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## STRUCTURING LAWMAKING TO REDUCE COGNITIVE BIAS: A CRITICAL VIEW

*William N. Eskridge, Jr.† & John Ferejohn††*

The most interesting issues of public law (for us) are those relating to institutional design and function. When thinking about statutory interpretation, judicial review, and legislative and administrative procedures, it is useful to have a theory about how the governmental system works in our regulatory state, how it breaks down, and how it leads to decisions that do not serve the public interest. Hence, theories of *regulatory pathology* are useful. Within the academy, public choice theory has been particularly popular: selfish interest groups and public officials highjack the governmental process for their private gain, thereby undermining the public interest in efficient rules and distributions. The main regulatory pathology for public choice theory is rent-seeking, the private plunder of the public fisc. Republican theory offers a less cynical point of view. It maintains that politics is the forum where collective problems are resolved and values are advanced. The main regulatory pathology for republican theory is breakdowns in the deliberative process.

Theories of cognitive psychology are highly relevant to both these schools of thought, because these theories are informed judgments about how even the most well-motivated human decisionmakers make mistakes. Our provisional view, expressed in Part I, is that cognitive psychology, in its current state of development, is best deployed as a critical theory which supplements our understanding of the operation of interest group pressure, institutional interaction, and the process of policy debate and deliberation. At this point, cognitive psychology does not constitute a new descriptive theory of the regulatory state, nor does it have any particular normative contribution beyond banally observing that rational actors better advance their goals by making accurate rather than biased judgments. Currently, cognitive psychology does not even constitute a body of learning telling us what agents will do; it only tells us that agents will fall short of whatever it is they

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† John A. Garver Professor of Jurisprudence & Deputy Dean, Yale Law School. Deputy Dean Eskridge submitted testimony (for which he was compensated) before the House Committee on the Judiciary regarding the topic and analysis presented in Part III of this Comment and has been a consultant (without compensation) in litigation against the Bush Administration's suspension of funding for stem cell research discussed in Parts I and II of this Comment.

†† Carolyn S.G. Munro Professor of Political Science, Stanford University.

ment platform, or some larger social malaise that infected Americans after Vietnam. Still, unless legal scholarship is going to be dismissed as a solipsistic enterprise in which the participants talk only to each other, academics must accept some responsibility for shaping the prevailing cultural story of what regulatory government is about, how well it is accomplishing its mission, and why it sometimes fails to advance the public welfare. Whether intentionally or not, "public choice talk"<sup>240</sup> has given an intellectual imprimatur to bureaucrat bashing, and an aura of scientific certainty to the assertion that government "causes more problems than it solves."<sup>241</sup> As Bruce Adams, former director of the Office of Personnel Management and dean of two prominent schools of public administration, has observed: "[A]mong elites, cynicism toward government has become, in a perverse way, a mark of cultivation."<sup>242</sup>

Describing the value and the limits of theoretical models, John Braithwaite points out that "[t]heories of institutional design are useful as metaphors that supply competing ways of imagining changes in direction for social policy. They are rarely useful in supplying eternally true sets of propositions."<sup>243</sup> We do not claim that the cognitive model ineluctably generates an exhaustive and determinate set of specifications for designing perfect regulatory institutions. We do suggest that it offers a new set of metaphors for understanding the vulnerabilities, and the capabilities, of public policymaking processes. Political scientist Peter DeLeon's examination of the history of the policy sciences in relation to the theory and practice of American democracy ends by expressing concern that "the analytic priesthood is doing little to discourage the ebbing of American's faith in government and, by extension, the democratic system."<sup>244</sup> If legal theory is not to merit this same criticism, it must find ways of thinking about government that are pragmatically optimistic: i.e., ways which do not deny the presence of self-interest and ambition, but which refuse to place such motivation at the center of civic behavior; ways which willingly acknowledge that regulatory failures occur, but which evaluate failure claims with the open-minded determination to understand and learn rather than the gleeful anticipation of being able to say "I told you so!" The cognitive model, we believe, represents one such way.

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<sup>240</sup> The phrase is Jerry Mashaw's. See MASHAW, *supra* note 5, at 28.

<sup>241</sup> See *supra* note 146. For an early and eloquent expression of concern about the social costs of public choice talk, see Steven Kelman, "Public Choice" and Public Spirit, 87 PUB. INT. 80, 93-94 (1987); cf. John Ferejohn, *It's Not Just Talk*, 85 VA. L. REV. 1725, 1727 (1999) (discussing reality and substantiality of such "discourse effects"); Pamela S. Karlan, *Politics by Other Means*, 85 VA. L. REV. 1697 (1999) (identifying costs of using market metaphors to analyze electoral processes).

<sup>242</sup> Adams, *supra* note 229, at 6.

<sup>243</sup> Braithwaite, *supra* note 233, at 365.

<sup>244</sup> PETER DELEON, DEMOCRACY AND THE POLICY SCIENCES 100 (1997).

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The most interesting issues of public law (for us) are those relating to institutional design and function. When thinking about statutory interpretation, judicial review, and legislative and administrative procedures, it is useful to have a theory about how the governmental system works in our regulatory state, how it breaks down, and how it leads to decisions that do not serve the public interest. Hence, theories of *regulatory pathology* are useful. Within the academy, public choice theory has been particularly popular: selfish interest groups and public officials highjack the governmental process for their private gain, thereby undermining the public interest in efficient rules and distributions. The main regulatory pathology for public choice theory is rent-seeking, the private plunder of the public fisc. Republican theory offers a less cynical point of view. It maintains that politics is the forum where collective problems are resolved and values are advanced. The main regulatory pathology for republican theory is breakdowns in the deliberative process.

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vate groups without any public-regarding justification.<sup>4</sup> This is a relatively cynical view of government, and that cynicism has been a big hit with academics and the general population alike in the last forty years. We believe that the underlying reason for this popularity is that, since 1960, the American people have become increasingly distrustful of others generally, with that generic distrust pervasively affecting their views of the government.<sup>5</sup> If this trend continues (and there is every reason to think that it will), public choice theory will be a permanent part of our intellectual landscape.

Vigorously disagreeing with the public choice understanding are various participatory theories that can be conveniently labeled *republican*.<sup>6</sup> Thinkers in this tradition maintain that interest groups are captured and even defined by the political process as much as vice versa, for our political "interests" do not preexist the process. Rather than viewing the process as a cost of purchasing laws, republican theorists view the democratic and deliberative process as value-added: citizens enjoy participation, everyone learns from it, and the result is law that is likely to reflect the public interest.<sup>7</sup> This understanding of politics axiomatically views rent-seeking as a pathology, but maintains that rents will be distributed only when the process of participation and deliberation becomes corrupt because (1) groups of citizens have been excluded or discouraged from participation, (2) the process has been secretive or below the public radar screen, or (3) decisionmakers have made up their minds before they receive ideas and input from the public and those with expertise.

Various other important theories offer distinct perspectives about the regulatory process. *Positive political theory* (PPT) focuses on the interactions among political institutions, each of which is engaged in a special function and has policy preferences which are aggregated into

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<sup>4</sup> The normative goal assumed by most public choice theorists is overall social efficiency: a distribution of public money or power that benefits more people than it hurts. Some public choice theorists have posed the goal as overall political efficiency: distributions that accurately reflect the salience and power of interest groups.

<sup>5</sup> See ROBERT D. PUTNAM, *BOWLING ALONE: THE COLLAPSE AND REVIVAL OF AMERICAN COMMUNITY* 29–180 (2000), for the proposition that American group activities have steadily declined since 1960, which Putnam interprets as a decline in social capital and an increase in distrust for one's neighbors. Our further interpretation is that this phenomenon is related to Americans' increasing distrust of government during the same period.

<sup>6</sup> For introductions, see Frank I. Michelman, *The Supreme Court, 1985 Term—Foreword: Traces of Self-Government*, 100 HARV. L. REV. 4 (1986); Symposium, *The Republican Civic Tradition*, 97 YALE L.J. 1493 (1988); and Mark Seidenfeld, *A Civic Republican Justification for the Bureaucratic State*, 105 HARV. L. REV. 1511 (1992).

<sup>7</sup> See, e.g., JOSEPH M. BESSETTE, *THE MILD VOICE OF REASON: DELIBERATIVE DEMOCRACY AND AMERICAN NATIONAL GOVERNMENT* 48 (1994); AMY GUTMANN & DENNIS THOMPSON, *DEMOCRACY AND DISAGREEMENT* 1–3 (1996).

law and implementation choices.<sup>8</sup> Like public choice theory, PPT is concerned with the divergence of the public interest and lawmaking or implementation by Congress, agencies, and (maybe) courts delegated lawmaking authority by Congress. Unlike most variants of public choice theory, this divergence is usually interpreted as a result of ideological motivations—the idea that political agents have their own views about what is in the public interest.<sup>9</sup> The PPT critique focuses on the potential for opportunistic behavior by public officials rather than on the crass suggestion that policy will be auctioned to the highest bidder; this kind of opportunistic behavior is sometimes called “ideological shirking.”

Another rational choice approach is *informational theory*, which maintains that the legislature creates specialized institutions (committees and agencies) in order to generate and transmit information about the issue being deliberated.<sup>10</sup> Although useful information can come from these specialized organs, it does not change the underlying PPT dynamic of political bargaining by ideologically motivated officials and materially motivated interest groups. The key idea is that ideologically motivated officials will generally lack the incentive to generate or transmit information optimally.<sup>11</sup> Informational theory’s distinctive policy pathology would be disruption of the means by which reliable information is generated and deployed within the legislative or implementation process.

With some caveats, theories of cognitive limitations are potentially relevant to regulatory pathologies under the foregoing schools of political science. At the outset, we note that most of the cognitive psychology literature focuses on *individual* decisional biases. This part of the literature is potentially relevant to decisionmaking in the regulatory state, but the literature focusing on biases in either *group* or (best of all) *institutional* decisionmaking is obviously much more relevant. Concededly, most cognitive heuristics should operate in institutional as well as individual decision processes, but the former ought to

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<sup>8</sup> For an overview, see generally WILLIAM H. RIKER & PETER C. ORDESHOOK, AN INTRODUCTION TO POSITIVE POLITICAL THEORY (1973); and Symposium, *Positive Political Theory and Public Law*, 80 GEO. L.J. 457 (1992).

<sup>9</sup> It is possible to give a materialist interpretation to the PPT policy space, but such an interpretation is less general than the ideological one. One can always interpret the pursuit of one’s private material gain as an ideology, but such an ideology would typically lack the persuasive rhetorical resources that ideologies are normally thought to possess.

<sup>10</sup> See KEITH KREHBIEL, INFORMATION AND LEGISLATIVE ORGANIZATION (1991).

<sup>11</sup> Recent work on theories of jury decisionmaking, which assumes that all agents have the desire to make the right decision, suggests that similar informational distortions arise here. These distortions arise from the fact that even though they are identically motivated, jurors have private information that they must aggregate into a decision. See David Austen-Smith & Jeffrey S. Banks, *Information Aggregation, Rationality, and the Condorcet Jury Theorem*, 90 AM. POL. SCI. REV. 34 (1996).

generate different kinds of biases; also, the biases that will skew individual decisionmaking the most might affect group decisionmaking much less. We also note that, at this point, the cognitive psychology scholarship offers no overall normative insights into regulatory pathology beyond the banal idea that accurate and unbiased decisions better serve the decisionmaker's goals than inaccurate and biased ones.

The relevance of the psychological literature is most obvious for deliberative theories. Such theories are optimistic that participants in the political process will act out of more than merely selfish motives, and that groups of public-regarding public servants working together can generate genuine solutions to public problems.<sup>12</sup> If the pathology of rent-seeking recedes in such models, another pathology replaces it once deliberative theories are enriched by the insights of cognitive psychology. That is, even if the deliberative process is not sidetracked by interest group biases, it can still be sidetracked by cognitive biases. For example, a committee tackling the issue of global warming can reach disastrously wrong conclusions not just by pandering to the interests of industrial polluters (the public choice problem), but also by making simple but predictable mistakes in reasoning (the cognitive psychology problem). In the abstract, cognitive psychology suggests that committees will tend to make the following kinds of mental mistakes:

- The committee might overgeneralize from dramatic and emotionally striking events (the availability heuristic)<sup>13</sup> or from small unrepresentative samples (the representativeness heuristic).<sup>14</sup>

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<sup>12</sup> It is instructive to look at Rousseau's *Social Contract* to see how even republican theorists are not naively optimistic, only relatively so. See JEAN-JACQUES ROUSSEAU, *THE SOCIAL CONTRACT* (Maurice Cranston trans., Penguin Books 1968). In the later parts of the book Rousseau criticizes late republican Rome for having a secret ballot; however, he recognizes that by the late period, public life had become corrupt enough that public voting would have been abused (by vote buying and intimidation). Thus, while he praised republican forms, of course, Rousseau was by no means Pollyannaish. In a nearby passage, where he criticizes political parties and factions, Rousseau says (realistically) that if you cannot actually get rid of them altogether, it is best to encourage lots of them to form and compete with each other. Cf. THE FEDERALIST NO. 10 (James Madison) (describing the evils of "faction").

<sup>13</sup> See RICHARD NISBETT & LEE ROSS, *HUMAN INFERENCE: STRATEGIES AND SHORTCOMINGS OF SOCIAL JUDGMENT* 43–62 (1980); Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 *SCIENCE* (n.s.) 1124, 1127–28 (1974); see also W. Kip Viscusi, *Alarmist Decisions with Divergent Risk Information*, 107 *ECON. J.* 1657 (1997) ("alarmist bias").

<sup>14</sup> See NISBETT & ROSS, *supra* note 13, at 17–28, 36–42; Amos Tversky & Daniel Kahneman, *Judgments of and by Representativeness*, in *JUDGMENT UNDER UNCERTAINTY: HEURISTICS AND BIASES* 84 (Daniel Kahneman et al. eds., 1982).

- The committee might anchor its decisionmaking on an arbitrary starting point and filter factual evidence through the lens of that bias (anchoring or cognitive dissonance).<sup>15</sup>
- The committee might impute its members' own views and preferences to everyone else, an assumption that reflects lack of empathy or understanding of others' different situations (the egocentrism bias).<sup>16</sup>
- The committee might tend to defer to experts (the expert-deference bias, also hypervigilance)<sup>17</sup> who themselves tend to be overconfident about their conclusions (the overconfidence bias).<sup>18</sup>
- If the committee is composed of like-thinking persons, deliberation might tend to skew the committee's conclusions toward positions more extreme than those with which the members started (the polarization effect).<sup>19</sup> Conversely, more heterogeneous committees may tend to avoid the best solutions if they seem too radical (the extremeness aversion).<sup>20</sup> In either event, there is a danger that committee members will go along with a proposal only because they think "everyone thinks this way" (the cascade effect).<sup>21</sup>
- If the problem is complex, the committee may be overwhelmed and paralyzed (information overload) or driven away from correct but extreme positions (the dilution effect)<sup>22</sup> by considering too much information, and may consequently be unduly

<sup>15</sup> See, e.g., LEON FESTINGER, *CONFLICT, DECISION, AND DISSONANCE* (1964); Pamela J. Hinds, *The Curse of Expertise: The Effects of Expertise and Debiasing Methods on Predictions of Novice Performance*, 5 J. EXPERIMENTAL PSYCHOL.: APPLIED 205, 217 (1999); Stefan Schulz-Hardt et al., *Biased Information Search in Group Decision Making*, 78 J. PERSONALITY & SOC. PSYCHOL. 655, 666 (2000).

<sup>16</sup> See, e.g., Raymond S. Nickerson, *How We Know—and Sometimes Misjudge—What Others Know: Imputing One's Own Knowledge to Others*, 125 PSYCHOL. BULL. 737, 739 (1999).

<sup>17</sup> See, e.g., IRVING L. JANIS & LEON MANN, *DECISION MAKING: A PSYCHOLOGICAL ANALYSIS OF CONFLICT, CHOICE, AND COMMITMENT* 81 (1977).

<sup>18</sup> See, e.g., Dale Griffin & Amos Tversky, *The Weighing of Evidence and the Determinants of Confidence*, 24 COGNITIVE PSYCHOL. 411 (1992); Hinds, *supra* note 15, at 217.

<sup>19</sup> See, e.g., ROBERT S. BARON ET AL., *GROUP PROCESS, GROUP DECISION, GROUP ACTION* 73–79 (1992); B. AUBREY FISHER & DONALD G. ELLIS, *SMALL GROUP DECISION MAKING* 55–56 (3d ed. 1990); Cass R. Sunstein, *Deliberative Trouble? Why Groups Go to Extremes*, 110 YALE L.J. 71, 74–77 (2000).

<sup>20</sup> See, e.g., Eldar Shafir et al., *Reason-Based Choice*, in *RESEARCH ON JUDGMENT AND DECISION MAKING* 69, 82–84 (William M. Goldstein & Robin M. Hogarth eds., 1997) (extremeness aversion); Itamar Simonson, *Choice Based on Reasons: The Case of Attraction and Compromise Effects*, 16 J. CONSUMER RES. 158 (1989).

<sup>21</sup> See David Hirshleifer, *The Blind Leading the Blind: Social Influence, Fads, and Informational Cascades*, in *THE NEW ECONOMICS OF HUMAN BEHAVIOR* 188 (Mariano Tommasi & Kathryn Ieruli eds., 1995).

<sup>22</sup> See, e.g., Philip E. Tetlock & Richard Boettger, *Accountability: A Social Magnifier of the Dilution Effect*, 57 J. PERSONALITY & SOC. PSYCHOL. 388, 396 (1989).

deferential to other decisionmakers (hypervigilance, noted above).<sup>23</sup>

Cognitive psychology raises red flags about deliberative theories even if all participants are public-regarding. More information is not always optimal, two heads are not always better than one, and the early bird does not always get the worm.<sup>24</sup>

Although not as obvious, cognitive psychology also has relevance to those public choice and other theories that assume rational decisionmakers operate under conditions where they receive perfect information. Cognitive theory suggests that rational decisionmaking given perfect information is an even stronger (more unrealistic) assumption than conventionally believed, but the consequences of this observation are unclear and are probably quite complex. On the one hand, this might augur even more dismal prospects for American democracy. For instance, officeholders who are beholden to particular interest groups will tend to anchor their policy judgments on those interests and view the evidence through the lens of those interests. In this way, cognitive psychology helps us understand how interest-group-driven representatives can have public-regarding self-images: they have fooled themselves as well as the voters! Moreover, representatives will make mistakes when weighing their needs to accommodate interest groups that are especially noisy and intense, as the availability and representativeness heuristics will sometimes lead officials to overestimate the power of those constituencies. On the other hand, cognitive errors afflicting interest groups themselves might dilute rent-seeking under some circumstances. For example, an interest group might go along with a measure limiting the rents it extracts if the group mistakenly defers to government experts or allows the government to frame the issue.<sup>25</sup> In short, bad cognition by public officials can open opportunities for rent-seeking, but bad cognition by rent seekers may leave many of these nefarious gains unexploited.

Consider President George W. Bush's recent decision allowing federal funding of stem cell research only involving already-existing lines of stem cells. We do not know the details of the President's deliberative process. Although press accounts suggest that it was as thorough as anything the President will ever decide, it was nonetheless inflected with the usual run of cognitive biases. For example, the

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<sup>23</sup> See, e.g., JANIS & MANN, *supra* note 17, at 81.

<sup>24</sup> As we pointed out in note 11, *supra*, theoretical work on juries suggests that even without individual level cognitive biases, collective cognitive limitations can arise.

<sup>25</sup> If experts more or less agree about the range of appropriate public responses to a problem, interest groups may defer to the experts' opinion and rethink their own positions. If the President and political leaders frame an issue in a certain way, they can influence some groups' perception of what is actually in the groups' best interest, or how much groups should care about that perceived interest.

President anchored on the questionable belief that there are sixty-four lines of usable stem cells available at reasonable cost for the research, may have rendered a decision by exhaustion, and operated under a strong form of the extremeness aversion.<sup>26</sup> The decision seems (to us) awfully expensive, for it will slow down research that has a tangible chance of saving untold millions from degenerative diseases.<sup>27</sup>

The President's decision also grants monopoly rights and rents to the holders of the existing stem cell lines. Some of these are public institutions, but others are private firms seeking private interests, and may therefore get windfall profits from the President's decision.<sup>28</sup> However, the primary rents granted by the decision are the burdens on people with degenerative diseases whose future treatment is being sacrificed to satisfy the moral preferences of some religious groups. Under this scenario, the deliberative process might have been little more than a smokescreen for raw public choice and PPT calculations: to assuage his base among the religious right, the President abandoned the more liberal funding scheme of his predecessor and adopted a plan whose limits were acceptable to religious moderates while rewarding institutions that could help the President's party.<sup>29</sup>

Our own view is that the above calculation is too cynical. For example, it underestimates the President's range of discretion in this matter. Many pro-life conservatives are open to stem cell research because they have relatives suffering from the targeted diseases (availability and representativeness heuristics), or because they credit the medical researchers who made great claims for the fruits of the research (expert bias).<sup>30</sup> Many pro-research moderates, in turn, supported the President's decision although it cut back (perhaps drastically) on this research because they accepted the President's

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<sup>26</sup> See Katharine Q. Seelye & Frank Bruni, *A Long Process That Led Bush to His Decision*, N.Y. TIMES, Aug. 11, 2001, at A1 (although President Bush engaged in thorough deliberative process, "pivotal moment" was his (erroneous) discovery that there are more than sixty "genetically diverse" stem cell lines, a discovery which confirmed his impulse to reach a "compromise" solution). But see Sheryl Gay Stolberg, *64, Minus . . .*, N.Y. TIMES, Sept. 9, 2001, § 4, at 2 (President's sixty-four stem cell lines include only a dozen or so that are "ready" for research use).

<sup>27</sup> See Sheryl Gay Stolberg, *Scientists Urge Bigger Supply of Stem Cells*, N.Y. TIMES, Sept. 11, 2001, at A1 (panel of scientific experts says that stem cell research will not be useful unless more than sixty-four lines can be deployed).

<sup>28</sup> See Andrew Pollack, *The Promise in Selling Stem Cells*, N.Y. TIMES, Aug. 26, 2001, § 3, at 1 (reporting that Geron, a private biotech company, may receive a windfall from the President's decision because Geron owns several of the few viable stem cell lines).

<sup>29</sup> See Richard L. Berke, *Bush Appears to Have Straddled a Divide*, N.Y. TIMES, Aug. 11, 2001, at A11.

<sup>30</sup> See Laurie Goodstein, *Abortion Foes Split over Plan on Stem Cells*, N.Y. TIMES, Aug. 12, 2001, at A1.

framing of the issue and deferred to his decision, and because they felt it reflected a fair and open deliberation.<sup>31</sup>

As Professors Cynthia Farina and Jeffrey Rachlinski suggest, the contributions of cognitive psychology to political theory might be even more ambitious. Within the republican tradition, they conceptualize Congress as the primary policy-setting institution, having access to substantial reservoirs of expertise, with the President, agencies, and courts as fine-tuners and occasional correctors of statutes adopted by Congress.<sup>32</sup> We do not see why the insights of cognitive theory could not also be adapted to the rational choice tradition. Such an addendum would focus on the decisionmaking biases of interest groups as well as public decisionmakers. Enriched with insights from cognitive psychology, public choice and other rational actor models would have a more interesting account of the regulatory state: because the original sales are often made with misconceptions on both sides (legislative sellers and interest group buyers), much of the horse-trading is after the fact within the executive department or independent agencies. The more ambitious the statutory bargain, the greater the need for buyers to have access to the implementing organ.

The table below encapsulates our understanding of different theories of the regulatory state, and how cognitive psychology might enrich or complexify standard political science accounts. Recall that we do not believe cognitive psychology makes an independent contribution to thought about the overall norm against which government decisions ought to be measured. Its contribution is not to thinking about the *ends* of politics, but rather to thinking about the *means* by which decisions are reached.<sup>33</sup>

## II

### INSTITUTIONAL ROLES AND LIMITS ON THE CURRENT CONTRIBUTION OF COGNITIVE PSYCHOLOGY

The foregoing analysis is at the most general and theoretical level. Does cognitive theory also offer contributions at the more specific and concrete level of institutional design? Cutting-edge work in public law says it can, and scholars in this Symposium have developed intelligent analyses along these lines. Farina and Rachlinski, for ex-

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<sup>31</sup> See Seelye & Bruni, *supra* note 26.

<sup>32</sup> See Jeffrey J. Rachlinski & Cynthia R. Farina, *Cognitive Psychology and Optimal Government Design*, 87 CORNELL L. REV. 549, 588–600 (2002).

<sup>33</sup> There is a special sense in which cognitive science may contribute to criticizing the ends of governmental policies. Insofar as the Kantian slogan—ought implies can—is accepted, cognitive psychology may show that some governmental ends are impermissible because agencies cannot administer means to achieve them (because of cognitive biases). Such a demonstration would be exceedingly difficult, however, because it entails evaluation of all possible means to reach the end in question.

TABLE 1  
THEORIES OF THE REGULATORY STATE

Regulatory State Theory	Legislature	Agencies	President	Normative Goal	Pathologies	Suggested Reforms
Public Choice Theory	Sells laws to interest groups	Interest groups capture agency	Sells appointments and policies to interest groups	Efficiency	Rent-seeking	Shrink government
Positive Political Theory	Aggregates different policy views into legislation	Shirking and slack; agency reads policy preferences into statutes	Interest to be accommodated by legislature and agencies	Efficiency	Agency problem	Design institutions to manage incentives
Informational Theory	Creates agencies and committees and ensures they reflect median	Create specialized division of labor with experts	Agenda-setter and another source of information and distortion	Information efficiency	Separated decisions make information flow suboptimal	Representative committees and agencies
Cognitive Theory Supplement to Rational Choice Theories	Sells laws with uncertain consequences to interest groups	Interest groups fine-tune deals through captured agency	Helps create interest group laws and fine-tune them	Efficiency, information efficiency	Institutions fail to improve policy, but interest groups miss chances to obtain rents	Theory- and context-dependent
Republican Theory	Public-spirited deliberation to set general policy	Implement policy to carry out legislature's goals	Important agenda-setter, represents national interest	Balance of justice and efficiency	Deliberation breakdowns; perspectives left out	Improve deliberative process and norms
Cognitive Theory Supplement to Republican Theory	Public-spirited deliberation to set general policy	Implement policy to carry out legislature's goals	Agenda-setter and also corrector of legislature's errors	Balance of justice and efficiency	Decisional biases introduce error in government decisions	Correct cognitive biases among decisionmakers

ample, maintain that Congress is the best institution to devise policy, and that agencies are the best institution to fill in the details of a statutory scheme, but that narrow review of those decisions by the President and the judiciary will edit out some biases post hoc.<sup>34</sup> Mark Seidenfeld argues that process-based judicial review of agency decisions under the arbitrary-and-capricious standard will not only catch errors after the fact, but will also discourage some kinds of error ex ante.<sup>35</sup> Although these scholars essentially defend the institutional status quo, this kind of thinking could just as well be deployed to criticize current arrangements, as Rachlinski has done elsewhere.<sup>36</sup>

These are interesting and informative Articles. Their accounts enrich our understanding of the pitfalls in legislative and administrative decisionmaking. And their arguments are on the whole quite cogent. But not completely. We are not (yet) persuaded of these particular defenses, and our doubts rest upon several general difficulties with using the insights of cognitive psychology to support or criticize particular roles for particular institutions. The doubts that follow also pose limits on our ability to advance beyond the general observations about regulatory pathology that we developed in the first part of this Comment.

1. *The Context Problem.* To begin with, anything but the broadest generalizations about the specialized roles of our public institutions are treacherous because those roles will or should vary according to context, especially among the different subject matters that are regulated in our society. Farina and Rachlinski's argument that Congress's committee system offers the best opportunity to filter out the most severe decisionmaking biases and heuristics is hard to accept without a systematic survey. The areas we know best are those where committees did not do this, and sometimes where committees pressed Congress in rather extreme directions. For instance, the most significant legislation concerning the rights of lesbians and gay men in recent history was the Defense of Marriage Act (DOMA),<sup>37</sup> whose committee report is a virtual cornucopia of decisionmaking biases. The House Judiciary Committee anchored its report on the threat to marriage posed by "homosexual marriage," but never explained how excluding committed couples contributed to strengthening an institution al-

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<sup>34</sup> See Rachlinski & Farina, *supra* note 32, at 555–600.

<sup>35</sup> See Mark Seidenfeld, *Cognitive Loafing, Social Conformity, and Judicial Review of Agency Rulemaking*, 87 CORNELL L. REV. 486, 509–12 (2002).

<sup>36</sup> See Jeffrey J. Rachlinski, *A Positive Psychological Theory of Judging in Hindsight*, 65 U. CHI. L. REV. 571 (1998).

<sup>37</sup> Pub. L. No. 104-199, 110 Stat. 2419 (1996) (codified at 1 U.S.C. § 7 and 28 U.S.C. § 1738c (Supp. V 1999)).

ready weakened by high rates of divorce and spousal abuse.<sup>38</sup> Indeed, the committee's rationale is illogical on its face: if marriage has been weakened by easy-exit rules (no-fault divorce), how does expanding the institution to include same-sex couples contribute to its decline? One is left with the conclusion that this consequentialist argument was a stand-in for the committee's closeted concern, that lesbian and gay couples might be accorded the same dignified marital status as heterosexual couples. Although DOMA is a dramatic example—so be on your toes lest you fall prey to the availability heuristic—it is sadly representative of congressional committee agenda-setting for issues affecting lesbians, gay men, and bisexuals.<sup>39</sup>

Committee work in other areas of law has been more successful in our opinion, but others disagree. For example, we admire the Endangered Species Act (ESA),<sup>40</sup> perhaps because our thoughts are anchored on the idea of species preservation and because our jobs are not in peril due to the ESA. Other scholars, however, have criticized the statute as one inspired by a few horror stories (availability and representativeness heuristics) and adopted without a careful analysis of the costs it imposed on farmers, ranchers, and foresters (egocentrism bias).<sup>41</sup> Like DOMA, the ESA may or may not be representative of congressional committee deliberation regarding issues of national consequence. Only a systematic survey can provide us with more than mere hypotheses.<sup>42</sup>

Similarly, Seidenfeld's notion that process-based judicial review of agency rulemaking will reduce agency errors by introducing greater accountability is a generalization that does not seem to hold true for

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<sup>38</sup> For analysis of the committee's rationales, see Andrew Koppelman, *Dumb and DOMA: Why the Defense of Marriage Act Is Unconstitutional*, 83 IOWA L. REV. 1 (1997), as well as WILLIAM N. ESKRIDGE, JR., EQUALITY PRACTICE: CIVIL UNIONS AND THE FUTURE OF GAY RIGHTS ch. 1 (forthcoming 2001).

<sup>39</sup> For earlier examples of crazy congressional committee recommendations regarding the rights of sexual minorities, see WILLIAM N. ESKRIDGE, JR., GAYLAW: CHALLENGING THE APARTHEID OF THE CLOSET 35–36, 69–70, 132–34 (1999) (national immigration laws, 1917–1990); *id.* at 36–37, 174–75, 183–95 (national military policy, 1920–1993); *id.* at 60–61 (law criminalizing consensual sodomy and incarcerating “sexual psychopaths” in the District of Columbia); *id.* at 67–69 (describing congressional committee declarations seeking to purge federal employment of “homosexuals and other sex perverts” and to press FBI and local police to seek out and expose such people).

<sup>40</sup> Pub. L. No. 93-205, 87 Stat. 884 (codified as amended at 16 U.S.C. §§ 1531–1544 (1994)).

<sup>41</sup> For critique of the ESA along these lines (but without the psychology jargon), see, for example, RICHARD J. TOBIN, THE EXPENDABLE FUTURE: U.S. POLITICS AND THE PROTECTION OF BIOLOGICAL DIVERSITY 91–109 (1990); David S. Wilcove, *The Promise and the Disappointment of the Endangered Species Act*, 6 N.Y.U. ENVTL. L.J. 275 (1998).

<sup>42</sup> Even a systematic survey would pose methodological difficulties. For example, it is often hard to figure out whether a decision reflects a cognitive bias. Our benign view of the ESA contrasts with the critical view of scholars cited in note 41, *supra*—ideological anchoring and cognitive dissonance pervasively influence such judgments.

all agencies. Jerry Mashaw and David Harfst's study of the National Highway Traffic Safety Administration (NHTSA) is a history of regulatory and cognitive failure. According to Mashaw and Harfst, not only did judicial review fail to correct agency mistakes, but it induced mistakes. At best, judicial review slowed down needed agency action; at worst, judicial review undermined the agency's sense of accountability and contributed to the collapse of effective auto safety regulation in the United States.<sup>43</sup> Seidenfeld would presumably respond that judicial review of NHTSA rules was more scrutinizing than he is proposing, but the review examined by Mashaw and Harfst was, ostensibly, hard-look process-based review of the sort Seidenfeld defends.

More generally, we question Seidenfeld's assumption that judges engaging in hard-look review will or even can keep their views about the substance of regulations entirely separate from their views about the process. Although Seidenfeld believes that this assumption must hold in order for judicial review to create accountability benefits,<sup>44</sup> there is an impressive body of literature maintaining that ideology influences judges' review of agency decisions under hard-look kinds of review.<sup>45</sup> If a judge thinks that a rule is slanted too much toward industry concerns, the empirical studies cited below suggest that she is much more likely to find the process defective, perhaps because of cognitive dissonance and anchoring. It seems inevitable that judicial review of agency rulemaking—whatever the standard—will sometimes be influenced by judges' views about the underlying statute itself as well as the agency's rule. So the context within which hard-look review actually occurs is sensitive not only to subject matter, but also to the respective ideologies of the agencies and judges involved.

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<sup>43</sup> See JERRY L. MASHAW & DAVID L. HARFST, *THE STRUGGLE FOR AUTO SAFETY* 84–105, 224–54 (1990).

<sup>44</sup> See Seidenfeld, *supra* note 35, at 512–13 (stating that for accountability to be beneficial under cognitive theory, the decisionmaker must perceive that the evaluation of her decision will be based on her decisionmaking process rather than outcome of her decision). We doubt that substance is entirely separate, *see* sources cited *infra* note 45, but even if it were, we doubt agency decisionmakers would believe it.

<sup>45</sup> See, e.g., James J. Brudney et al., *Judicial Hostility Toward Labor Unions? Applying the Social Background Model to a Celebrated Concern*, 60 OHIO ST. L.J. 1675 (1999); Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717 (1997); *see also* Frank B. Cross & Emerson H. Tiller, *Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals*, 107 YALE L.J. 2155 (1998) (describing courts of appeals' partisan approaches to following Supreme Court precedent). Seidenfeld, *supra* note 35, at 519–21, smartly responds that the foregoing literature is hotly contested, e.g., William S. Jordan, III, *Judges, Ideology, and Policy in the Administrative State: Lessons from a Decade of Hard Look Remands of EPA Rules*, 53 ADMIN. L. REV. 45, 98–99 (2001), and does not claim that ideology is the only relevant variable. Fair enough, but a review of the literature suggests that broad claims *cannot* be made about judges' cognitive ability to limit their attention in hard-look cases to nothing but the procedure. The burden is on Seidenfeld to establish that hard-look review is nothing more than process review, and that is a burden he cannot sustain with the current studies.

2. *The Problem of Offsetting Biases.* Our second difficulty with deploying cognitive theory to explain or prescribe general institutional roles is that most proposals anchor on the biases of the institution being checked while minimizing the biases of the institution doing the checking.<sup>46</sup> Consistent with conventional wisdom among political scientists, theories of institutional role have thus far posited that Congress makes policy and agencies carry it out. The value added by cognitive psychology is to support the claim that review of agency decisions by the President or the courts will correct some of the decisionmaking errors that agencies commit. Farina, Rachlinski, and Seidenfeld make sensible arguments for the proposition that agencies make predictable mistakes. We are not as persuaded that the mistakes made by agencies will be corrected by courts, however.<sup>47</sup> Judges are generalists and prone to defer to agencies making policy judgments in areas that are highly technical or otherwise beyond the ken of judges. The expert-deference bias, therefore, suggests that courts will not correct all or perhaps even most substantive mistakes made by agencies regulating technical subject matters.

Seidenfeld makes the sensible (albeit hard to verify) point that judges ought to be less deferential and more willing to correct process mistakes made by such agencies. But in correcting process mistakes, judges are particularly prone to introduce new costs into the system: hard-look review that overturns substantively okay rules because of mistakes in agency procedure runs a great risk of slowing down the implementation of needed agency rules at the very least and probably makes some agencies excessively cautious.<sup>48</sup> If hard-look review will be segregated from review of the merits of an agency rule, as Seidenfeld insists, a lot of really good rules will be overturned and remanded to agencies. This seems like a significant albeit indeterminate cost of hard-look review. Unless the accountability benefits of such review are demonstrably large—which is not clear at this point—the cost might well outweigh the benefits.

More generally, judges will introduce their own cognitive biases into the evolution of public policy, whatever the ostensible standard of

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<sup>46</sup> This is a kind of framing effect engaged in by proponents generally, and the careful reader will detect this tendency in your current authors when they advance positive proposals later in this Comment!

<sup>47</sup> Furthermore, for the reasons just developed, we are not persuaded that hard-look review satisfies Seidenfeld's accountability criteria laid out in note 44, *supra*.

<sup>48</sup> See MASHAW & HARFST, *supra* note 43 (finding that hard-look review crippled NHTSA's ability to vigorously implement highway safety law because of delays and incoherencies introduced by process-obsessed judges); R. Shep Melnick, *Administrative Law and Bureaucratic Reality*, 44 ADMIN. L. REV. 245, 247-49 (1992) (arguing that process-based reversals will deter agency rulemaking); Richard J. Pierce, Jr., *Two Problems in Administrative Law: Political Polarity on the District of Columbia Circuit and Judicial Deterrence of Agency Rulemaking*, 1988 DUKE L.J. 300, 308-13 (1988) (same).

review. The cognitive biases of judges are an under-researched terrain, and so the depth of concern is and will long remain unclear. Cognitive theory, supported by experience that lawyers have had with judges, suggests some important biases that we should expect to find among judges:

- *Overconfidence*. In areas judges know well, such as discrimination law, civil and criminal procedure, and the common law fields (contracts, torts, property), one would expect judges to be overconfident when reviewing agency decisions. That overconfidence is sometimes exacerbated by a *hindsight bias*, whereby judges looking back on events will view them as more likely to occur than would have been rational beforehand.<sup>49</sup>
- *Availability and Representativeness Heuristics*. Because judicial review frequently occurs in the context of specific facts and hardships suffered by particular plaintiffs, one would expect judges to overvalue and overgeneralize the experience of the litigants before them.
- *Text Fetishism and Path Dependence*. In our view, judicial review introduces a variable into agency policymaking that often has an uncertain relationship to optimal policy: the rule-of-law requirement that agencies and judges follow “clear” statutory texts and judicial precedents. Judges take this rule very seriously and often reverse agencies because they disagree with the agency’s interpretation of the words of the statute;<sup>50</sup> less often, they reverse because the agency’s sensible application is inconsistent with an old judicial precedent.<sup>51</sup>

Additional judicial biases involve the kinds of mistakes that everyone makes, such as information overload (a particular concern when judges review decisions about technical matters), schema bias (a concern for politicized issues like affirmative action and abortion), and egocentrism (which for some judges becomes an egomania heuristic).

Return to the issue of stem cell research. Before the President made his decision, a group of doctors sued the Administration for suspending the funding of stem cell research.<sup>52</sup> Assume that the Supreme Court ultimately reviews the Administration’s decision. Legally, there is a good chance the Court would rule that the

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<sup>49</sup> See Rachlinski, *supra* note 36.

<sup>50</sup> Although courts are supposed to defer to agency interpretations of their governing statute, *see Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984), and to apply an abuse-of-discretion standard to agency factfinding, neither applies if the court believes the agency’s decision runs against the statute’s plain meaning, *see, e.g.*, *MCI Telecomms. Corp. v. Am. Tel. & Tel. Co.*, 512 U.S. 218, 226–29 (1994).

<sup>51</sup> *See, e.g.*, *Square D Co. v. Niagara Frontier Tariff Bureau, Inc.*, 476 U.S. 409, 419 (1986).

<sup>52</sup> *Thomson v. Thompson*, Civ. No. 01-CV-0973 (D.D.C. filed 2001).

Administration violated the Administrative Procedure Act by failing to proceed through notice-and-comment rulemaking.<sup>53</sup> Would a reversal and remand ordering the Department of Health and Human Services (HHS) to follow the correct procedures produce a better decision? Most doubtful. Would such a requirement impose marginally greater accountability on agencies generally? Maybe. But maybe not.

If the Court reached the merits, its decision would involve interpretations of a 1993 federal statute that explicitly authorizes the HHS to "conduct or support research on the transplantation of human fetal tissue for therapeutic purposes,"<sup>54</sup> and of subsequent appropriations statutes that bar the creation or destruction of "human embryos for research purposes."<sup>55</sup> These statutes press the law in different directions, and the Court would have to reconcile them and apply its reconciled interpretations to the Administration's new stem cell rule. Arguments about the proper interpretation of either statute would probably turn on the texts of the statutes—texts written by congressional committees that did not anticipate the precise issue before the current Administration.<sup>56</sup> However the Court resolved this issue, its approach would hardly seem well-suited toward instantiating the best policy. Thus, it is hard to see how judicial review would correct cognitive errors, yet it is easy to see how review could introduce new errors from a policy perspective, even if not from a rule-of-law perspective.<sup>57</sup>

3. *Methodological Problems; Weeds in a Vacant Lot.* The biggest limitation on the ability of law professors to rely on cognitive psychology to defend particular institutional roles involves methodological problems with applying psychology data to assess particular legal problems. One methodological problem is that many of the biases and heuristics have not been tested in real-world government settings.<sup>58</sup> Thus, there is no experimental basis for believing that all the

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<sup>53</sup> Cf. *Env'tl. Def. Fund, Inc. v. EPA*, 716 F.2d 915, 919–21 (D.C. Cir. 1983) (*per curiam*) (finding, in an unrelated case, that suspension of prior rules requires procedures associated with substantive rulemaking).

<sup>54</sup> 42 U.S.C. § 289g-1(a)(1) (1994).

<sup>55</sup> Pub. L. No. 104-99, sec. 128, 110 Stat. 26, 34 (1996). The current version of this appropriations language is in Consolidated Appropriations Act, 2001, Pub. L. No. 106-554, app. A, sec. 510, 114 Stat. 2763, 2763A-71.

<sup>56</sup> It was not until 1998 that Dr. James Thomson, a plaintiff in the lawsuit against the administration, derived stem cells from embryos, and that Dr. John Gearhart, also a plaintiff, derived stem cells from germ cells found in fetal tissue. See Memorandum in Support of Plaintiffs' Motion for Summary Judgment, *Thompson v. Thompson*, Civ. No. 01-CV-0973 (D.D.C. July 11, 2001).

<sup>57</sup> The phenomenon described in the text would also infect process-based review of agency decisions if the literature is correct that a judge's ideology affects his or her judgment even in hard look cases. See *supra* note 45.

<sup>58</sup> See EDWARD G. CARMINES & RICHARD A. ZELLER, *RELIABILITY AND VALIDITY ASSESSMENT* (1979) (standard social science account of requirements for reliable inferences).

biases and heuristics apply at all to legislators, administrators, and judges, or that they apply to institutional (as opposed to individual) decisionmaking by these kinds of officials. Although psychologists and others, including Rachlinski, are establishing an experimental basis for decisionmaking biases and their application to group as well as individual decisionmaking, few if any of the tests have involved real-world figures, and so their conclusions remain somewhat provisional.

Another methodological problem arises from the fact that demonstrated cognitive biases have grown like weeds in a vacant lot. As documented biases have multiplied, it has become harder to reach conclusions from them. In any given institutional situation, there will be several potentially applicable—and potentially cross-cutting—biases. Furthermore, there is little basis for understanding how the different biases interact with one another. When do they cancel one another out? When they cut in the same direction, are they additive or multiplicative? What difference does context make? As to our stem cell problem, we have no idea whether the biases that seem to have afflicted the President's decision actually generated an irrational decision, nor do we know whether the biases afflicting judicial review would render such review productive or counterproductive. Our own precommitments would press us toward criticizing the decision for restricting research too much, and surely that would drive our application of cognitive psychology to the decision. Deployment of heuristics to criticize the President's decision would be like looking out over a crowd and picking out our friends.

A word of caution is in order regarding the foregoing critique: it is provisional—further research and modeling ought to ameliorate our concerns. Nor are our criticisms limited to cognitive psychology: our pessimism about the ability of cognitive psychology to resolve public law debates about institutional role is not very different from our skepticism about the ability of rational choice theory to resolve the same debates.<sup>59</sup> And we think cognitive psychology already is making a genuine contribution to our understanding of the dynamics of public law. Consider the following example where there has been a significant (and growing) amount of empirical work.

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<sup>59</sup> Compare, e.g., DAVID SCHOENBROD, *POWER WITHOUT RESPONSIBILITY: HOW CONGRESS ABUSES THE PEOPLE THROUGH DELEGATION* (1993) (providing a sophisticated political theory critique of congressional delegation to agencies), with David B. Spence & Frank Cross, *A Public Choice Case for the Administrative State*, 89 *Geo. L.J.* 97 (2000) (putting forth a public choice defense of congressional delegation).

## III

COGNITIVE PSYCHOLOGY CAN CONTRIBUTE TO PUBLIC LAW  
ISSUES WHERE THERE IS AN ADEQUATE EMPIRICAL  
BASE: ISSUES IN MANAGING MASS  
TORT LAWSUITS

Our skepticism knows its limits. Debates over the appropriate role of juries and mechanisms for consolidated adjudication in toxic tort cases are being enriched by experimental as well as theoretical work by cognitive psychologists.<sup>60</sup> For the last twenty years, toxic tort litigation (such as the asbestos litigation) has been handled in large part through large class actions and mass consolidations.<sup>61</sup> Ostensibly, these are efficient ways to handle cases involving thousands of similarly situated victims, but cognitive psychology has generated robust criticisms of consolidated cases whose liability and damages are set by juries or—in fear of large jury verdicts—based upon the harms to a few assertedly “representative” plaintiffs. Because social scientists and law professors have generated context-specific research focusing on this problem, some of the concerns we raised about the application of cognitive psychology to issues of institutional structure are ameliorated.<sup>62</sup>

Contrary to attorney lore, empirical studies do not support the proposition that juries are generally pro-plaintiff. In cases involving ordinary injuries, corporate defendants are no more likely to be held liable by juries or judges than other defendants. However, according to long-term studies by the Institute for Civil Justice, “when they were sued by plaintiffs with severe, permanent injuries, corporations were found liable more often than other defendants,” and such plaintiffs were paid significantly larger awards—findings that were constant over several decades.<sup>63</sup> This description fits the early asbestos cases, in

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<sup>60</sup> The analysis in this part draws from the statements of Professor Eskridge in testimony before the House Committee on the Judiciary. See *Jumbo Consolidations in Asbestos Litigation: Hearing on H.R. 1283 Before the House Committee on the Judiciary*, 106th Cong. (1999) [hereinafter Eskridge Testimony] (prepared statement of William N. Eskridge, Jr., Professor, Yale Law School), available at <http://www.house.gov/judiciary/eskr0701.htm>.

<sup>61</sup> FED. R. CIV. P. 23 (class actions); FED. R. CIV. P. 42(a) (consolidations); see DEBORAH R. HENSLER ET AL., *ASBESTOS IN THE COURTS* (1985); THOMAS E. WILLGING, *ASBESTOS CASE MANAGEMENT: PRETRIAL AND TRIAL PROCEDURES* (1985); THOMAS E. WILLGING, *TRENDS IN ASBESTOS LITIGATION* (1987); Linda S. Mullenix, *Beyond Consolidation: Postaggregative Procedure in Asbestos Mass Tort Litigation*, 32 WM. & MARY L. REV. 475 (1991).

<sup>62</sup> Specifically, problems 1 (context specificity) and 3 (methodological concerns) are greatly ameliorated by the studies described below. Problem 2 (offsetting biases afflicting the proposed reform) is not negated in our account, but other scholars might be able to ameliorate it.

<sup>63</sup> AUDREY CHIN & MARK A. PETERSON, *DEEP POCKETS, EMPTY POCKETS: WHO WINS IN COOK COUNTY JURY TRIALS* 42–43 (1985). On juries' tendencies to be more generous on damages issues, see, for example, Harry Kalven, Jr., *The Dignity of the Civil Jury*, 50 VA. L. REV. 1055 (1964) (comparing jury verdicts to judges' statements of what they would have

which people dying of mesothelioma and various types of cancer were suing corporate suppliers of asbestos. The *sympathy effect* in these kinds of cases meant that juries tended to interpret scientific and other evidence in ways relatively favorable to most-injured plaintiffs. For this reason, juries have tended to undervalue expert evidence showing that the asbestos plaintiff's lung cancer was just as likely caused by his two-pack-a-day smoking habit, for example.<sup>64</sup>

Plaintiffs' counsel can exploit the sympathy effect by associating most-injured plaintiffs with less- or least-injured plaintiffs in a consolidated action. Researchers found this to explain the large verdicts in some of the early asbestos consolidations. According to the researchers, there was what we call a *piggyback effect*: jurors focused on the plaintiff with the most serious injury and assumed, incorrectly, that other less-injured plaintiffs would become similarly ill.<sup>65</sup> The piggyback effect was due in part to anchoring: jurors latched onto the most emotionally salient factor as an anchor, which was then adjusted by other factors, rather than trumped by these factors.<sup>66</sup> Because of information overload, jurors could not process large amounts of information and were therefore selective about what they remembered.<sup>67</sup> Information overload exacerbated the piggyback effect in complicated cases: jurors overloaded with information have tended to anchor on dramatic and sympathetic plaintiffs whom the jurors then relate to the other less-injured plaintiffs.

Unlike other recent applications of cognitive theory to legal institutions and proceedings, this one was immediately tested by social scientists under law-like circumstances. Scientists tested the piggyback effect in a controlled experimental setting involving several dozen mock juries that heard the same case with variations for number of

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awarded); David B. Rottman, *Tort Litigation in the State Courts: Evidence from the Trial Court Information Network*, St. Cr. J., Fall 1990, at 4-18.

<sup>64</sup> Interviews with Texas jurors in consolidated asbestos litigation found this to be the case, and the sympathy effect led the jury to disregard the judge's instructions. MOLLY SELVIN & LARRY PICUS, *THE DEBATE OVER JURY PERFORMANCE: OBSERVATIONS FROM A RECENT ASBESTOS CASE* 24-35 (1987). For a dramatic example of the sympathy effect, see *Dunn v. Owens-Corning Fiberglass*, 774 F. Supp. 929 (D.V.I. 1991) (yielding a jury verdict of \$26,300,000 for a plaintiff who was perceived to be seriously ill and claimed to have asbestosis).

<sup>65</sup> See SELVIN & PICUS, *supra* note 64, at 24-25.

<sup>66</sup> For example, surveys have shown that variation in the plaintiffs' requested damage award strongly affects jury awards because of anchoring. See Robert MacCoun, *Inside the Black Box: What Empirical Research Tells Us About Decisionmaking by Civil Juries*, in *VERDICT: ASSESSING THE CIVIL JURY SYSTEM* 137, 157 (Robert E. Litan ed., 1993).

<sup>67</sup> See Jane Goodman et al., *What Confuses Jurors in Complex Cases*, *TRIAL*, Nov. 1985, at 66 (finding juries are most easily confused when evaluating conflicting medical and economic damages testimony in complex cases, including asbestos cases). For a vigorous defense of jury abilities to process complex information, see Richard Lempert, *Civil Juries and Complex Cases: Taking Stock After Twelve Years*, in *VERDICT: ASSESSING THE CIVIL JURY SYSTEM*, *supra* note 66, at 181.

plaintiffs and severity of injury.<sup>68</sup> Consistent with the hypothesized piggyback effect, scientists found that aggregation of most-injured plaintiffs with less-injured plaintiffs significantly increased the mean awards to the latter, and had the greatest piggyback effect on the least-injured plaintiffs. With no evidentiary basis, the juries assumed that the less- and least-injured claimants would ultimately suffer the same fate as the most-injured claimants. Beyond the earlier hypothesis, researchers also found that the heterogeneity of the plaintiff group increased the variability of liability findings (i.e., more juries found no liability at all), and that the most-injured plaintiffs received significantly higher verdicts when their cases were tried alone. Therefore, the piggyback effect proved to be more complex than hypothesized: it seems to allow plaintiffs' counsel to get much greater recoveries on average for less- and least-injured plaintiffs and thereby multiplies counsel's contingency fees, but does so at significantly higher risk for the most-injured plaintiff (lower verdicts and a heightened possibility of nonrecovery).

This research suggests that normal consolidations are problematic in the asbestos context because of the sympathy effect as exacerbated by the piggyback effect. When the consolidation reaches double digits, triple digits, or even higher, as has occurred in subsequent consolidations, juries are theoretically less able to do their jobs objectively because of cognitive overload, which typically but unpredictably yields verdicts exceeding ideal valuations. In the jumbo consolidation, wherein a mob of plaintiffs sue a mob of defendants, these fairness problems are further multiplied. The fairness problems are exacerbated because the phenomena identified above become more pronounced: many more least-injured or uninjured plaintiffs can piggyback onto the claims of most-injured plaintiffs. Indeed, the ratio of least-injured or uninjured to most-injured can increase significantly—in a normal consolidation of five plaintiffs, at least 20% of the group (one person) must be severely injured for the piggyback effect to kick in. In a consolidation of one thousand plaintiffs, the effect can occur when 5% or even 1% of the group is severely injured, especially if the plaintiffs' counsel or a sympathetic judge is able to select the plaintiffs who will "represent" the group at certain points at trial on liability or damages. In many of the jumbo consolidations, plaintiffs' counsel have either chosen the representative plaintiffs or played a major role in making that choice.

For similar reasons as developed above, the problem of information overload can be expected to skew jury decisionmaking, thereby

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<sup>68</sup> Irwin A. Horowitz & Kenneth S. Bordens, *The Effects of Outlier Presence, Plaintiff Population Size, and Aggregation of Plaintiffs on Simulated Civil Jury Decisions*, 12 LAW & HUM. BEHAV. 209 (1988).

making juries less predictable, less likely to differentiate among plaintiffs, and more likely to anchor on the most-injured plaintiff to deliver awards in line with plaintiffs' exaggerated relief requests. The overload problem should also become unmanageable. A typical juror will not be able to follow so many plaintiffs and defendants, and there is little a judge can do to help the jurors; many judges will be unable to follow the evidence themselves. In light of the additional pressure to get rid of hundreds or thousands of cases and procedural resistance by defense counsel, judges in jumbo consolidations will also tend to be less impartial. Shortcuts are inevitable, and given the sympathy and piggyback effects, the shortcuts will tend to work against the interests of defendants and, sometimes, most-injured plaintiffs in favor of less-injured and uninjured plaintiffs and their attorneys.

The foregoing are the reasons why the jumbo consolidations exacerbate the perverse effects of normal consolidations. Attribution theory suggests that the perverse effects will be multiplied, sometimes leading to extraordinarily large and unjustified verdicts for less-injured and uninjured plaintiffs and contingency fees for their counsel. Under attribution theory, common characteristics of people who are perceived to be members of a large group are attributed to situational factors outside of any individual's control, while characteristics of isolated people tend to be attributed to dispositional factors such as choice.<sup>69</sup> The resulting implications are that clustering asbestos plaintiffs in large groups—the goal of a jumbo consolidation—makes juries less likely to attribute any personal responsibility for cancer to smoking or other choices by plaintiffs (to the extent that juries can even distinguish among plaintiffs), and to find corporate defendants liable for large damages. In their controlled mock jury experiment, the scientists who tested the piggyback effect found this kind of *collective harm effect*: juries told that the injured plaintiffs were part of a large group (hundreds) of victims were significantly more likely to attribute responsibility (liability) for their injuries to corporations and to punish the corporations with larger damage awards compared to juries who were told nothing about the larger victim population, or who were told that it was modest (twenties) in size.<sup>70</sup>

The foregoing synthesis of cognitive theory and empirical tests tentatively supports the normative conclusion that jumbo consolidations and class actions lead to overvaluation of the most questionable claims, undervaluation of the most deserving claims, and excessive verdicts and settlements. This pattern of awards is not only inefficient

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<sup>69</sup> See Michael Ross & Garth J.O. Fletcher, *Attribution and Social Perception*, in THE HANDBOOK OF SOCIAL PSYCHOLOGY 73 (Gardner Lindsey & Elliot Aronson eds., 3d ed. 1985).

<sup>70</sup> See Horowitz & Bordens, *supra* note 68, at 212, 225–26.

and unfair to defendants, but it is also unfair to some most-injured plaintiffs; it is greatly unfair to plaintiffs whose injuries are not yet apparent, because asbestos companies have been driven bankrupt by the huge awards and settlements, leaving these plaintiffs with no relief. Even judges are paying a price for their largesse. Believing that jumbo consolidations will clear their dockets, judges have learned that a structure for litigation that rewards marginal claims will produce much more litigation and continue to clog dockets for decades. This kind of evidence has also been adduced as a justification for creating an administrative tribunal with injury schedules to handle these matters without juries.<sup>71</sup> One may debate the details or even the wisdom of current proposals, but we think that psychological theory and empirical studies have made solid contributions to the critique of the existing system and to arguments in support of administrative alternatives. Although administrative tribunals have their own biases, the enormous potential for bias in the current system of judicially-encouraged consolidations as combined with jury trials is a compelling argument for change.

#### IV

#### STRUCTURING PUBLIC LAWMAKING TO MINIMIZE THE RISK OF DISASTER: FEDERALISM, CHECKS AND BALANCES, AND SEPARATION OF POWERS

Another utility that cognitive theory may have is, simply put, *illumination*. Like a lighthouse, the theory might more clearly cast the nature of the institutional choices we have made and the trade-offs such choices reflect in the modern state. Consider the following thought experiment.

The Framers of our Constitution wanted energetic governance but were fearful of an overbearing government and of radical, year-to-year shifts in state policies and rules.<sup>72</sup> Assuming this goal, cognitive theory would suggest that the Framers should have avoided a parliamentary system in which an essentially unicameral legislature selects the chief executive and exercises plenary authority. Theoretically—and therefore subject to our earlier cautions—one would expect this governmental design to be particularly susceptible to the following decisionmaking biases:

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<sup>71</sup> See, e.g., Eskridge Testimony, *supra* note 60; Lester Brickman, *The Asbestos Litigation Crisis: Is There a Need for an Administrative Alternative?*, 13 CARDOZO L. REV. 1819 (1992).

<sup>72</sup> For a helpful overview, see generally JACK N. RAKOVE, ORIGINAL MEANINGS: POLITICS AND IDEAS IN THE MAKING OF THE CONSTITUTION (1996). This is a thesis we modeled in PPT terms in William N. Eskridge, Jr. & John Ferejohn, *The Article I, Section 7 Game*, 80 GEO. L.J. 523 (1992).

- availability and representativeness heuristics, such that the government would be prone to overreacting to dramatic events or perceived crises by adopting statutes tougher than a longer view of the situation would demand;
- egocentrism, whereby the legislature would assume that the entire populace was similar to members of the legislature or their allies, as well as attribution of bad choices to minorities who do not conform, such that the legislature would impose excessive disabilities on minorities; and
- polarization, whereby the legislature and its committees would adopt extreme positions as to matters on which there was little disagreement within the legislature.

In fact, the defenders of the Constitution made arguments that resonate with these concerns:

- Madison's *Federalist No. 10* worried that temporary "faction[s]" would form around an emotional issue to push ill-conceived laws through the legislative process.<sup>73</sup>
- Hamilton's *Federalist No. 78* worried that the legislature would, when in ill-humor, adopt "unjust and partial laws."<sup>74</sup>
- Madison's *Federalist No. 10* worried that homogeneous elites generally dominated small republics, with malign results for minorities.<sup>75</sup>

These parallels between modern theory and historical argumentation are per se interesting and give us a different perspective as to the Framers' design.

As every high school student used to know, the delegates at Philadelphia made a number of creative choices as to the design of our constitutional governance. One can understand or defend these design choices after the fact as strategies to offset the most feared decisionmaking biases. Thus, the Framers' division of the legislature into two different chambers with the members of the "upper" chamber having long and staggered terms ought to ameliorate the predictable operation of the availability and representativeness heuristics. Ditto for the Article I, Section 7 requirement that bills must be presented to the President, who may veto them before they become law. Such a complex design for making statutory law will be slower to respond to national problems, but will do so in a more moderate fashion that

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<sup>73</sup> THE FEDERALIST NO. 10 (James Madison). Note that Madison's idea of a temporary emotionally charged *faction* is not the same as the modern concept of a permanent and quite rational *interest group*.

<sup>74</sup> THE FEDERALIST NO. 78, at 470 (Alexander Hamilton) (Clinton Rossiter ed., 1961).

<sup>75</sup> THE FEDERALIST NO. 10 (James Madison). Madison's idea of a *minority* did not focus on ethnic, racial, or sexual minorities, as we do today. Property owners were a "minority" for whom Madison was especially solicitous, but the term probably would have connoted religious minorities in that era as well.

takes into account more perspectives.<sup>76</sup> The Framers' decision to separate lawmaking (Congress, with a presidential veto) from law implementation (the President and the Supreme Court) is also a rational response to the most feared legislative decisional biases. If Congress tried to make radical changes affecting Americans' traditional liberties and freedoms, the independent implementers could be expected to apply the same rules to the allies of those seeking enactment and, more generally, to soften or even nullify the most extreme applications.

The foregoing exercise does not rely on cognitive psychology to prove or demonstrate the normative attractiveness of our institutional design; its goal is merely to articulate that design in terms that give us a new angle for understanding the Framers' choices. One payoff for this kind of thought experiment is that it gives us a fresh perspective on some intense debates about more controversial theses regarding the Framers' expectations. As the best example, a group of legal scholars maintain that the Framers contemplated a *unitary Executive*, whereby all executive (implementational) power was concentrated in the hands of one person, the President; under this theory, any and all "executive" officials are responsible to that one mega-official.<sup>77</sup> Legal historians have vigorously criticized this theory as anachronistic.<sup>78</sup>

Cognitive psychology lends mild support to the critics in this way: if, as historians document, the Framers' primary fear was the cluster of the liberty-restricting decisional biases identified above, the last thing they would have wanted was a powerful single decisionmaker who could operate independently of other government organs. Such an official could easily fall into a maverick mode of decisionmaking, and social scientists have suggested that the President is particularly susceptible to the availability and representativeness heuristics.<sup>79</sup> This idea lends support to those theorists who posit that the Framers did not intend a rigid separation of powers and wanted a system of checks and balances as much as a system in which each branch is specialized. Those notions can be criticized from a variety of perspectives, but cognitive theory helps us understand the underlying pathologies that were apparently the Framers' targets.

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<sup>76</sup> We model the moderation point, and demonstrate the link to the Framers' actual expectations, in Eskridge & Ferejohn, *supra* note 72, at 528–33.

<sup>77</sup> See Steven G. Calabresi & Saikrishna B. Prakash, *The President's Power to Execute the Laws*, 104 YALE L.J. 541, 569 (1994).

<sup>78</sup> See Martin S. Flaherty, *The Most Dangerous Branch*, 105 YALE L.J. 1725, 1755–76 (1996).

<sup>79</sup> See IRVING L. JANIS, *GROUPTHINK: PSYCHOLOGICAL STUDIES OF POLICY DECISIONS AND FIASCOES* 19–47 (1982) (studying the decisional mistakes in the Bay of Pigs fiasco). We owe this idea and reference to Rachlinski & Farina, *supra* note 32.

We are, therefore, open to the notion that cognitive psychology enriches our understanding of the overall design and dynamics of lawmaking and law implementation in the United States. There is another interesting dimension of this point. If one learns nothing else from cognitive psychology, it is that smart, well-motivated, and informed decisionmakers make mistakes. We think political systems will make lots of mistakes whatever their structure. A good strategy for dealing with inevitable mistakes is to minimize the risk of large-scale disaster on the one hand, and to obtain useful feedback that helps identify mistakes on the other hand. The trick is to learn from our mistakes without paying too high a price.

This trick provides an underappreciated reason why the Framers chose to structure our governance around the concept of *federalism*: the state and the national governments can learn from each other's mistakes! Federalism permits American governance to engage in mistake-filled experiments without paying too high a social cost. This theory is simple.<sup>80</sup> A political entrepreneur proposes a bold policy: banning cellular phones on the highway. A lot of accidents occur when drivers are using cellular phones, but users testify that they would suffer economic and other losses if they could not use cellular phones when driving. In balancing these various concerns, under either a public choice or a republican theory of politics, both lobbyists and legislators fall prey to decisionmaking biases: they overgeneralize from isolated but dramatic accidents; anchor onto a point of view with which they are familiar (or a group to whom they are indebted) and ignore evidence to the contrary; rush to legislate if they perceive the issue as one that is urgent; and so forth. There may be no clear right answer, or the answer might be obscure to the legislators. In most states, nothing is adopted, but State A adopts the radical policy of barring cellular phones by anyone driving a vehicle in the state. This might be a bad rule, but this is an error that will likely be exposed by interested drivers or their insurers. If experience with the rule shows it to be a bad one, the social costs of the rule will be localized (and of course, the rule can be repealed). If experience shows the rule to be a good one, that experience becomes knowledge that other states can use to reduce their uncertainty as they debate the issue.<sup>81</sup> If several states have similarly good experiences, the federal government is more likely to adopt the rule on a national basis. At that point, the risks of making a huge mistake have been very much reduced.

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<sup>80</sup> See *Gregory v. Ashcroft*, 501 U.S. 452, 458 (1991); *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting); Akhil Reed Amar, *Of Sovereignty and Federalism*, 96 YALE L.J. 1425 (1987).

<sup>81</sup> Cf. PAUL E. PETERSON, *THE PRICE OF FEDERALISM* (1995) (states have incentives to repeal stupid police power rules and adopt smart ones, lest they lose citizens and business to other states).

This simple theory is unfortunately subject to a simple problem: interest groups and legislators in other states and at the federal level will draw mistaken inferences from State A's experience because of the familiar cognitive biases and heuristics, of course. Thus, insurers in State B will seize upon any diminution in State A accident levels as evidence that a radical ban of cellular phones is a good policy; cellular phone companies will seize upon any business relocation away from State A as evidence that the rule is bad for the economy. Nonetheless, the only claim that federalism needs to make is that this process reduces the risk of really bad decisions, not that it eliminates bad decisions altogether. It is plausible to think that the more focused experiment reflected by this example generates better, more pertinent information, and that flawed decisionmakers can thereby make fewer errors. The same decisionmaking advantage ought to accrue from nationwide statutes that allow states to devise their own mechanisms for implementation (within certain parameters, to avoid races to the bottom).

## V

AMELIORATING NORMATIVE RISKS: SUBSTANTIVE CANONS OF  
STATUTORY CONSTRUCTION

A larger point that emerges from our line of thought is that public law is an ongoing process of error and amelioration, new error and new adjustment. Any statute that seeks to affect human conduct—especially statutes seeking strong changes in conduct (such as the cellular phone law)—will be adopted under conditions of uncertainty, and erroneous inferences will be drawn. Legislators delegate a lot of lawmaking to agencies because of the difficulty they face when correcting their own errors, including cognitive dissonance as well as the excessive costs of monitoring and re-legislating. One role of agencies and possibly of courts should be to correct the clearest errors and to mitigate the harm that can be caused by possible errors. This lesson of cognitive psychology finds direct support in the Framers' original expectations with regard to Article III's "judicial Power" in the U.S. Constitution,<sup>82</sup> and is probably congenial to the judicial power granted by many state constitutions as well. A powerful argument for dynamic statutory interpretation—statutes evolve after enactment and are increasingly applied in ways that the authors would not have expected—rests in the idea of a cautious learning curve for public law. Statutory interpreters should construe laws to reduce the risk of unan-

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<sup>82</sup> See THE FEDERALIST NO. 78, *supra* note 74, at 470 (stating that courts exist in part to "mitigate" the effect of "unjust and partial laws"); William N. Eskridge, Jr., *All About Words: Early Understandings of the "Judicial Power" in Statutory Interpretation, 1776–1806*, 101 COLUM. L. REV. 990 (2001).

ticipated error costs of a large magnitude. This may sound like an activist approach to statutory interpretation, and it may well be, but it is one followed by the most anti-activist judges.

For example, Justice Scalia bent the hell out of the language of the Bankruptcy Code in his *BFP v. Resolution Trust Corp.* ruling that courts will not second-guess the price fetched by the bankrupt's property at a foreclosure sale.<sup>83</sup> He justified the nontextual interpretation as necessary to avoid the risk of unsettling state property law. We do not know whether this risk was as large as Justice Scalia feared, but it is the sort of consideration that we think is valid for statutory cases. By the way, one of us has been a vigorous critic of the decision in question because it slights both the text and the expectations of the enacting Congress,<sup>84</sup> but we believe the cognitive psychology insight provides a fulcrum to consider the decision in a friendlier fashion.

Most of the substantive canons of statutory construction can be defended along these cognitive lines,<sup>85</sup> and so psychological theory provides a fresh way to understand the function of these canons. The *rule of continuity*, requiring clear evidence that the legislature wanted to abandon a longstanding policy, rests most obviously on this cognitive point, for such a rule makes it less likely that productive or relied-upon laws will be inadvertently unsettled by new legislation.<sup>86</sup> The *rule of lenity*, which requires a statutory clear statement before courts will apply criminal laws to an accused, can best be justified as reducing the risks of terrible error. This would be most true if the rule were strongly applied to acts which are not *malum in se* (per se awful). The various *federalism canons*, exemplified in the Scalia opinion above, also have this feature. In adopting bold public policies, Congress tends to overlook their costs, especially their burdens on the states, and the federalism canons operate to reduce the risk that Congress will impose large burdens on the states without a full and fair discussion of those burdens and their justifications. All of these canons bend statutory texts in ways not otherwise justified by their words, or by the origi-

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<sup>83</sup> Compare *BFP v. Resolution Trust Corp.*, 511 U.S. 531 (1994) (Scalia, J., for the Court), with *id.* at 549 (Souter, J., dissenting) (showing persuasively that both statutory text and legislative history supported rule that courts ought defer only when the sale price is "reasonabl[e]" under the statute (alteration in original)).

<sup>84</sup> See William N. Eskridge, Jr. & Philip P. Frickey, *The Supreme Court, 1993 Term—Foreword: Law as Equilibrium*, 108 HARV. L. REV. 26, 83–86 (1994) (criticizing *BFP* as an example of "stealth constitutionalism" and finding the Souter dissent more persuasive).

<sup>85</sup> See William N. Eskridge, Jr. & Philip P. Frickey, *Quasi-Constitutional Law: Clear Statement Rules as Constitutional Lawmaking*, 45 VAND. L. REV. 593, 619–29 (1992) (surveying the federalism canons in particular and analyzing various arguments pro and con); see also Eskridge & Frickey, *supra* note 84, app. at 97, 102–04 (listing the Supreme Court's federalism and other canons of statutory construction).

<sup>86</sup> See David L. Shapiro, *Continuity and Change in Statutory Interpretation*, 67 N.Y.U. L. REV. 921 (1992).

nal expectations of legislators. Their main justification is grounded on notions of fairness and political theory, but cognitive psychology would also appear relevant to their defense and articulation.

Notwithstanding the canons, courts are probably not the best editors of cognitive errors by the legislature. Conventional wisdom has it that agencies are in the best position to correct errors.<sup>87</sup> In cognitive psych-speak, one might say that the overconfidence bias characteristic of agencies pales in comparison with the many more cognitive problems that would be encountered if courts or the presidency were the primary critic. If this is correct, it is a powerful argument for the *Chevron* doctrine, whereby courts are supposed to defer to reasonable agency interpretations of the laws they are charged to implement.<sup>88</sup> Indeed, if the conventional wisdom is correct, then many of the Supreme Court decisions overturning agency actions are not—especially those decisions resting on hypertextualism.

For an example of the complexity of our analysis, consider *MCI Telecommunications Corp. v. American Telephone & Telegraph Co.*<sup>89</sup> In *MCI*, the Supreme Court overturned the Federal Communications Commission's exercise of discretion to "modify" statutory rate filing rules in having granted blanket exemptions to nondominant carriers. The Court's reason was that the word "modify" only allowed a "moderate" change, not a big one. This reason strikes us as rather lame. One definition of "modify" is to make a big change,<sup>90</sup> and the Commission's change was fully in the spirit of the deregulatory statute. However, Justice Scalia's opinion for the Court concluded with the suggestion of a better reason: interpreting the statute to allow the agency to make wholesale changes might be okay in the present case (as the dissent argued) but created great risks of bad policy if the agency were wrong. The choice to make really bad policy should be left to Congress; agencies are best situated to elaborate and apply what Congress has written, not write a whole new statutory scheme.<sup>91</sup> Cognitive psychology not only provides some reasons why this norm might be correct and useful, but also links it with choices the Framers made when they drafted and argued for adoption of the Constitution. Again, a right-wing decision we have criticized in the past<sup>92</sup> proves to

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<sup>87</sup> See, e.g., Jerry L. Mashaw, *Prodelegation: Why Administrators Should Make Political Decisions*, 1 J.L. ECON. & ORG. 81 (1985).

<sup>88</sup> *Chevron U.S.A. Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 843–44 (1984).

<sup>89</sup> 512 U.S. 218 (1994).

<sup>90</sup> Compare *id.* at 239–42 (Stevens, J., dissenting) (citing dictionaries and common usage, including use in legal cases), with *id.* at 225–29 (Scalia, J., for the Court) (making sport of dictionaries deploying the term so broadly).

<sup>91</sup> See *id.* at 233–34; see also *FDA v. Brown & Williamson Tobacco Corp.*, 529 U.S. 120, 159–60 (2000) (citing *MCI* with approval and following the holding).

<sup>92</sup> See Eskridge & Frickey, *supra* note 84, at 73–76.

have more resonance once considered in light of cognitive psychology. The lighthouse function we noted before has relevance to debates about statutory canons.

## VI

### CONCLUSION: COGNITIVE THEORY AND STRUCTURING LAWMAKING TO REDUCE BIAS

Return to this important question of public law: How do we structure lawmaking to reduce biases? Political scientists as well as lawyers have tackled this question from within the public choice and republican traditions. This Symposium poses the question: What, if anything, do theories of cognitive psychology add to this academic discourse? There are three potential contributions that can and are being made by the ever-growing body of heuristics and biases identified by cognitive psychologists. One contribution is critical; two are positive.

1. *Positive Theory: Illuminating Descriptions.* Cognitive theory may be useful as a vocabulary for explaining or even rationalizing institutional arrangements, including legal doctrines, that constitute the lawmaking process. For example, one can understand the rule of lenity as a notice requirement for criminal defendants or as a rule for allocating decisionmaking responsibility for important moral judgments entailed in criminal law. Cognitive psychology suggests another way of explaining the popularity of this canon: because judges will be prone (because of the availability heuristic, hindsight bias, etc.) to attribute criminal liability to particular defendants, they need a rule that requires them to think twice and find a targeted source for such liability in legislation. Such theories may also help us understand how doctrines such as the rule of lenity actually operate. Conventional wisdom supposes that the rule of lenity operates with special force when the alleged criminal conduct is a *malum prohibitum* (a crime because the legislature has made it so) and not *malum in se* (intrinsically evil). Psychology tells us why this may be so: when evaluating an accused criminal, the judge will tend to anchor on her initial impressions of what the criminal has done and will interpret operative legal texts through the lens of those normative impressions. Where the defendant's actions are *mala in se*, most judges will tend to read the legal materials against the defendant; where the actions are *mala prohibita*, many judges will read the materials more leniently. This also helps explain the frequent law-professor complaint that the rule of lenity is unevenly applied: if some judges view the *malum* as intrinsically bad while others see it as only *prohibitum*, then their legal interpretations will tend to diverge.

So, too, one might think of federalism and separation of powers as mechanisms to reduce cognitive errors. Recall our thought experi-

ment: the justifications given by the Constitution's Framers can be explicated in the argot of psychology. Theories of cognitive psychology, under this vision, complement other theories as explanations, but not necessarily as complete justifications, for legal doctrines and institutional arrangements. At the very least, this deployment is illuminating. And it might be more.

2. *Critical Theory.* Theories of cognitive psychology can also be fertile sources for thinking critically about legal doctrine, institutional arrangements, and even general theories about either. For example, one might criticize the notice justification for the rule of lenity along psychological lines: given the enormous complexity of the federal or state criminal code, few if any purported criminals can know which of their activities are actually criminal; information overload makes notice an unrealistic aspiration. This kind of theory can also raise questions about separation of powers and federalism. For instance, a fair amount of cognitive scholarship questions a separation of powers that vests a great deal of decisionmaking authority in one person, such as the President.

Cognitive psychology must also be taken into account in big-theory discussions of public decisionmaking. Long gone are the days when republican theorists could opine that group deliberation, simpliciter, will typically yield reasoned decisions, or even more reasoned decisions than those that could be made by single officials. Decisionmaking heuristics not only afflict group decisionmaking, but some of those heuristics are distinctive to groups—informational cascades and the tendency of like-thinking groups to reach extreme conclusions. So cognitive psychology not only cautions us that well-meaning decisionmakers (or groups of them) will make errors, but also suggests the directions those errors will take. Such theories are also relevant to rational choice accounts of public decisionmaking, which assume either selfishly or ideologically motivated actors. Cognitive psychology insists that both turf-protecting public officials and rent-seeking private groups are prone to systematic errors. On the one hand, public officials may be even more prone to distribute rents to private groups because, for example, the groups are able to manipulate public or official opinion by exploiting vivid events or disasters. On the other hand, rent-seekers may also be susceptible to manipulation and mistakes that reduce their willingness to extract goodies from the political process.

3. *Positive Theory: Prescriptions.* At this point, theories of cognitive psychology serve as a less secure foundation for making positive prescriptions about what legal doctrine should be and how legal institutions should be structured. This may be due, in part, to the fact that it is easier to criticize and ascribe than it is to develop and defend a

normative proposition, as Professors Farina, Rachlinski, and Seidenfeld seek to do in this Symposium. The main limitation giving rise to this difficulty is that there is, usually, not enough of an empirical foundation to justify application of abstract cognitive theory to concrete legal settings. While cognitive theory can still generate useful explanations and criticisms, it cannot yet provide us with answers to most such questions. There are a few areas where there is both a theoretical and an applied experimental basis for making more solid judgments; the phenomenon of jumbo consolidations in asbestos litigation is perhaps a good example.<sup>93</sup> And in the future there will be many others.

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<sup>93</sup> For an early example applying cognitive theory and experimental studies to legal rules, see William N. Eskridge, Jr., *One Hundred Years of Ineptitude: The Need for Mortgage Rules Consonant with the Economic and Psychological Dynamics of the Home Sale and Loan Transaction*, 70 VA. L. REV. 1083 (1984).