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ARTICLES

EMOTIONS IN JURORS' DECISIONS*

Reid Hastie[†]

I. THE JUROR'S DECISION-MAKING PROCESS

Most conceptions of the juror's decision assume that the process is primarily cognitive, even rational in character. Descriptive psychological theories all focus on cognitive information processing functions and none of the currently popular models include an explicit account of the role of sentiments, moods, emotions, and passions in the process.

Normative theories also assert that legal decisions should be predominantly rational. For example, the Advisory Committee's note on Federal Rule of Evidence 403 comments that one consideration in deciding whether to exclude evidence should be to avoid "unfair prejudice," defined as "an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one."¹

There is an apparent contradiction between the conception of the ideal juror as a logical reasoning machine and also as a source of community attitudes, sentiments, and moral precepts. Robert Solomon noted this discrepancy when he commented that "[t]he idea that justice requires emotional detachment, a kind of purity suited ultimately to angels, ideal

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† Professor of Psychology and Director of the Center for Research on Judgment and Policy, University of Colorado. Funding for the empirical studies described in this paper was provided by the National Science Foundation (most recently from Grant No. SBR 9816458). The author would like to thank Nancy Pennington, Peter Tillers, Phoebe Ellsworth, and the participants in the Brooklyn Law School Interdisciplinary Conference on *The Jury in the Twenty-First Century* for much useful advice on the subject of this paper. Of course, the contents of the paper should be attributed only to the author.

¹ FED. R. EVID., 403, Advisory Note.

observers, and the original founders of society, has blinded us to the fact that justice arises from and requires such feelings as resentment."² This apparent contradiction may be resolved by distinguishing between the several functions required of the jury, some of which (for example, fact finding) demand cold rational assessments, while others (for example, determining the moral egregiousness of a defendant's conduct) require a more passionate evaluation. Nonetheless, psychologists know of no satisfactory normative analysis of the relationship between cognitive and emotional functions in the decision-making process.

Theoretical analyses provide extremely cognitive versions of the jurors' decision-making processes, but any realistic assessment concludes that jurors experience varied emotions and that these emotions sometimes influence their decisions. First person reports of jury service invariably mention emotional experiences: anxiety or irritation produced by jury service, reactions of anger, fear, and sympathy evoked by the events that led to the trial or by participants in those events or the trial, and sometimes dramatic evidence exhibits that evoke strong emotions.³ It is also likely that emotions caused by events outside the trial may be carried into the jury box and that even these irrelevant events may influence a juror's decision.

Harry Kalven, Jr. and Hans Zeisel, in their classic survey study *The American Jury*, cited sentiment as a major factor to explain jury-judge disagreements.⁴ Because jurors and judges probably have different attitudes about certain laws, defendants, and victims, these attitudes and the associated sentiments were believed to explain some of the cases where judges and juries disagreed on the proper verdict.⁵

² ROBERT C. SOLOMON, A PASSION FOR JUSTICE 34 (1990).

³ See generally AMANDA COOLEY ET AL., MADAM FOREMAN: A RUSH TO JUDGMENT? (1995); Otto Friedrich, *We, the Jury*, 118 TIME 44 (1981); see also Carole L. Hinchcliff, *Portrait of a Juror: Selected Bibliography*, 69 MARQ. L. REV. 495 (1986); Nancy S. Marder, *Deliberations and Disclosures: A Study of Post-Verdict Interviews of Jurors*, 82 IOWA L. REV. 465 (1997).

⁴ HARRY KALVEN, JR. & HANS ZEISEL, THE AMERICAN JURY 106-08 (1966).

⁵ *Id.*

The failure to consider emotional factors in descriptive theories of the decision-making process reflects a long tradition of cognitive psychological research that focuses on information processing and ignores motivational and emotional factors.⁶ However, there is a sea change under way in the field of psychology, with recent research and theory emphasizing the interdependence of cognition and emotion, and even asserting that rational, adaptive behavior depends equally on cognitive and emotional systems. For example, Antonio Damasio, a prominent neuroscientist, cites the dysfunctional decisions of patients with prefrontal cerebral cortex injuries as evidence that an integration of cognitive and emotional systems is essential for adaptive behavior.⁷ Patients with orbitofrontal cerebral cortex injuries exhibit an abnormal dissociation of cognitive and emotional responses.⁸

The primary goal of this Essay is to review what is known factually about the role of emotions in jury decisions. This Essay will attempt to sketch an account of those findings within the framework of one of the currently popular cognitive models of the juror's decision-making process. This Essay starts with an overview of the three major cognitive theories of juror decision making.

Many scholars claim that jurors' judgments are best described by algebraic models of mental processes like those proposed by philosophers and mathematicians as rational belief revision principles.⁹ A popular choice is Bayes Theorem, which describes the judgment process as starting from a prior probability of guilt and then adjusting from that initial point by multiplicatively integrating the implications of new evidence according to the laws of mathematical probability

⁶ DECISION MAKING FROM A COGNITIVE PERSPECTIVE (Jerome Busemeyer et al. eds., 1995); REASONING AND DECISION MAKING (Philip N. Johnson-Laird & Eldar Shafir eds., 1993).

⁷ ANTONIO R. DAMASIO, DESCARTES' ERROR: EMOTION, REASON, AND THE HUMAN BRAIN (1994); see also RICHARD S. LAZARUS & BERNICE N. LAZARUS, PASSION AND REASON: MAKING SENSE OF OUR EMOTIONS (1994).

⁸ DAMASIO, *supra* note 5, at 53-54.

⁹ Reid Hastie, *Algebraic Models of Juror Decision Processes*, in INSIDE THE JUROR: THE PSYCHOLOGY OF JUROR DECISION MAKING 84 (Reid Hastie ed., 1993) [hereinafter INSIDE THE JUROR]; Lola Lopes, *Two Conceptions of the Juror*, in INSIDE THE JUROR, *supra* at 255.

theory.¹⁰ The other popular algebraic process model supposes that jurors form their initial beliefs about guilt (analogous to the Bayesian prior probability) and then adjust using an averaging, rather than multiplying, information integration process.¹¹ Empirical studies favor the statistically robust linear, averaging model over the Bayesian model as a description of jurors' decision-making processes.¹²

A second, more complicated theoretical description comes from research on cognitive judgment heuristics.¹³ The reigning metaphor is that the juror carries a "cognitive toolbox" of useful inference heuristics in long-term memory, and selects relevant judgment tools, algorithms, or strategies to solve the problem of making a legal decision.¹⁴ The cognitive tools that might be selected, according to the specifics of the case being judged, include memory retrieval and judgment based on association strength or fluency, similarity, and inferences, to create and "simulate" mental models.¹⁵ Many of the tools can be described as miniature algebraic models in their own right. So, the image of the decision maker is one of an ingenious, multi-talented polymath.

The third theoretical description is of the juror as a "naïve reporter" who constructs a narrative summary to explain the evidence, concluding with the verdict that is most consistent with that story.¹⁶ The primary cognitive activities in the decision-making process are inferences made to serve the goal of creating a coherent, comprehensive story to summarize the situation implied by credible evidence.¹⁷ The final stage of

¹⁰ David A. Schum & Anne W. Martin, *Formal and Empirical Research on Cascaded Inference in Jurisprudence*, 17 LAW & SOC'Y REV. 105 (1982).

¹¹ *Id.*

¹² *Id.*

¹³ See generally GERD GIGERENZER ET AL., *SIMPLE HEURISTICS THAT MAKE US SMART* (1999); Michael J. Saks & Robert F. Kidd, *Human Information Processing and Adjudication: Trial by Heuristics*, 15 LAW & SOC'Y REV. 123 (1980); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124 (1974).

¹⁴ *Supra* sources cited note 13.

¹⁵ *Id.*

¹⁶ Reid Hastie & Nancy Pennington, *Explanation-based Decision Making*, in *JUDGMENT AND DECISION MAKING: AN INTERDISCIPLINARY READER* 212 (Terry Connolly et al. eds., 2000); Nancy Pennington & Reid Hastie, *A Cognitive Theory of Juror Decision Making: The Story Model*, 13 CARDOZO L. REV. 519 (1991).

¹⁷ Nancy Pennington & Reid Hastie, *Reasoning in Explanation-Based*

the decision-making process involves classifying the constructed story into one of the legal criminal verdict concepts or relying on the story for premises to infer causation and responsibility to decide many civil cases.

None of these approaches is a unique winner in the competition for "best theory" status, although the Story Model provides the most valid description of a typical juror's decision-making process. It includes many of the heuristic judgment strategies as sub-components, and it is intended to describe cognitive processes that could, at a general level, be captured by the parameters of an algebraic equation.¹⁸ This Essay will review what is known about the influence of emotions on juror decisions and conclude with an interpretation of those effects, in terms of the Story Model, as it provides the most systematic, detailed, and empirically-supported account of the juror decision-making process. First, this Essay will further describe the Story Model.

II. THE STORY MODEL OF THE JUROR'S DECISION PROCESS

The Story Model proposes that the central cognitive process in juror decision making is *story construction*—the creation of a narrative summary of the events under dispute.¹⁹ Applications of the Story Model to criminal jury judgments have identified three component processes: (1) evidence evaluation through story construction, (2) representation of the decision alternatives (verdicts) by learning their attributes or elements, and (3) reaching a decision through the classification of the story into the best-fitting verdict category.²⁰ The latter processes are likely to vary with the demands of different decision tasks. Some tasks involve a classification response, some an estimate or judgment of a magnitude, and some a projection of future events. For example, the shift from criminal judgments, where categorical verdicts play a prominent role, to civil judgments, where degrees of

Decision Making, 49 COGNITION 123 (1993).

¹⁸ Lola Lopes, *Algebra and Process in the Modeling of Risky Choice*, 32 PSYCHOL. LEARN. MOT. 177 (1995).

¹⁹ Pennington & Hastie, *supra* note 17.

²⁰ *Id.*

responsibility play the analogous role, changes these last stages from a category classification sub-task to a magnitude estimation sub-task.²¹

The distinctive claim is that the story the juror constructs determines the juror's verdict. More generally, the approach proposes that causal "situation models" play a central role in many explanation-based decisions in legal, medical, engineering, financial, and everyday circumstances.²²

An illustration of the hypothesized role of narrative evidence summaries is provided by an interpretation of the dramatic differences between European-American and African-American citizens' reactions to the verdict in the O. J. Simpson murder trial (where there even appeared to be racial differences on the jury and within the defense team).²³ The Story Model interpretation is that race made a difference in the ease of construction and acceptance of the "defense story" in which racist police detectives planted incriminating evidence and bumbling criminalists conducted an incompetent and biased investigation.²⁴

African-Americans have many beliefs and experiences that support the construction of stories of police misconduct and police bigotry.²⁵ Most African-Americans or members of their immediate families have had negative and sometimes racist encounters with justice system authorities. African-Americans know of many more stories (some apocryphal, some veridical) of police racism and police brutality directed against members of their race than do European-Americans. This background of experience, beliefs, and relevant stories made it likely that African-Americans would construct a story in which

²¹ Reid Hastie et al., *A Study of Juror and Jury Judgments in Civil Cases: Deciding Liability for Punitive Damages*, 22 LAW HUM. BEH. 287 (1998); Reid Hastie, *The Role of "Stories" in Civil Jury Judgments*, 32 MICH. J. REF. 227 (1999).

²² Nancy Pennington & Reid Hastie, *A Theory of Explanation-Based Decision Making*, in DECISION MAKING IN ACTION: MODELS AND METHODS 188 (Gary A. Klein et al. eds., 1993).

²³ Katrina D. Mixon et al., *The Influence of Racial Similarity on the O.J. Simpson Trial*, 10 J. SOC. BEH. PERS. 481 (1995); Jeffrey Toobin, *A Horrible Human Event*, NEW YORKER 40 (Oct. 23, 1995).

²⁴ Reid Hastie & Nancy Pennington, *The O. J. Simpson Stories: Behavioral Scientists' Reflections on The People of the State of California v. Orenthal James Simpson*, 67 U. OF COLO. L. REV. 957 (1996).

²⁵ See Henry L. Gates, *Thirteen Ways of Looking at a Black Man*, NEW YORKER 56 (Oct. 23, 1995).

a police officer manufactured and planted key incriminating evidence. Thus, the Story Model interprets the difference between African-American and European-American verdict judgments as a product of differences in their pre-trial preparedness to comprehend the evidence differently.

III. EMPIRICAL STUDIES OF STORY-BASED JUDGMENTS

Research on the Story Model has studied mock jurors' decisions in simulated criminal and civil cases. The first experiments established that evidence summaries spontaneously constructed by jurors had a narrative story structure and that jurors who rendered different verdicts had constructed different stories.²⁶ Mock jurors were more likely to falsely "recognize" sentences from the story associated with their verdict as having been presented as trial evidence than they were sentences from stories associated with other (rejected) verdicts, although many of the test sentences had never been presented as evidence.²⁷

Other experiments were designed to determine whether mock jurors actually relied on the stories they constructed to render verdicts.²⁸ These studies demonstrated that stories played a central role in the decision-making processes and that they were not merely constructed "on the side," while the actual decision process relied on other cognitive processes and conclusions.²⁹ For example, an experiment was conducted to study the effects of variations in the order of evidence presentation on judgments.³⁰ Stories should be easiest to construct when the evidence is presented in a chronological sequence that represents the occurrence of the original events (Story Order).³¹ Thus, stories should be more difficult to

²⁶ Nancy Pennington & Reid Hastie, *Evidence Evaluation in Complex Decision Making*, 51 J. PERS. SOC. PSYCHOL. 242 (1988) [hereinafter *Evidence Evaluation*]; Nancy Pennington & Reid Hastie, *Explanation-Based Decision Making: Effects of Memory Structure on Judgment*, 14 J. EXP. PSYCHOL.: LEARN MEM. COG. 521 (1986).

²⁷ *Evidence Evaluation*, *supra* note 26, at 526.

²⁸ Nancy Pennington & Reid Hastie, *Explaining the Evidence: Tests of the Story Model for Juror Decision Making*, 62 J. PERS. SOC. PSYCHOL. 189 (1992).

²⁹ *Id.*

³⁰ *Id.*

³¹ Linda Baker, *Processing Temporal Relationships in Simple Stories: Effects*

construct when the presentation order does not match the sequence of the original events. The non-story order of the evidence was based on the order of witnesses testifying in the original trial that was the basis of simulated case materials (Witness Order). As predicted, mock jurors were most likely to convict the defendant when the prosecution evidence was presented in Story Order and the defense evidence was presented in Witness Order, and they were least likely to convict when the prosecution evidence was in Witness Order and defense evidence was in Story Order.³²

The research program also included studies of judgments in civil cases—specifically, an application of the explanation-based model to jurors' reasoning about liability for compensatory and punitive damages.³³ In one study, mock jurors (composed of citizens from the Denver area) were presented with simulated civil cases, based on an actual case in which the plaintiff sought punitive damages. As in criminal cases, story construction plays an extensive and central role in the decision-making process. The final stage of judgment—deciding on liability—involves many inferences about causation and egregiousness. It was interesting that these inferences usually focused on causal necessity, even though the mock jurors were not instructed to use the common “but for” test for legal causation.³⁴ That is, mock jurors spontaneously attempted to infer legal causation by considering counterfactual conditions to test for the necessity of a candidate causal event (for example, if additional security guards had been provided, would the assault still have occurred?).

of Input Sequences, 17 J. VERB. LEARN & VERB. BEH. 559 (1978).

³² *Evidence Evaluation in Complex Decision Making*, *supra* note 26, at 529.

³³ See sources cited *supra* note 21.

³⁴ H.L.A. HART & A.M. HONORÉ, CAUSATION IN THE LAW 103-22 (1959); Barbara A. Spellman, *Crediting Causality*, 126 J. EXP. PSYCHOL.: GEN. 323, 323-24 (1997) (providing a succinct discussion of the psychology of legal causation).

IV. EMOTIONS IN JURORS' DECISIONS

The roles of emotions in decision-making processes have been neglected throughout the history of scientific research on judgment and decision making.³⁵ Emotions have always been a puzzling phenomenon to scientists. There is still no clear scientific consensus on definitions of basic terms, and emotional reactions are one of the most mysterious aspects of everyday life.³⁶ For present purposes, emotions can be defined as reactions to motivationally significant stimuli and situations. These reactions are composed of three components: a cognitive appraisal, a "signature" physiological response, and a phenomenal experience. Emotions usually occur in reaction to perceptions of *changes* in the immediate situation that have hedonic (pleasure-pain, good-bad) consequences for the person who experiences them. This Essay will concentrate on the emotions commonly labeled anger, sympathy, and fear, although any human emotion might be evoked by events that occur in jury trials.

An early, primitive reaction to almost any personally-relevant object or event is a good-bad evaluative assessment. Many behavioral scientists have concluded that this reaction occurs very quickly and includes both emotional feelings and distinctive physiological events.³⁷ The primary function attributed to these fast good-bad reactions is to guide adaptive approach-avoidance actions and to "winnow down" large, unwieldy choice sets into smaller sets of options that can then

³⁵ On the role of emotions in decision of all kinds, see GEORGE F. LOEWENSTEIN & JENNIFER S. LERNER, *THE ROLE OF AFFECT IN DECISION MAKING* 177 (Richard Davidson, et al., eds., 2001); see also NEAL FEIGENSON, *LEGAL BLAME: HOW JURORS THINK AND TALK ABOUT ACCIDENTS* (2000) (providing an insightful discussion of the role of emotions in jury decisions).

³⁶ Randy J. Larsen & Barbara L. Fredrickson, *Measurement Issues in Emotion Research*, in *WELL-BEING: THE FOUNDATIONS OF HEDONIC PSYCHOLOGY* 40 (Daniel Kahneman et al. eds., 1999); James A. Russell & Lisa F. Barrett, *Core Affect, Prototypical Emotional Episodes, and Other Things Called Emotion: Dissecting the Elephant*, 76 J. PERS. SOC. PSYCHOL. 805 (1999).

³⁷ Antoine Bechara et al., *Emotion, Decision Making, and the Orbitofrontal Cortex*, 10 CEREBRAL CORTEX 295 (2000); George F. Loewenstein, *Out of Control: Visceral Influences on Behavior*, 65 ORG. BEH. & HUM. DEC. PROC. 272 (1996); Robert B. Zajonc, *Feeling and Thinking: Preferences Need No Inferences*, 35 AM. PSYCHOL. 151 (1980).

be subjected to a more thoughtful evaluation.³⁸ Another popular functional interpretation is that emotions serve a crucial override function which operates when it is necessary to interrupt the course of an ongoing plan or behavior sequence to respond quickly to a sudden, unexpected emergency or opportunity.³⁹

With reference to the role of emotions in decision-making processes, an important distinction must be made between emotions experienced incidentally at the time the decision is being made and emotions that are truly relevant to the decision.⁴⁰

A. *Incidental Emotions*

"Incidental emotions" would include the ambient mood or emotional state of the decision maker at the time of the decision. Perhaps the juror is in an angry state of mind while thinking about the case solely because she has heard her favorite baseball team lost an important game, or the juror is in a happy mood because he had a positive interaction with his children over breakfast. Although irrelevant to the requirements of the jury decision task, such extraneous emotions can affect judgments and influence verdicts.

One of the earliest studies of an incidental emotion effects was a demonstration of their arbitrary biasing effects on personal risk judgments. In one study, college student participants rated their personal concern and the frequencies of occurrence for various fatal risks (for example, death by homicide, death due to stomach cancer).⁴¹ Just prior to rating the risks, participants rated their emotional reactions to a collection of newspaper articles. Some participants read news stories about a death due to homicide, leukemia, or fire; others

³⁸ See DAMASIO, *supra* note 7, at 173.

³⁹ Herbert A. Simon, *Motivational and Emotional Controls of Cognition*, 74 PSYCHOL. REV. 29 (1967); see also JOSEPH LEDOUX, *THE EMOTIONAL BRAIN: THE MYSTERIOUS UNDERPINNINGS OF EMOTIONAL LIFE* (1996) (looking at "learned triggers").

⁴⁰ The present distinctions extend an earlier analysis by George F. Loewenstein et al., *Risk as Feelings*, 127 PSYCHOL. BULL. 267 (2001).

⁴¹ Eric Johnson & Amos Tversky, *Affect, Generalization, and the Perception of Risk*, 45 J. PERS. SOC. PSYCHOL. 20 (1983).

read a filler story that did not involve death.⁴² Over several experiments, the negative stories (including a non-death, depressing story) increased ratings of worry and estimates of frequency of occurrence of the fatal risks.⁴³

This basic result—that incidental emotional states can contaminate judgments of personal and societal risks and other events—has been replicated many times.⁴⁴ Jennifer S. Lerner, Julie H. Goldberg, and Philip E. Tetlock have demonstrated an emotional spill-over effect in a legal judgment.⁴⁵ They manipulated their research participants' incidental mood by showing them a short film depicting the cruel assault of a young boy by two bullies.⁴⁶ Then, in a separate experiment, the participants were asked to make judgments like those required of a civil juror deciding a personal injury suit.⁴⁷ The participants were told that the film was irrelevant to the legal judgment task and that the contents of the film did not overlap with the situations depicted in the personal injury cases.⁴⁸ Nonetheless, the participants' emotional states had an effect on their liability judgments.⁴⁹ Participants who were exposed to the anger-inducing film judged the defendants to be more responsible and more liable, and levied higher damages against them.⁵⁰

Two theoretical interpretations of these effects of emotions on judgments have been proposed. One model assumes that an associative network of ideas, perhaps resident in a durable, very long-term semantic memory, connects

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Timothy D. Wilson & Nancy Brekke, *Mental Contamination and Mental Correction: Unwanted Influences on Judgments and Evaluations*, 116 *PSYCHOL. BULL.* 117 (1994); William R. Wright & Gordon H. Bower, *Mood Effects on Subjective Probability Assessment*, 52 *ORG. BEH. & HUMAN DEC. PROC.* 276 (1992).

⁴⁵ Jennifer S. Lerner et al., *Sober Second Thought: The Effects of Accountability, Anger, and Authoritarianism on Attributions of Responsibility*, 24 *PERS. SOC. PSYCHOL. BULL.* 563 (1998); see also Julie H. Goldberg et al., *Rage and Reason: The Psychology of the Intuitive Prosecutor*, 29 *EUR. J. SOC. PSYCHOL.* 781 (1999) (replicating and extending the basic results).

⁴⁶ Jennifer S. Lerner et al., *supra* note 45, at 566.

⁴⁷ *Id.* at 567.

⁴⁸ *Id.* at 565.

⁴⁹ *Id.* at 568.

⁵⁰ *Id.*

concepts and feelings.⁵¹ When a person is in an emotional state, related ideas and feelings are activated by the automatic spread of "associative strength" from the source node (for example, "anger") to connected nodes. Thus, an emotion will activate many related ideas, some of which may affect judgments (and behaviors) by making certain information salient or even by directly activating an action tendency or goal.⁵² An alternate model proposes that each emotion includes a cognitive appraisal component and that one consequence of appraisal is to promote emotion-specific judgments and actions.⁵³ A person in an angry emotional state would have an increased "action tendency" to behave aggressively, sympathy would evoke protective and restitutive tendencies, fear would instigate escape or self-protective behaviors, and so forth.⁵⁴ Either account would imply that inducing an emotional state would result in a systematic behavioral tendency, and that such a tendency could influence legally relevant judgments.

The influence of incidental emotions on decisions and judgments seems maladaptive. Why should an irrelevant, incidental mood or emotion have an effect that likely interferes with an important cognitive process? This Essay concurs with the view that the effects of incidental emotions on jurors' judgments are almost certainly detrimental to the proper performance of any of the jurors' tasks.

B. *Decision-Relevant Emotions*

Decision-relevant emotions can be separated into two distinct categories: the first category includes "decision process emotions," or emotions that occur at the time of the decision as byproducts of making the decision. Although there are many

⁵¹ Gordon H. Bower & Paul R. Cohen, *Emotional Influences in Memory and Thinking: Data and Theory*, in AFFECT AND COGNITION 291 (Margaret S. Clark & Susan T. Fiske eds., 1982); Leonard Berkowitz, *On the Formation and Regulation of Anger and Aggression: A Cognitive-Neoassociationistic Analysis*, 45 AMER. PSYCHOL. 494 (1990).

⁵² *Id.* at 296-99.

⁵³ Jennifer S. Lerner & Dacher Keltner, *Beyond Valence: Toward a Model of Emotion-Specific Influences on Judgment and Choice*, 14 COGN. EMOT. 473 (2000); Craig A. Smith & Phoebe C. Ellsworth, *Patterns of Cognitive Appraisal in Emotion*, 48 J. PERS. SOC. PSYCHOL. 813 (1985).

⁵⁴ Lerner & Keltner, *supra* note 53, at 477-80.

personal reports of process emotions in actual jury decisions, there has been no systematic research on these phenomena in legal contexts. Many of these reports mention that emotions associated with stress are common in jury decision situations.⁵⁵ The body of behavioral research on stress and decision making is unsystematic and inconclusive.⁵⁶ Paul Slovic provided a succinct summary in testimony at a federal hearing following a military accident (time pressure is the most common manipulation of stress in experimental research):

Under time pressure, the decision maker adopts a simpler mode of information processing. Rather than evaluate alternative actions completely, weighing and making tradeoffs among all the relevant attributes of each option, attention is focused on the one or two most salient cues and those tend to determine the decision . . . Negative information gains importance under time pressure. If the situation involves risk, time pressure leads to more cautious, risk-avoiding behavior, with greater importance given to avoiding losses.⁵⁷

A common assumption is that there is a non-monotonic, "inverted U" relationship between stress and performance, such that intermediate levels of stress promote the most effective, adaptive levels of performance.⁵⁸ However, there is little empirical evidence for the complete functional relationship in any situation; certainly no results that would support conclusions about the effects of stress on jurors' decisions. Furthermore, although a narrower, more myopic evaluation of decision alternatives may sound inferior, there is

⁵⁵ See, e.g., AMANDA COOLEY ET AL., MADAM FOREMAN: A RUSH TO JUDGMENT? 65, 167 (1995); MICHAEL KNOX & MIKE WALKER, THE PRIVATE DIARY OF AN O.J. JUROR 132-203 (1995); Nancy S. Marder, *Deliberations and Disclosures: A Study of Post-Verdict Interviews of Jurors*, 82 IOWA L. REV. 465, 484-85 (1997).

⁵⁶ KENNETH R. HAMMOND, JUDGMENTS UNDER STRESS 27 (2000) (concluding "that it is impossible to draw any general conclusions from the research that directly addresses the topic of the effects of stress on judgment"); Mary F. Luce et al., *Emotional Trade-off Difficulty and Choice*, 36 J. MARKETING RES. 143 (1999) (providing a discussion of sources of stress in choice tasks).

⁵⁷ COMMITTEE ON ARMED SERVICES, IRAN AIR FLIGHT 655 COMPENSATION 210 (Comm. Print 1989).

⁵⁸ The frequently cited Yerkes-Dodson Law relating stress to performance is usually stated and applied at a level of trivial and impractical generality; its original formulation was in the conclusion of a report of research on shock intensity, visual discrimination difficulty, and learning speed in mice. Robert M. Yerkes & James D. Dodson, *The Relation of Strength of Stimulus to Rapidity of Habit-Formation*, 18 J. COMP. NEUROL. PSYCHOL. 459 (1908).

no experimental evidence that shows decision-making is diminished in quality under stress. The research literature tells us nothing about whether a more stressful or less stressful jury experience results in a better or worse decision.

The second category of decision-relevant emotions comprises feelings experienced as a consequence of the decision. "Consequence emotions" could include feelings of relief and satisfaction at having rendered a verdict to exonerate a wrongly accused defendant or to punish a guilty or liable defendant, as well as feelings of regret or sadness at having rendered a verdict against a sympathetic person or party. Because these "consequence emotions" are only experienced after the decision has been made, it is the *anticipation* of those emotions that is important, not the "consequence emotions" themselves.⁵⁹

C. *Anticipated Emotions*

There is a final category of emotionally relevant reactions that play a central role in decision making, even though they may not be felt directly as emotions. These are predictions, at the time of the decision, of future consequence emotions. Paradoxically, even though these "anticipated emotions" are predictions of emotions and may not be experienced directly as emotional states, they are the most important aspect of emotional experience in the decision-making process.

The effects of anticipated emotions on decisions admit a straightforward interpretation within traditional, consequentialist theories of decision making.⁶⁰ According to these theories, and to many commonsense interpretations, people are assumed to make decisions by evaluating the

⁵⁹ Although, obviously the "consequence emotions" will play an important role in subsequent decisions, indeed they will be the primary basis for later "anticipated emotion" judgments.

⁶⁰ Most normative and descriptive decision theories are consequentialist, following the usage of Peter J. Hammond, *Consequentialist Foundations for Expected Utility*, 25 THEORY & DECISION 25 (1988), including some formulations that are explicit about the role of anticipated emotions in the evaluation of consequences. See, e.g., Barbara A. Mellers, *Choice and the Relative Pleasure of Consequences*, 126 PSYCHOL. BULL. 910 (2000).

consequences expected to occur if they choose one or another course of action. Anticipated emotions are simply one of several kinds of input into the evaluation of the utility or value of those consequences.

Many of the emotional phenomena that are frequently cited as playing a role in civil jury decisions are best described as anticipated emotion effects. Harry Kalven, Jr. and Hans Zeisel argue that about one-fifth of the judge-jury disagreements reported by the trial judges they surveyed were due to jurors' sympathy or anger towards a party or person involved in the law suits.⁶¹ Daniel Kahneman, David A. Schkade, and Cass R. Sunstein conclude that outrage is the primary mediator of jurors' decisions concerning punitive damages.⁶² Brian H. Bornstein hypothesizes that the impact of the severity of an injury on mock jurors' judgments of liability and compensatory awards is mediated by jurors' feelings towards the parties involved in the cases.⁶³ In Bornstein's studies, injury severity had no effects beyond those predicted via the mock jurors' emotional reactions.⁶⁴ Similarly, Neal Feigenson, Jaihyun Park, and Peter Salovey interpreted the complex findings they obtained in a study of personal injury judgments as the result of jurors' resolution of feelings of sympathy and blame for the plaintiffs and feelings of anger or fear evoked by the defendants' actions.⁶⁵ In a more definitive study, these same authors demonstrated that feelings of anger towards both parties influenced comparative negligence decisions in another sample of personal injury situations.⁶⁶ An intricate statistical analysis supported their interpretation that anger towards the plaintiff and towards the defendant

⁶¹ KALVEN & ZEISEL, *supra* note 4, at 111, tbl. 26. These authors also concluded that sentiments *about the law* (which we would interpret, at least partly, as anticipated emotion effects) explained additional judge-jury disagreements.

⁶² Daniel Kahneman et al., *Shared Outrage and Erratic Awards: The Psychology of Punitive Damages*, 16 J. RISK UNCERT. 47 (1998).

⁶³ Brian H. Bornstein, *From Compassion to Compensation: The Effect of Injury Severity on Mock Jurors' Liability Judgments*, 28 J. APPL. SOC. PSYCHOL. 1477 (1998).

⁶⁴ *Id.* at 1487.

⁶⁵ Neal Feigenson et al., *Effect of Victim Blameworthiness and Outcome Severity on Attributions of Responsibility and Damage Awards in Comparative Negligence Cases*, 21 LAW & HUMAN BEH. 597 (1997).

⁶⁶ Neal Feigenson et al., *The Role of Emotions in Comparative Negligence Judgments*, 31 J. APPL. SOC. PSYCHOL. 576.

mediated judgments of the responsibility of each party, but anger did not directly predict award size.⁶⁷

None of these studies provides a precise empirical measure of "anticipated emotions." However, it is likely that many of these sympathy, anger, and outrage effects are expressions of jurors' expectations about how they will feel as a consequence of rendering one verdict or another.

Note that the implications are not direct. A person would not expect to feel more sympathy or more anger when the consequence of the decision is experienced. Rather, the expectation would be that an appropriate decision (for example, to give compensation to the sympathetic victim or to punish the anger-provoking defendant) would result in relief from the current somewhat negative emotional state. Applying the cognitive appraisal-action tendencies model, we would expect anger to promote aggressive, punitive inclinations; sympathy to promote a compensatory habit; and fear to promote a defensive, punitive tendency.⁶⁸

Furthermore, some emotional reactions are a normal part of the decision act, but emotional feelings are not a necessary condition for the influence of anticipated emotion judgments. Someone could be in a neutral emotional state at the time of the decision, but still be influenced by anticipations of future, decision consequence emotions.

D. *Summary*

Three important categories of emotional experience most relevant to the decision act are "incidental emotions," "decision process emotions," and "anticipated emotions." What is known about the effects of these emotional phenomena on the outcomes of decisions? There is no scientific research on "decision process emotions" in legal contexts, but there are a few studies demonstrating the effects of incidental emotions and anticipated emotions on jurors' decisions.

The extant empirical research literature does not provide us with a comprehensive list of emotional phenomena that occur in jury decisions. The most important examples

⁶⁷ *Id.* at 587.

⁶⁸ Lerner & Keltner, *supra* note 53.

include: reactions to jury service, primarily anxiety and irritation; reactions to the events that led to the trial, primarily anger; reactions to participants involved in the trial, primarily anger, sympathy, and fear; and reactions to evidentiary exhibits, primarily disgust and horror.

If a juror's general decision-making strategy follows the stages described by the Story Model, we can locate the various effects of emotions within that framework. Since, according to the Story Model, the story is the central determinant of the decision, this Essay suggests that most of the effects of emotions will be manifested in characteristics of the juror's story.

Where do jurors' stories come from? The initial stages of story retrieval and creation can be biased by simple associative or appraisal processes. Sometimes, while trying to comprehend the evidence, the juror is reminded of another story and that story is used as a template for comprehension of the current case.⁶⁹ The original story may come from a television show, a movie, a novel, the news, or everyday conversations. Or perhaps the juror knows of a generic story schema or story skeleton such as a "script" for a kidnapping, an oil spill, or a traffic accident.⁷⁰ Under these conditions, the jurors' emotional states will influence the reminding process and bias the selection of a relevant story from memory.⁷¹

In other cases, no related story comes to mind and the juror constructs a story from background knowledge.⁷² We liken this process to deduction from a database of facts and inference rules.⁷³ Again, it is likely that associative or appraisal-based influences of incidental and anticipated emotions will affect the nature of the "premises" that are salient, those that come to mind when a juror attempts to construct a story *de novo*.⁷⁴ For example, if a juror is in an angry emotional state, he or she is likely to attend to, or retrieve from memory, information that

⁶⁹ Reid Hastie & Nancy Pennington, *The Big Picture: Is it a Story?*, 8 *ADV. SOC. COGN.* 133, 136-37 (1995).

⁷⁰ Roger C. Schank & Robert P. Abelson, *Knowledge and Memory: The Real Story*, 8 *ADV. SOC. COGN.* 1 (1995).

⁷¹ Hastie & Pennington, *supra* note 69, at 136-37.

⁷² *Id.* at 136-37.

⁷³ Pennington & Hastie, *supra* note 17.

⁷⁴ Hastie & Pennington, *supra* note 69 at 136-37.

is negative, perhaps exaggerating the egregiousness of the defendant's alleged conduct or the severity of the injury to a plaintiff or victim or constructing a story for the instant case from another story that produced an angry reaction. Thus, one route whereby a juror's emotional state can influence his or her verdict is by producing selective, biased retrieval of information from long-term memory during the story construction stage of the decision-making process.

A similar effect can occur when the details of a story are being filled in. Many inferences are required to order the facts into the narrative format and to fill in the many gaps that are always present in direct or indirect (for example, testimony-based) experience. For example, when trying to infer the intentions or goals of an actor in a crime or accident situation, a juror's reasoning may be biased by his or her emotions to "fill in" motivations that are associated with the juror's current emotional state.⁷⁵ If the juror has a sympathetic attitude towards one of the parties in a case, positive, morally respectable motives are likely to be imputed to that actor; when the juror is angry or fearful, morally reprehensible motives are likely to be attributed to the same actor. Thus, the appraisals or associations elicited by an emotional state may influence the story construction process and its outcome.

Emotional feelings may also influence later stages in the story-based decision process. For example, sympathy toward one party might influence the juror's subjective criterion or threshold for the acceptance of a story or for the decision that a story "fits" a legal verdict category "beyond a reasonable doubt." Unfortunately, psychologists know so little about those final stages in the juror decision-making process that we cannot even speculate about the specific role of emotions. But, it is well-known that decision criteria are affected by a juror's or judge's motivational state.⁷⁶

Are there any situations in which emotions overwhelm the juror and dominate the decision process, outside of an explanation-based judgment process? This Essay

⁷⁵ Ziva Kunda, *The Case for Motivated Reasoning*, in *MOTIVATIONAL SCIENCE: SOCIAL AND PERSONALITY PERSPECTIVES* 313 (E. Tory Higgins & Arie W. Kruglanski eds., 2000).

⁷⁶ NEIL A. MACMILLAN & C. DOUGLAS CREELEY, *DETECTION THEORY: A USER'S GUIDE* 49-50 (1991).

asserts that there are a few cases in which the jurors' decision is based primarily on emotional reactions. These would be cases in which the evidence is so sparse or so inchoate that the juror is unable to construct a narrative summary. In such cases, the explanation-based story construction process is blocked, and the juror will rely on other means to make a decision. One alternate strategy would be to rely on emotional reactions to the evidence, to the parties, or even to witnesses or attorneys involved in the case. Under these circumstances, which this Essay asserts are rare, the ultimate decision might be based almost solely on emotional factors.

The roles of emotions in jurors' decisions are best understood by considering the potential influences of the important kinds of emotions (incidental, decision process, and anticipatory) within the framework of a comprehensive model for the decision-making process (the Story Model). This Essay concludes that most jurors, in most cases, rely on story construction and story-based inferences to render their verdicts. Furthermore, most of the established effects of emotions on jurors' decisions can be accounted for in terms of an explanation-based model of the decision-making process.

