding and dealing with departures from objectivity.

Such a general analysis is certainly within the scope of decision theory, although it may be somewhat difficult to execute with any degree of confidence. There is nothing in the book which suggests that this cannot be done, but at the same time the discussion is so carefully directed to the first level of analysis sketched above that the reader lacking theoretical sophistication might suppose that the theory had nothing to say about other factors. We are left with no guidance as to the general *scope* of the theory.

This problem is particulatly acute when we are faced with analysing decisions influenced in some way by rights, principles, or rules. For example, how are we to analyze a juror's decision in a case where the judge has instructed jury members that the accused's admission in the witness box that he has been convicted of several crimes in the past can only be used to impeach his credibility? The perceived probability of guilt may depend on whether the legal rule contained in the instruction is followed, and so the determination of guilt will depend in part on how this instruction and the rule it embodies fit into the decision process. The narrowness of the discussion in the book leaves the reader without sufficient guidance on this and similar matters. In addition, one looks in vain for some discussion of whether or how decision theory can be profitably applied to judicial decisions involving questions of law. It is

[7]*Supra*, footnote 1, at 198.

here that the apparent conflict with individual rights becomes most apparent, and yet the authors fail to confront the problem. Their eyes are firmly fixed on the specific problem areas and approaches they chose to consider, and the reader is left to discover and ponder these other questions for himself.

From this brief discussion of bond setting and juror decision making it can be seen that this book makes an important start toward providing a mechanism for criticism and research in many areas of the legal process. It clearly illustrates the power of decision theory to clarify and guide consideration of a wide range of decision-making processes within the law. To the extent that it does this in a clear, uncomplicated manner, the book can be recommended to judges, theoreticians, and even practitioners. It must be noted, however, that it is written in a uniformly pedestrian literary style relieved only by proof-reading errors and occasional flashes of acute linguistic distress ("more easy","offering better offers").

While providing a valuable discussion, the book stands in danger of being nothing more than an *illustration* of what decision theory can do. Its perspective is directed toward the analysis of specific decision-processes, so the reader must look elsewhere for general discussion of the application of decision theory to processes taking place within instutional settings, guided by rules and principles, and involving individual rights. Now, there is certainly enough theory developed in the book for the intelligent and resourceful reader to tackle these problems, but in so doing he is going beyond the confines of the book itself. It is hoped that in the future the authors will direct their formidable analytical skills and wide-ranging knowledge toward producing a book which will provide the general discussion of theory lacking in the present work. Such an effort would produce a companion volume worthy of the title DECISION THEORY AND THE LEGAL PROCESS.

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