Implications of the Story Model for the Trial Judge's Behavior

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Might it be suggested that the central act of the legal mind, of judge and lawyer alike, is the conversion of the raw material of life [...] into a story that will claim to tell the truth in legal terms? [1]

We have proposed that a general model of explanation-based decision making describes the behavior of people making decisions in complex, uncertain situations. We have applied the model to the behavior of trial jurors in typical criminal trials.[2] According to the explanation-based model, the jurors begin their decision process by constructing a causal model to explain the available facts. Because we believe that this causal summary of the evidence usually takes the form of a narrative, we call the application to juror decision making the Story Model. At the same time as the juror is attempting to construct a causal summary of the evidence, he or she is engaged in a separate activity to learn the set of decision alternatives, based primarily on the trial judge's substantive instructions on the relevant verdicts. A decision is made when the causal model of the evidence is successfully matched to a verdict alternative in the choice set. The three processing stages in the explanation-based decision model are shown in Figure 1.

The major assumption in our explanation-based approach to decision making is the hypothesis that decision makers construct an intermediate summary representation of the evidence and that this representation, rather than the original "raw" evidence, is the basis of the final decision. Interposition of this organization facilitates evidence comprehension, directs inferencing, enables the decision maker to reach a decision, and determines the confidence assigned to the accuracy or success of the decision. This means that the locus of theoretical accounts for differences in decisions rendered by different individuals, systematic biases exhibited by many individuals, and the effects of most variations in decision task characteristics will usually lie in the evidence evaluation stage of the decision process. As well, it means that useful advice to trial judges must recognize the prominent role of narrative, causal models in jurors' efforts to perform their fact-finding task in criminal and civil trials.

FIGURE 1.   A Schematic summary of the juror's decision processes according to the Story
            Mode.

The juror's decision task is a prototype of the tasks to which the explanation-based model should apply. First, a massive "database" of evidence is input at trial, frequently requiring several days to present. Second, the evidence comes in a scrambled sequence, usually several witnesses and exhibits convey pieces of a historical puzzle in a jumbled temporal sequence and prosecution and defense witnesses who provide conflicting versions of the same events appear widely separated in time at trial. Third, the evidence is piecemeal and gappy in its depiction of the historical events that are the focus of reconstruction: event descriptions are incomplete, usually some critical events were not observed by the available witnesses, and information about personal reaction and motivations is rarely presented (often because of the rules of evidence). Finally, subparts of the evidence (for example, individual sentences or statements) are interdependent in

their probative implications for the verdict. The meaning of one statement cannot be assessed in isolation because it depends on the meaning of several related statements, often distributed across witnesses of varying credibility.

I.   EVIDENCE SUMMARY

Our empirical research has demonstrated that the juror's "explanation" of legal evidence takes the form of a "story" in which causal and intentional relations among events are prominent.[3] The story is constructed from information explicitly presented at trial and knowledge possessed by the juror. Two kinds of knowledge are critical: (a) expectations about what makes a complete story and (b) knowledge about events similar in content to those that are under dispute.

Scholars have concluded that in its most general form a story is a narrative of events, ordered in a chronological temporal sequence, including a beginning, middle, and ending, that form a satisfying "whole" in the comprehender's mind. More specifically, we claim that general knowledge about the structure of human purposive action sequences, characterized as an episode schema, serves to organize events according to the causal and intentional relations among them as perceived by the juror. An episode schema specifies that a story should contain initiating events, goals, actions, consequences, and accompanying states, in a particular causal configuration.[4] Each component of an episode may also consist of an episode so that the story the juror constructs can be represented as a hierarchy of embedded episodes. The highest level episode characterizes the most important features of "what happened". Knowledge about the structure of stories allows the juror to judge the completeness of the evidence or the extent to which the story has all its parts.

More than one story may be constructed by the juror, however one story will usually be accepted as more coherent than the others and the juror will focus on this story. Coherence combines judgments of completeness, consistency, and plausibility. If more than one story is judged to be coherent, then each story will lack uniqueness and uncertainty will result. If there is

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one coherent story, this story will be accepted as the explanation of the evidence and will be instrumental in reaching a decision.

II.   CHOICE SET

The decision maker's second major task is to learn or to create a set of potential solutions or action alternatives that constitute the choice set. In criminal trials the information for this processing stage is given to jurors at the end of the trial in the judge's instructions on the law. The process of learning the verdict categories is a one-trial learning task in which the material to be learned is very abstract. We hypothesize that the conceptual unit is a category (frame) defined by a list of criterial features referring to identity, mental state, circumstances, and actions linked conjunctively or disjunctively to the verdict alternative.[5]

III.   MATCH PROCESS

The final stage in the global decision process involves matching solution alternatives to the summary evidence representation (the juror's accepted story) to find the most successful pairing. Confidence in the final decision will be partly determined by the goodness-of-fit of the evidence-solution pairing selected and the uniqueness of the winning combination when compared to alternative pairing. Since verdict categories are unfamiliar concepts, the classification of a story into an appropriate verdict category is likely to be a deliberate process. For example, a juror may have to decide whether a circumstance in the story such as "pinned against a wall" constitutes a good match to a required circumstance, "unable to escape", for a verdict of not guilty by reason of self defense.

The story classification stage involves the application of the judge's procedural instructions on the presumption of innocence and the standard of proof. If not all of the verdict attributes for a given verdict category are satisfied "beyond a reasonable doubt", by events in the accepted story, then the juror will probably presume innocence and return a default verdict of not guilty.

IV.   CONFIDENCE IN DECISIONS

Several aspects of the decision process influence the juror's level of certainty about the final decision. First, the accepted story is judged to be the most coherent, but the degree of coherence will affect confidence.   Thus, if the story lacks completeness, consistency, or plausibility, confidence in the story and therefore in the verdict will be diminished. Second, if a story lacks uniqueness, that is, there is more than one coherent story, then certainty concerning the accuracy of any one explanation will be lowered.[6] Finally, the goodness-of-fit between the accepted story and the best-fitting verdict category will influence confidence in the verdict decision.

In summary, our application of the explanation-based decision model to legal decisions is based on the hypothesis that jurors impose a narrative story organization on trial information, in which causal and intentional relations between events are central. Meaning is assigned to trial evidence through the incorporation of that evidence into one or more plausible accounts or stories describing "what happened" during events testified to at the trial. The story organization facilitates evidence comprehension and enables jurors to reach a predeliberation verdict decision. We have produced an extensive collection of findings from psychological experiments that support our explanation-based "Story Model"; and the interested reader can find these empirical arguments for our approach in published reports.

V.   SOME CONTEXT AND SOME QUALIFICATIONS

What alternative models have been proposed to describe the psychological processes of the legal decision making? A brief list of alternatives should provide enough context to grasp the relative advantages and disadvantages of the Story Model.[7] First, there are models that emphasize individual differences between decision makers. In the case of jurors, theorists have proposed that various personality variables such as authoritarianism and field dependence or attitude variables such as "due process guarantees" or political conservativism-liberalism predict and explain decisions in some legal cases. Similarly, trial and appellate judge's decisions have been claimed

to be predictable from their personalities, their political attitudes, and their "penal philosophies" (their relative importance rankings of the goals of sentencing). Second, there are models that propose the decision maker relies on a "mental toolbox" of simplifying heuristic judgment procedures.[8] For example, if the defendant reminds the juror (or judge) of another "bad person" the juror is likely to rely on this association and convict, independent of the evidence. Or, if the defendant resembles a "criminal prototype", perhaps learned from exposure to the mass media, conviction will be based on this potentially spurious similarity. Third, several theorists have proposed that algebraic models that "weight and add" the implications of items of evidence provide good descriptions of jurors' and judges' decision processes.[9] Fourth, many legal analysts have proposed that economic Utility Theory models describe (and should prescribe) the decision making processes of jurors and judges.[10] Fifth, another form of economic determinism, with a Marxist flavor (sometimes mixed with Freudian psychodynamic concepts), has been assumed to be the basis of trial and appellate judge decisions by legal scholars from the "Critical Legal Studies" orientation.[11]

Why would we propose yet another model of judicial decision making with all of these other attractive candidates on the docket? First, in some cases, we simply doubt wheter the models provide clear or valid descriptions of judicial decision processes. There is just no substantial behavioral evidence in support of the Utility, Marxist, or Freudian psychodynamic theories. Second, the algebraic approach seems to be descriptively accurate and useful for some applications, but these models do not provide detailed pictures of the psychological processes that occur in evidence comprehension, the evaluation of witness credibility, etc., that are the targets of more cognitive approaches like the Story Model. One potentially useful approach is to apply algebraic models to capture the general characteristics of a judgment process, but then to explicate and illuminate these processes with further cognitive studies. Thus, in a sense, we might think of the algebraic models as framed at a level above the "cognitive process level" and it is possible that the two research methodologies and the two types of models could complement each other. Third, the individual difference and judgement heuristics approaches seem to provide a fragmented and incomplete picture of the judgement process. In our research, we have found that some local

aspects of the judgement process reflect factors like those identified in these approaches, but we believe that a useful model of legal decision making needs an overarching organization, like the structure proposed in the Story Model, in order to provide an adequate description of the full process intervening between evidence and verdict.

We should identify some of the major limits on our findings and on the generality of application of the Story Model. Our research has been based primarily on criminal trial decisions and only additional empirical studies can tell us in what other types of decisions the explanation-based strategy will be followed by decision makers. One legally important situation that we have not studied involves decisions made in prejudice and emotion provoking cases. The case materials we have used have been sampled to be realistic and representative of typical cases. Extremely violent crimes, racially and politically tinged events, and other difficult to try and precedent setting situations have not been studied to date.

We should also note that we do not claim that the decision strategy described by the Story Model is universal, even in the domain of juror decisions in criminal cases. Although our research with representative samples of citizens called for jury duty found that almost every mock-juror's reasoning followed the explanation-based strategy, there were a few jurors who did not appear to perform all of the sub-tasks of the full process.

VI.   IMPLICATIONS FOR THE TRIAL JUDGE

In the remainder of this note, we will assume that the Story Model provides a generally valid description of the reasoning processes of individual jurors in criminal trials and attempt to derive some of the implications of this view for the behavior of trial judges in both jury and bench trials. We can divide these suggestions into two categories:

a)____How should the trial judge conceive of the juror's mental processes?

b)   What insights into the judge's own decision processes are provided by the model of the juror's decisions?

The research we have conducted on juror decisions has led us to conclude that the juror's comprehension of the evidence is "filtered" through the construction of narrative story structures. We have identified several characteristic features of jurors' decisions:

1.   Factors and conditions that make evidence easy to comprehend as a story will promote verdicts in the direction favored by the story. Thus, the side of the case (prosecution, defense) that more closely follows a "narrative" order of proof, will have an advantage in juror decisions.[12]

2.   A juror's global confidence that the story he or she has constructed from the evidence is the truth depends on several factors:

(i)   the extent to which the story "covers" or explains the evidence presented by credible witnesses;

(ii)   the completeness of the story;

(iii)   the internal consistency of the story;

(iv)   the plausibility of the story, evaluated primarily with reference to related stories or other events with which the jurors are familiar; and

(v)   the uniqueness of the story (the degree to which alternate stories are or are not being entertained by the juror).

This means that compared to an ideal "evidence evaluator" jurors will be sensitive to the relative strengths of the chains of evidence leading to conclusions relevant to verdict elements. Thus, jurors will be swayed by the consistency and plausibility of a story and under-weight the credibility of the evidence sources and the strength of the inferential chains leading to a probative conclusion.[13] This means that trial judges would be wise to put emphasis on procedural

instructions giving guidance about the evaluation of witness credibility and the strengths of inferential chains from evidence to their conclusions.

The most difficult part of the decision process for jurors in typical criminal cases usually involves reasoning about the meaning of instructions on the law, especially definitions of the verdicts. In our research, the strategy that we observed jurors most often follow when trying to make sense of unfamiliar legal concepts, was to create an interpretation of legal expression in the context of the events that had been referred to in testimony. For example, when struggling to comprehend the concept "exhaust all means to avoid combat", which had been part of an instruction on self defense, jurors frequently imagined what the defendant would have done (or may have done) in the situation preceding a fatal fight. Then they made decisions about whether or not this element of self-defense was satisfied by comparing what the sequence of behavior they believed was entailed by the instruction ("exhaust all means to avoid combat") and the actions they believed the defendant had actually performed (which were part of their narrative summaries of the trial evidence). In this example, jurors frequently reached an interpretation of the instruction that to properly "exhaust all means to avoid combat", the defendant should never have been at the scene of the fight at all. Thus, they concluded that he had lost his right to claim self defense because he had, in fact, been at the scene. Of course, this interpretation is inappropriate.

Jurors also often rely on their impressions of typical scenarios associated with general crime categories (for example, kidnapping, bank robbery) to reach verdicts.[14] That is, their pre-trial beliefs about the law take the form of a story construction process, too. For example, for many jurors, the term "kidnapping" evokes a generic scenario of a child being taken from its parents, followed by a ransom note, money drop, etc., in pursuit of the goal of extorting money from the parents. Non-stereotypic crimes, which are nonetheless technically kidnapping, yield lower conviction rates.

It is probably not a good idea to attempt to instruct the jurors by creating stories for them as interpretations of verdict elements and other unfamiliar concepts. However, the judge should

take notice that unconventional crimes, crime events that do not match jurors' "prototypes" of crime categories, will be especially difficult for jurors to judge. In such cases it may be necessary to refer to the jurors' likely preconceptions, even by speaking in terms of verdict stories, to effectively revise jurors' preconceptions. It is also likely that when a judge decides to respond to a jury's request for further instructions or a clarification of the law, that providing guidance in the form of a narrative interpretation will be most helpful to the jury.

We submit that judges (like jurors) also create and use narrative story structures when rendering verdicts, justifying opinions, and deciding sentences in criminal trials. This implies that, like jurors, judges will be susceptible to influence by well-formed narratives and that considerations of completeness, plausibility, and uniqueness may receive undue weight in their evaluations of evidence. Although we have not conducted large-scale, systematic studies of judges' decision making, we have observed 4 trial judges' responses to 2 of the stimulus trials that were presented to our mock-jurors. The following differences between judge and juror decision making processes were suggested by this "pilot" investigation.

Judges seem to comprehend the evidence by constructing narrative summaries. However, their prior knowledge of the relevant law introduces much more "backwards reasoning" early in the process. Since they know, for example, the verdict elements associated with the most likely verdicts, they "look for" information and (when necessary) infer information on issues that will be decisive in choosing a verdict when they construct their stories. They also spend much more time focussing on credibility and the strengths of inferential chains linking evidence "anchors" to probatively significant conclusions.

At first, we naively expected judges to go through the same steps at the end of the decision process as did the jurors, checking off the degree to which case information (summarized in stories) matched (or mis-matched) verdict category elements. However, in routine criminal trials, judges usually streamline this step by matching the story from the case to their long-term memory "library" of exemplar previously decided cases and case types. So, at the end of the evidence, a

judge was likely to explain his or her decision process by saying, "this case is very much like the *Miller* case, and the verdict there was second degree murder", or "this was a typical barroom brawl situation, that means it won't be first degree murder". What this implies is that the "element checking", required to determine a verdict, is performed in the context of an analogical reasoning process in which similarity (doubtless based on "feature matching") between two narratively structured representations (rather than between a case story and an abstract verdict feature list) is the basis of the ultimate judgment. In hindsight, when reminded of the nature of legal education and the common law emphasis on reasoning from precedents, the case-based analogical reasoning process would seem the obvious mode of legal reasoning.

The fundamental conclusion of our empirical studies is that the construction of narrative stories plays a central, causal role in the decisions reached by jurors and judges in legal trials. I hope that this insight will provide a useful stimulus for the discussion of trial procedures and the process of proof.

FOOTNOTES

1. J.B. White *The Legal Imagination: Studies in the Nature of Legal Thought and Expression* (Boston: Little, Brown, 1973) at 859.

2. N. Pennington, *Causal Reasoning and Decision Making: The Case of Juror Decisions* (Doctoral dissertation, Harvard University, 1981) [unpublished]; N. Pennington & R. Hastie, "Evidence Evaluation in Complex Decision Making" (1986) 51 Journal of Personality and Social Psychology 242; N. Pennington & R. Hastie, "Explanation-based Decision Making: The Effects of Memory Structure on Judgment" (1988) 14 Journal of Experimental Psychology: Learning, Memory and Cognition 521; N. Pennington & R. Hastie, "Practical Implications of Psychological Research on Juror and Jury Decision Making" (1990) 16 Personality and Social Psychology Bulletin 90; N. Pennington & R. Hastie, "A Cognitive Theory of Juror Decision Making: The Story Model" (1991) 13 Cardozo L. Rev. 519; N. Pennington & R. Hastie, "A Theory of Explanation-Based Decision Making" in G. Klein *et al.*, eds., *Decision Making in Action: Model and Methods* (Norwood, New Jersey: Ablex, 1993) 188; N. Pennington & R. Hastie, "Reasoning in Explanation-Based Decision Making" (Cognition in Press, 1993).

3. W.L. Bennett & M. Feldman, *Reconstructing Reality in the Courtroom: Justice and Judgment in American Culture* (New Brunswick, New Jersey: Rutgers University Press, 1981); E. Hutchins, *Culture and Inference: A Trobriand Case Study* (Cambridge, Massachusetts: Harvard University Press, 1980); N. Pennington, *Causal Reasoning and Decision Making: The Case of Juror Decisions, supra* note 2; T.M. Ostrom, C. Werner & M.J. Saks, "An Integration Theory Analysis of Jurors" Presumptions of Guilt or Innocence", Journal of Personality and Social Psychology 36, 1978 pp. 436-450; N. Pennington & R. Hastie, "Evidence Evaluation in Complex Decision Making", *supra* note 2.

4. J.M. Mandler, "Categorical and Schematic Organization in Memory" in C.R. Puff, ed., *Memory Organization and Structure* (New York: Academic Press, 1979) at 259; Pennington & R. Hastie, "Evidence Evaluation in Complex Decision Making", *supra* note 2; D.E. Rumelhart, "Understanding and Summarizing Brief Stories" in D. Laberge & S.J. Samuels, eds., *Basic Processes in Reading: Perception and Comprehension* (Hillsdale, New Jersey: Erlbaum, 1977); N.L. Stein & C.G. Glenn, "An Analysis of Story Comprehension in Elementary School Children" in R.O. Freedle, ed., *New Directions in Discourse Processings*, vol. 2. (Norwood, New Jersey: Ablex, 1979); T. Trabasso & P. van den Broek, "Causal Thinking and the Representation of Narrative Events" (1985) 24 Journal of Memory and Language 612.

5.   J. Kaplan, *Criminal Justice: Introductory Cases and Materials,* 2d ed., (Mineola, New York: Foundation Press, 1978); N. Pennington & R. Hastie, "Juror Decision Making Models: The Generalization Gap" (1981) 89 Psychologial Bulletin 246.

6.   H.J. Einhorn & R.M. Hogarth, "Judging Probable Cause" (1986) 99 Psychological Bulletin 3.

7.   N. Pennington & R. Hastie, "Juror Decision Making Models: The Generalization Gap", *supra* note 5.

8.   M.J. Saks & R.F. Kidd, "Human Information Processing and Adjudication: Trial by Heuristics" (1980) 15 Law & Society Rev. 123.

9.   E.B. Ebbesen & V.J. Konecni, "Decision Making and Information Integration in the Courts: The Setting of Bail" (1975) 32 Journal of Personality and Social Psychology 805.

10.   R.A. Posner, "An Economic Theory of the Criminal Law, (1985) 85 Colum. L. Rev. 1193.

11.   M. Kelman *A Guide to Critical Legal Studies* (Cambridge, Massachusetts: Harvard University Press, 1987).

12.   J.M. Mauet, *Fundamentals of Trial Techniques,* 2d. ed., (Boston: Little, Brown, 1988); N. Pennington & R. Hastie, "Explaining the Evidence: Tests of the Story Model for Juror Decision Making" (1992) 32 Journal of Personality and Social Psychology 189.

13.   See T.J. Anderson & W.L. Twining, *Analysis of Evidence* (Boston: Little, Brown, 1991); D. Schum & P. Tillers, "Marshaling Evidence for Adversary Litigation" (1991) 13 Cardozo L. Rev. 657; J.H. Wigmore, *The Science of Judicial Proof* (Boston: Little, Brown, 1937).

14.   V.L. Smith, "Prototypes in the Courtroom: Lay Representations of Legal Concepts" (1991) 61 Journal of Personality and Social Psychology 857.