

**DISAGREEMENTS ON COLLEGIAL COURTS:
A CASE-SPACE APPROACH[†]**

Dimitri Landa^{}*
*Jeffrey R. Lax^{**}*

ABSTRACT

How do disagreements between judges on collegial (multimember) courts affect legal policy? We address this question by developing an account of the nature of judicial disagreements in the case-space model of judicial choice. We distinguish between different types of disagreement, from disagreements about case facts to disagreements about how legal rules should treat varying case facts, and consider some of the key features of collegial decision making under the circumstances characterized by these different types of disagreements. We argue that attempts to develop collegial legal policy against the background of such disagreements pose distinct challenges with respect to policy interpretation and implementation. These challenges must be confronted by a legal theory and jurisprudence that envision a place for collegial courts.

I. INTRODUCTION

Judges on collegial courts often disagree, but these disagreements can take a number of different forms. What are the consequences of different types of disagreement? What is the relationship between the nature of the disagreement and the consequences thereof? What issues are at stake as to the content and structure of legal policy when judges disagree?

In this Article, we characterize various types of disagreements that may arise between members of a collegial court and draw out possible

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* Assistant Professor, Department of Politics, New York University, e-mail: dimitri.landa@nyu.edu.

** Assistant Professor, Department of Political Science, Columbia University, e-mail: JRL2124@columbia.edu.

implications and consequences of such disagreement, bringing together literatures from political science, economics, and legal and political theory, including normative and positive debates on judicial bargaining, deliberation, and the coherence of legal policy. Specifically, we consider disagreements over the facts of a case (what they are or how sure we are of them), over sub-judgments necessary for the application of a given legal rule, over what the dimensions of the legal rule should be (that is, what the rule should take into account), and over what the requirements should be within and across these dimensions (how these dimensions matter and how the rule structures the inquiry into these dimensions).

Each of these types of disagreement is considered separately, so as to isolate the impact of each on collegial legal output. We evaluate this impact in terms of various metrics, each dealing with some aspect of legal coherence and stability, each relating in some way to the rule of law. A recurring question is, if the individually preferred rules of judges satisfy some desirable property (a legitimacy condition, a rationality condition, or the like), will the collegial product also satisfy this property? If not, what type of disagreement is responsible for preventing the achievement of this property?

In the next Part, we discuss different ways of thinking about judicial preferences and how to model them. In Part III, we consider various ways in which judges might disagree and the implications of each. In particular, we make use of a case-space model to unpack differences in doctrinal preferences that are often buried by other approaches (we contrast models below). In Part IV, we discuss collegial disagreement in the context of deliberation.

II. JUDICIAL PREFERENCES

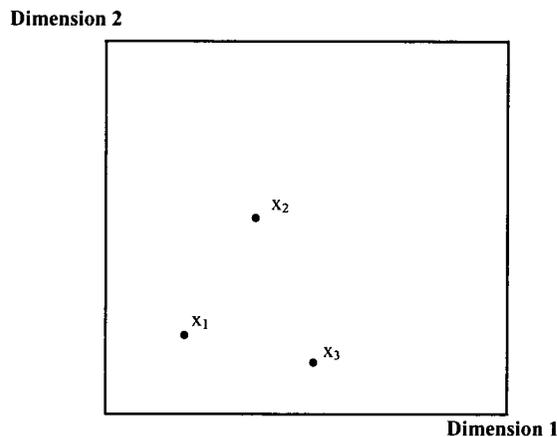
We focus primarily on a refinement of the paradigmatic policy-space model from political science and economics, a refinement we call a case-space model. Both policy-space and case-space models share a geometric setup with the space containing points defined along various dimensions. However, these models differ in how they view the structure of legal policymaking and in how they capture constraints on choice.

A. *Policy Points*

Political science models traditionally represent preferences and

alternatives as points in a policy space.¹ That space can run, in a single dimension, from liberal to conservative, or across any substantive quantity, and can even be multi-dimensional, with each dimension capturing some aspect of the policy in question. Each judge has some ideal point in this space (see, e.g., Figure 1, which shows three points in a two-dimensional space), with each judge preferring the court's single chosen policy point to be as close as possible to his or her own ideal point.

FIGURE 1: COMPARING POINTS OR CASES



This modeling approach, while useful for thinking about some aspects of legal policymaking and judicial behavior, can obscure the very structural aspects of legal policies and policymaking over which judges are likely to disagree. Because it generally rolls any differ-

1 See, e.g., THOMAS H. HAMMOND ET AL., STRATEGIC BEHAVIOR AND POLICY CHOICE ON THE U.S. SUPREME COURT 8–25 (2005) (discussing various theories and models of judicial decision making); Ethan Bueno de Mesquita & Matthew Stephenson, *Informative Precedent and Intrajudicial Communication*, 96 AM. POL. SCI. REV. 755, 755–66 (2002) (presenting an informational model of judicial decision making showing endogenous deference to precedent by policy-oriented appellate judges); McNollgast, *Politics and the Courts: A Positive Theory of Judicial Doctrine and the Rule of Law*, 68 S. CAL. L. REV. 1631, 1631–89 (1995) (developing a positive theory of judicial doctrine and the effects of political competition thereon); Edward P. Schwartz, *Policy, Precedent, and Power: A Positive Theory of Supreme Court Decision-Making*, 8 J.L. ECON. & ORG. 219, 219–21 (1992) (presenting a model of Supreme Court decision making in which the Justices bargain over the level of precedent); Pablo T. Spiller & Matthew L. Spitzer, *Judicial Choice of Legal Doctrines*, 8 J.L. ECON. & ORG. 8, 8–46 (1992) (studying strategic choices between modes of legal decision making and over legal outcomes).

ences between choices into differences in locations of these policy points, it is not clear in this model how the specifics of the case before the court enter into the court's actions, nor how to think about the logical structure of legal doctrine. Is the policy point chosen as the outcome in the case currently before the court? As the content of the opinion? Or an aggregate representation of the outcomes of future cases?

To be sure, applications of the policy-space model are not usually concerned with such structural or substantive aspects of legal policies and policymaking, and so cannot be expected to answer such questions. This discussion does suggest, however, that other analytical tools may be useful in tandem with the standard policy-space approach.

B. *Preferences over Rules and Cases*

An alternate way of modeling courts, a case-space, prioritizes the role of legal cases and explicitly defines the role of legal doctrine in sorting out case dispositions.² This model is tailored to capture cen-

² This model has its origins in Lewis A. Kornhauser, *Modeling Collegial Courts I: Path-Dependence*, 12 INT'L REV. L. & ECON. 169, 169–85 (1992) [hereinafter Kornhauser, *Collegial Courts I*] (proposing a model of legal development when no judge has complete control over the course of the law); Lewis A. Kornhauser, *Modeling Collegial Courts. II. Legal Doctrine*, 8 J.L. ECON. & ORG. 441, 441–70 (1992) [hereinafter Kornhauser, *Collegial Courts II*] (focusing on the complexities that arise in collegial courts when adjudication occurs within a framework of legal doctrine); see also Charles M. Cameron et al., *Strategic Auditing in a Political Hierarchy: An Informational Model of the Supreme Court's Certiorari Decisions*, 94 AM. POL. SCI. REV. 101, 101–16 (2000) (studying the role of asymmetric information in a game-theoretic model of certiorari and compliance in the judicial hierarchy); Bernard Grofman, *Public Choice, Civic Republicanism, and American Politics: Perspectives of a "Reasonable Choice" Modeler*, 71 TEX. L. REV. 1541, 1547–87 (1993) (reconciling the Public Choice and "Civic Republicanism" schools of politics); Jonathan P. Kstellec, *Panel Composition and Judicial Compliance on the U.S. Courts of Appeals*, 23 J.L. ECON. & ORG. 421, 421–44 (2007) (presenting a game-theoretical model of interaction between circuit courts and the Supreme Court that demonstrates how panel composition might affect the likelihood of lower court compliance with Supreme Court doctrine); Jeffrey R. Lax, *Certiorari and Compliance in the Judicial Hierarchy: Discretion, Reputation and the Rule of Four*, 15 J. THEORETICAL POL. 61, 61–86 (2003) (presenting formal models of the interaction between auditing by the Supreme Court and compliance by the lower courts, the effects of the Rule of Four, and strategic reputation building aimed at increasing compliance); Jeffrey R. Lax, *Constructing Legal Rules on Appellate Courts*, 101 AM. POL. SCI. REV. 591, 591–604 (2007) [hereinafter Lax, *Legal Rules*] (using a case-space model of multimember courts to show that a collegial rule exists that captures majoritarian preferences, that a median rule exists even if there is no single median judge, that collegial rules can differ from individual rules, and that judicial institutions affect the stability and enforceability of legal rules); Spiller & Spitzer, *supra* note 1, at 4 (studying strategic choices between modes of legal decision making and over legal outcomes); Dimitri Landa & Jeffrey R.

tral features of judicial politics, such as case facts, legal rules, and case dispositions. In particular, in a case-space, judicial choices are over case outcomes or the content of opinions, which structure future decision making over such case outcomes, and so judicial preferences take the form of preferred rules or sets of case outcomes. Using a case-space, we can explore the content of legal policy and the structure of legal rules with much greater attention to the particulars of legal doctrine and reasoning. On the other hand, while the case-space framework directly targets judicial policymaking, it is considerably newer and not yet as well understood as the standard policy-space, for which well-known results exist as to the analysis of decision-making under majority rule (for example, the Median Voter Theorem).³

We next explain how the case-space model handles various aspects of legal policymaking.

1. Individual Case Dispositions

The fundamental unit of judicial policymaking is the decision in a legal case, which is presented as a bundle of facts. Such facts might include the degree of care taken by one of the parties in a claim of negligence (or the subsidiary facts that yield such a determination), or the location in which a search and seizure took place, or something as simple as the velocity of a car when pulled over for speeding. A judge determines the disposition in a case based on the facts uncovered and presented. Typically, this disposition is a dichotomous judgment for one side or the other, a “yes” (*Y*) or a “no” (*N*). An evidentiary search is admissible or inadmissible. An instance of “speech” is protected free speech or it is not. An affirmative action plan violates the Equal Protection Clause and is unconstitutional or it is constitutional. A driver is speeding or she is not.

While on the surface a case-space looks similar to a standard policy-space, it differs in the assumptions made about the structure of choice. In a policy-space, one makes policy by choosing a point. In a case-space, each point represents not a general policy, but rather a specific (current or potential) case. These case points are exogenously fixed, and when given a case to decide, a court chooses a dis-

Lax, Legal Doctrine on Collegial Courts (Mar. 18, 2007) (unpublished manuscript, on file with the University of Pennsylvania Journal of Constitutional Law) (analyzing complexities of collective decision-making with respect to doctrine choice on collegial courts).

3 See *infra* note 7.

position for it. Judicial policymaking is then the mapping of fixed points (representing cases) to dispositions. In other words, the judicial choice is not “Which point shall I pick?” but rather “Which disposition shall I choose for this given point?”

A case can be modeled formally as a point in the case-space, capturing its location (between 0 and 1) on each factual dimension. Whereas before we assumed the points in Figure 1 represented ideal policy points, we now assume they represent three possible fixed cases to be decided. The factual dimensions capture whatever facts might be considered relevant to the judges. We can assume a judge will prefer one disposition or the other in each case, and so each case can be mapped to a disposition *Y* or *N* in the outcome space. We can next consider how these preferred dispositions fit together.

2. *Dispositions Across Cases*

When appellate courts address judicial policy more generally, they typically do so in opinions that establish (new or modified) legal rules for deciding current and future cases. These rules are intended to dispose of larger sets of current or future cases.

Kornhauser calls a judge’s “list” of preferred dispositions an extended rule.⁴ This generic form of rule simply sorts cases into two sets, one getting *Y* and the other *N*. An extended rule, however, need not have any special substance or structure. The set of cases that get *Y* need not be meaningfully related—extended rules make no use of the spatial setting. They need not be even minimally rational in how they allocate cases to dispositions.

Legal rules, on the other hand, are usually highly structured. As Fallon puts it, “[a] distinctive feature of the Supreme Court’s function involves the formulation of constitutional rules, formulas, and tests, sometimes consisting of multiple parts.”⁵ These rules structure sets of case dispositions, and the exact forms chosen can have very significant effects on how cases are subsequently decided. But what do rules look like and how can we model them?

The conditions that impose rule structure are sometimes best understood as individual rationality conditions and, at other times, as further substantive requirements. Some will apply in a given issue area or doctrine, while others might not. One basic condition on the

4 See Kornhauser, *Collegial Courts I*, *supra* note 2, at 174–85 (defining an extended rule as a list of preferred case dispositions).

5 RICHARD H. FALLON, JR., *IMPLEMENTING THE CONSTITUTION* 5 (2001).

structure of some legal rules, *monotonicity*, is best thought of as an individual rationality condition. To see what this condition requires, code each dimension such that the “mildest” case takes a value of 0 on all dimensions and the most “extreme” case takes a value of 1 on all dimensions (similar to the ordering of policy points in the standard policy-space dimension from least to most). Let more extreme values be those more conducive to a *N* outcome. For example, in equal protection cases (where the question is the constitutionality of a state’s classification scheme based on race, gender, et cetera), the dimensions might include (a) how “suspect” the class invoked is (coded directly), (b) how compelling the state interest is (coded inversely, so that a more compelling interest is more conducive to a *Y*), and (c) how necessary the classification is (again coded inversely). Or these dimensions could be broken down further.

This ordering of cases leads naturally to an intuitive restriction on rules. A rule is monotonic on a given dimension if a judge is *always* weakly more inclined to vote *N* as the score on that dimension increases. A rule is monotonic (as a whole) if it is monotonic on each dimension. A judge may, of course, think any dimension irrelevant (in which case, an increase in the value of a case on that dimension will have no effect on the disposition). To satisfy monotonicity, a judge must not have “perverse” preferences. For example, if one dimension is the degree of probable cause in a search-and-seizure case, a judge does not want to strike searches simply because there is “more” probable cause. Or, more simply, driving slower should not be more likely to yield a “speeding” verdict than going faster.⁶ (While, for now, we assume that monotonicity requires higher values to be weakly conducive to a *N* for all judges, we will relax this assumption later and discuss the implications of disagreement about the “direction” of a dimension).⁷

6 Of course, in other settings, it might be perfectly natural to have a rule in which the middle range was acceptable and the extremes were not—for example, if we ask what speeds are acceptable on the highway.

7 Another condition that amounts to a constraint on the dispositions across cases may be seen to embody a substantive constraint of fairness or the rule of law. We refer to this condition as *non-separability*. To appreciate its weight, note that, setting aside monotonicity, we have so far been discussing the application of rules to an individual case from the perspective of a judge attempting to reach a “correct” case disposition focusing only on the facts of that individual case. In effect, everything that is consequential for deciding a given case was a function of the rule and the facts in that case alone, *and not how other cases were decided*. While monotonicity does link decisions across cases, it does so, in effect, by saying something about the importance of a case value on a given dimension, rather than saying something *substantively important about the relation between cases*.

While all monotonic rules are extended rules, not all extended rules are monotonic. In Figure 1, a monotonic rule would allow the cases represented by both x_1 and x_2 to get Y , or both to get N , or only x_1 to get Y —but a rule under which x_2 gets Y and x_1 gets N would not be monotonic. A monotonic rule would allow *either* disposition for x_3 , no matter what is decided for the other two cases, since x_3 is neither more nor less extreme overall. (An extended rule meanwhile would allow any combination of dispositions. Also, if the direction of monotonicity were flipped, then we would have to flip the discussion of Y and N votes above.)

We next discuss the implications of various forms of disagreement that can arise on a collegial court.

III. DISAGREEMENT IN A POLICY-SPACE

In the standard policy-space model, all disagreement collapses to the location of a single policy point to be chosen, with each judge having some ideal point in this space. If the policy in question can be reduced to a single dimension, and preferences are well-behaved (in the sense of being single-peaked, with this peak at the judge's ideal point), then we can apply the Median Voter Theorem⁸: the ideal point of the median judge would be the unique equilibrium under majority rule. No other point can beat that point in a pairwise comparison by majority vote. On the other hand, if preferences are even mildly complicated, such that they are two-dimensional or higher, then it is highly unlikely that any point will represent a stable choice

Consider, however, the following example. Suppose that our rule yields a disposition Y in a search-and-seizure case involving a racial minority. While the particular elements of the rule that led to this judgment may turn on the proximity of the case values to the rule's relevant dimension thresholds, rule of law considerations may also demand that in a similar case involving a white defendant, the rule render the same disposition *just because* it rendered it in the case of the minority defendant. Another example of non-separable preferences might be Justice Stewart's vote in *Eisenstadt v. Baird*, 405 U.S. 438 (1972), to extend the right to possess contraceptives to unmarried people, given his dissent in *Griswold v. Connecticut*, 381 U.S. 479 (1965), in which the Supreme Court held that married couples had such a right. Justice Stewart might well have felt that since he could not overturn *Griswold*, he preferred to grant the right to all, rather than just to married couples.

If cases are non-separable, then individual judges may face a tension between interests at the level of the individual case versus those across cases. In what follows, we set aside non-separability to focus on additional sources of tension that can arise on collegial courts.

⁸ See DUNCAN BLACK, *THE THEORY OF COMMITTEES AND ELECTIONS* 14–19 (1958) (showing that, when individuals' preference curves are single-peaked, the median individual's preferred choice can defeat any other alternative by majority vote).

under majority rule. Almost always, every policy point can be beaten by some other policy point, and *any* policy could result, given the appropriate agenda (these results are usually called the Chaos Theorems).⁹

In this policy-space world, then, disagreements are either trivial, in that they reduce to whatever the median judge wishes, or fatal in terms of coherence and stability, in that no point can be said to represent the majority and no point will be stable under majoritarian voting. Now, to be sure, these results hold only under relatively structureless bargaining and deliberation. Three formal models of bargaining on a collegial court bring in additional structure, so that disagreement neither reduces to the “trivial” stability of the Median Voter Theorem nor leads to disequilibrium.

Hammond, Bonneau, and Sheehan present an agenda control model, which explicitly assumes that the other Justices voluntarily choose not to challenge the majority author with a competing opinion.¹⁰ Consequently, the model can yield non-median outcomes, as in the well-known take-it-or-leave-it bargaining model,¹¹ while also guaranteeing equilibrium.

Schwartz avoids median outcomes by introducing a second dimension, called “precedent.”¹² Then, to avoid the disequilibrium that would be otherwise induced by two-dimensional bargaining, Schwartz explicitly assumes that the Justices desire greater precedential value for opinions with more attractive policy content and that the Justices can only choose one of two exogenously fixed policy alternatives, by affirming or reversing the lower court’s position.

9 See, notably, Richard D. McKelvey, *General Conditions for Global Intransitivities in Formal Voting Models*, 47 *ECONOMETRICA* 1085, 1085–112 (1979) (proving that “for majority voting over multidimensional alternative spaces, the majority rule intransitivities (cycles) can generally be expected to extend to the whole alternative space”).

10 HAMMOND ET AL., *supra* note 1, at 111.

11 See Thomas Romer & Howard Rosenthal, *Bureaucrats Versus Voters: On the Political Economy of Resource Allocation by Direct Democracy*, 93 *Q.J. ECON.* 563, 563–87 (1979) (examining the implications of a take-it-or-leave-it voting model where the person or group setting the agenda has a monopoly on the power to make proposals); Thomas Romer & Howard Rosenthal, *Political Resource Allocation, Controlled Agendas, and the Status Quo*, 33 *PUB. CHOICE* 27, 27–43 (1978) (explaining that when a person has a monopoly on the power to make a proposal regarding expenditure determinations, he can force voters to vote a certain direction by providing only one alternative to his proposal that is worse than the status quo).

12 See Schwartz, *supra* note 1, at 219–52 (proposing a model of Supreme Court decision making that incorporates both the individual Justices’ policy choices and their decisions about the precedent level of the opinion).

According to Lax and Cameron, Justices are allowed to respond to the initial majority opinion author and are not restricted to two possible policies.¹³ In this model, policy does not reduce to the median voter's ideal rule because of costs and agenda-setting. Opinion writing is modeled as a costly act and an inexact art, so that effort and applied expertise are required for producing high-quality legal opinions. The need for a majority pulls policy toward the median, but the costs of writing opinions allow opinion authors to maintain some control, so that the choice of authors does affect the final policy. In equilibrium, the author of the majority opinion affects the substantive content and legal quality (e.g., clarity, persuasiveness, completeness, or craftsmanship). Non-median policy outcomes thus emerge endogenously, and the Chief Justice's role in assigning the majority opinion again affects policy content and quality.

IV. DISAGREEMENT IN A CASE-SPACE

We identify and consider, in turn, five types of disagreements in a case space. (Note that the three models discussed above are all one-dimensional in policy, so that case-spaces and policy-spaces are largely isomorphic. Thus, they could also be considered under the disagreements about thresholds within dimensions discussed in Part IV.E below.)

A. *Facts*

The most basic legal disagreements entail judgments of fact. The simplest analytical model of such disagreements is derived from the Condorcet Jury Theorem (CJT). In this model, the judges receive different private "signals" about an objectively true state of the world (say, innocent or guilty). The key question, then, is how a collegial court will fare in uncovering truth, as compared to how any one judge would fare.¹⁴

¹³ See Jeffrey R. Lax & Charles M. Cameron, *Bargaining and Opinion Assignment on the U.S. Supreme Court*, 23 J.L. ECON. & ORG. 276, 276–302 (2007) (formulating a model of bargaining on the Supreme Court where the Justice assigned to write the majority opinion gains a degree of monopoly power over policy because of the effort required to write a counter-opinion).

¹⁴ See also Charles M. Cameron & Lewis A. Kornhauser, *Appeals Mechanisms, Litigant Selection, and the Structure of Judicial Hierarchies*, in INSTITUTIONAL GAMES AND THE U.S. SUPREME COURT 173–203 (James R. Rogers et al. eds., 2006) (discussing team models of the judicial hierarchy); Charles M. Cameron & Lewis A. Kornhauser, *Decision Rules in a Judicial Hierarchy*, 161 J. INST'L & THEORETICAL ECON. 264, 264–92 (2005) (same).

The implications of collegiality in relation to such disagreements are ambiguous. If the judges have the same objective (that is, if given the information, they would prefer to make the same choices), disagreements may not be very consequential: the classic CJT result is that the majority rule outcome is more likely to correctly identify the state of the world than any individual judge when the average competence of individual judges to pick a correct alternative is better than random.¹⁵ This result appears to suggest that collegial decision making may, on the whole, be expected to realize the epistemic benefits of collegiality. Alas, this conclusion cannot be pressed too far. Austen-Smith and Banks show that equilibrium behavior by individuals in such a situation almost always requires strategic voting (“against” one’s private signal), with the effect of undermining the positive epistemic implication of the CJT.¹⁶ No less importantly, the CJT model of decision making really applies when the disagreements between judges are only over the facts, rather than over values that are distinct from the facts on the table. As we discuss in Part V on deliberation below, this matters when thinking about the consequences of deliberation before the collective vote. When there are disagreements that extend beyond those on facts, we should expect the disagreements on facts to be considerably harder to bridge.

B. What Judgments Should Be Reached on Each Dimension?

The next category of disagreements concerns the relationship between rules and facts. Holding fixed both the facts in a case and the rules, the judges could disagree in their judgments as to whether the facts meet the rule’s requirements. Disagreement over such judgments is the domain of the “doctrinal paradox” identified by Kornhauser and Sager.¹⁷ It demonstrates that if the judges disagree about

15 See Nicholas R. Miller, *Information, Electorates, and Democracy: Some Extensions and Interpretations of the Condorcet Jury Theorem*, in INFORMATION POOLING AND GROUP DECISION MAKING: PROCEEDINGS OF THE SECOND UNIVERSITY OF CALIFORNIA, IRVINE, CONFERENCE ON POLITICAL ECONOMY 173 (Bernard Grofman & Guillermo Owen eds., 1986) (providing a precise statement of the conditions for the theorem).

16 See DAVID AUSTEN-SMITH & JEFFREY S. BANKS, POSITIVE POLITICAL THEORY I: COLLECTIVE PREFERENCE 69 (1999) (discussing collective choice models as a means of understanding judicial decision making).

17 See Lewis A. Kornhauser & Lawrence G. Sager, *The Many as One: Integrity and Group Choice in Paradoxical Cases*, 32 PHIL. & PUB. AFF. 249, 249–76 (2004) (discussing paradoxes that can arise in group adjudication); Lewis A. Kornhauser & Lawrence G. Sager, *The One and the Many: Adjudication in Collegial Courts*, 81 CAL. L. REV. 1, 1–59 (1993) (introducing the “doctrinal paradox” in judicial decision making); Lewis A. Kornhauser & Lawrence G. Sager, *Unpacking the Court*, 96 YALE L.J. 82, 82–117 (1986) [hereinafter Kornhauser &

legal judgments in the case to be decided, then the method by which they aggregate their judgments can affect the outcome. The “doctrinal paradox” can be illustrated as follows.¹⁸ Suppose that a criminal appeals her conviction on two grounds, either of which would be sufficient and at least one of which would be necessary to reverse the conviction. The court is to decide by majority rule, and the individual judges arrive at the following evaluations of the relevant issues:

	ISSUE 1	ISSUE 2	DISPOSITION
JUDGE 1	Reverse	Affirm	Reverse
JUDGE 2	Affirm	Reverse	Reverse
JUDGE 3	Affirm	Affirm	Affirm

In this case, Judges 1 and 2 think the case, as a whole, warrants reversal, and so, by majority vote, the conviction should be reversed. On the other hand, Judges 2 and 3 think Issue 1 does not warrant a reversal, and Judges 1 and 3 think Issue 2 does not warrant a reversal. Therefore, applying the majority vote to each issue separately, the court would find that no issue warrants a reversal, and so the conviction should be affirmed. Thus, (a) aggregating individually preferred dispositions, resulting from judges applying the rule to their own sets of individual judgments, yields the opposite result from (b) voting one by one over the preliminary legal judgments as to the facts and then applying the rule to this aggregated set of judgments. A growing body of literature analyzes how widespread these problems are and considers further implications of the basic paradox.¹⁹

Sager, *Unpacking*] (challenging conventional understandings of adjudication through the lens of group decision making); see also Bruce Chapman, *More Easily Done than Said: Rules, Reasons and Rational Social Choice*, 18 OXFORD J. LEGAL STUD. 293, 293–329 (1998) (discussing “concept sensitivity” as a means of maintaining equilibrium in judicial decision making).

- 18 See Kornhauser & Sager, *Unpacking*, *supra* note 17, at 115 (challenging conventional understandings of adjudication through the lens of group decision making).
- 19 See generally Christian List, *A Possibility Theorem on Aggregation over Multiple Interconnected Propositions*, 45 MATHEMATICAL SOC. SCI. 1, 1–13 (2003) (showing that the doctrinal paradox may be avoided by introducing an appropriate domain restriction called unidimensional alignment); Christian List & Philip Pettit, *Aggregating Sets of Judgments: An Impossibility Result*, 18 ECON. & PHIL. 89, 89–110 (2002) (using the idea of the doctrinal paradox in group decision making to illustrate a general impossibility theorem); Christian List & Philip Pettit, *On the Many as One: A Reply to Kornhauser and Sager*, 33 PHIL. & PUB. AFF. 377, 377–90 (2005) (challenging the thesis of Kornhauser and Sager regarding the importance of a unified voice in group decision making); Philip Pettit, *Deliberative Democracy and the Discursive Dilemma*, in SOCIAL, POLITICAL, AND LEGAL PHILOSOPHY: PHILOSOPHICAL ISSUES VOLUME 11 268, 268–99 (Ernest Sosa & Enrique Villanueva eds., 2001) (discussing

The remaining types of disagreements can be understood as differences in judges' preferred rules.

C. Which Dimensions Should Be Relevant Under a Rule?

We start with a simplification of the case-space, in which dimensions are dichotomous: the case takes a value of 0 or 1 on each dimension. Next, the rule specifies which of these dimensions are relevant. We assume that a case value of 1 weakly contributes to a case disposition of *Y*, and, with some abuse of language, say that a case dimension is contributory if the case has the value of 1 on that dimension. Finally, assume that dimensions are additive, in the sense that all that matters to any judge is the number of relevant dimensions on which the case has the value of 1: if that number exceeds some specified threshold, then the disposition is *Y*; otherwise, it is *N*. Such rules, which we refer to as simple additive rules, are representable by a pair: a vector identifying relevance for each dimension and a threshold for a disposition.

The case (1, 0, 1) will be decided as *Y* under rule ((1, 1, 0), 1)—the first case dimension is both contributory and relevant, and this is sufficient under threshold 1. The third dimension in this case is contributory but irrelevant; the second dimension is not contributory, but would be relevant if it were contributory. However, the decision in this case would be *N* under the rules ((1, 1, 0), 2) or ((0, 1, 0), 1). Under the former rule, only one contributory dimension is relevant and two are required; under the latter rule, only one relevant dimension is required, but neither of the dimensions that are contributory in this case are relevant. The case (1, 1, 0) would receive decision *Y* under any of these rules.

Despite the restrictions above, simple additive rules already encompass a wide variety of legal tests. Suppose there are *m* relevant dimensions in the rule. At one extreme is the strict or conjunctive rule, one that requires each and every relevant factor to exist to get a *Y* (rule threshold is *m*). One such test is the so-called Lemon Test formulated by the Supreme Court in *Lemon v. Kurtzman*.²⁰ This three-pronged test for a law to be constitutional under the Establishment Clause of the First Amendment requires that the law have a legitimate secular purpose, that it must not have the primary effect of advancing

whether deliberative democracies should focus on reasoning at an individual or group level).

20 403 U.S. 602, 612–13 (1971).

or inhibiting religion, and that it must not involve an excessive entanglement of government and religion. All three prongs are necessary. Seemingly at the other extreme is a weak or disjunctive test, where the contribution of any one relevant factor is sufficient (rule threshold is 1). Logically, of course, these are structurally equivalent: one could symmetrically define the Lemon Test as a strictly disjunctive test which yields a *N* under the condition that any one of its prongs is not satisfied.

A qualitatively different test is the intermediate test, in which meeting the threshold requires more than one dimension but less than all dimensions. A good example of this is the Winston Test formulated by the Second Circuit in *Winston v. Mediafare Entertainment Corp.*,²¹ which establishes what counts as a binding agreement as to pre-contractual liability. The test is described in a subsequent Second Circuit decision, *Ciaramella v. Reader's Digest Association*²²:

This court has articulated four factors to guide the inquiry regarding whether parties intended to be bound We must consider (1) whether there has been an express reservation of the right not to be bound in the absence of a signed writing; (2) whether there has been partial performance of the contract; (3) whether all of the terms of the alleged contract have been agreed upon; and (4) whether the agreement at issue is the type of contract that is usually committed to writing. No single factor is decisive, but each provides significant guidance.²³

The court cites *Winston* itself as a case wherein the agreement was found not binding on appeal because "three of the four factors indicated that the parties had not intended to be bound in the absence of a signed agreement."²⁴ In other words, one relevant factor is insufficient, and not all relevant factors are necessary, making this an intermediate test.²⁵

21 777 F.2d 78, 80 (2d Cir. 1986).

22 131 F.3d 320, 323 (2d Cir. 1997).

23 *Id.* at 323 (citations omitted).

24 *Id.*

25 One special form of intermediate test is a balancing test, which weighs competing interests. The implicit claim is that if there is an equal "degree of satisfaction" of the list of relevant factors, then the outcome that is favored by the majority of the factors ought to be upheld. The intuition here is that if this is not the case—that is, if some factors are being privileged over others—then that would be made an explicit part of the legal doctrine in the first place. If some factors are not so privileged, the straightforward meaning of the doctrine would be that if there are *n* factors, then the satisfaction of $(n + 1)/2$ of them is decisive. Balancing tests that explicitly specify factors may be given a similar interpretation, and the more explicit and detailed the specification of factors, the more plausible this interpretation. For instance, it is often claimed that Scalia and Thomas favor bright-line rules and that Kennedy prefers balancing tests for their greater flexibility. As stated, this disagreement appears to be about the non-ideological view of law and doc-

What are some of the consequences of disagreements with respect to the relevance of particular rule dimensions? Suppose that we have a three-judge court, with judges described by their preferred simple additive rules over three possible legal/factual dimensions. Suppose, further, that Judge 1 believes the first and second dimensions to be relevant, while Judge 2 believes only the first dimension is relevant, and Judge 3 believes both the first and the third dimensions are relevant. Further, let each judge's preferred rule require a threshold of 1—that is, if the case has at least one relevant contributory dimension, then the preferred disposition is *Y*. Consider the following matrix of possible cases and preferred dispositions. The first row describes cases, the next three rows identify the preferred dispositions in those cases for each of the three judges, and the last row records the collegial disposition for each case, arrived at by applying simple majority rule to the judges' preferred dispositions:

CASES	(1, 1, 1)	(1, 1, 0)	(1, 0, 1)	(0, 1, 1)	(1, 0, 0)	(0, 1, 0)	(0, 0, 1)	(0, 0, 0)
JUDGE 1	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>N</i>
JUDGE 2	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>N</i>
JUDGE 3	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>Y</i>	<i>N</i>
COURT	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>N</i>

Consider now whether there exists a rule similar in structure to the judges' preferred rules (that is, a simple additive rule) that yields this set of collegial dispositions. Any rule with the threshold 2 or 3 fails for the case (1, 0, 0). To see that every rule with the threshold 1 fails as well, note that if the second rule dimension is relevant, then the disposition in (0, 1, 0) cannot be *N*; similarly, if the third rule dimension is relevant, then the disposition in (0, 0, 1) cannot be *N* either. This leaves the possibility that only the first dimension is relevant, but this yields *N* in the case (0, 1, 1), contradicting the collegial disposition *Y* in that case. In short, there exists no simple additive rule that would yield the collegial dispositions here. The rule required by this set of collegial dispositions is the rule that requires dimension 1 or both dimensions 2 and 3, and this is not a simple additive rule. Other examples exist. Thus, *the collegial dispositions need not*

trine. It can, however, be straightforwardly reconstructed as an ideological disagreement over the relevance of rule dimensions. Balancing tests imply a relatively ecumenical position, whereas the bright-line rule need not: it points to some dimensions as relevant and others as irrelevant. What, on the surface, may appear as a non-ideological disagreement about the preferred type of rules, may be best cast as an ideological one.

be inducible by any simple additive rule even when all judges have simple additive preferred rules. This demonstrates that collegiality can create a connection between legal dimensions not found at the individual rule level.

Consider another example that illustrates an implication of disagreements over the relevance of legal dimensions. Suppose again that we have a three-judge court with judges described by their preferred simple additive rules in relation to three possible dimensions. Suppose that Judge 1 believes the first and third dimensions to be relevant, Judge 2 believes the second and third dimensions are relevant, and Judge 3 believes the first and the second dimensions are relevant. Let the preferred rules of all three judges now require a threshold of 2—that is, if the case has at least two relevant contributory dimensions, then the preferred disposition is *Y*. Consider the following matrix of cases and preferred dispositions, with each row describing the same elements as before:

CASES	(1, 1, 1)	(1, 1, 0)	(1, 0, 1)	(0, 1, 1)	(1, 0, 0)	(0, 1, 0)	(0, 0, 1)	(0, 0, 0)
JUDGE 1	<i>Y</i>	<i>N</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
JUDGE 2	<i>Y</i>	<i>N</i>	<i>N</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
JUDGE 3	<i>Y</i>	<i>Y</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>	<i>N</i>
COURT	<i>Y</i>	<i>N</i>						

Unlike in the previous example, there does exist a simple additive rule ((1, 1, 1), 3) that yields the set of collegial dispositions here. However, there are other complications. Note first that the collegial rule here has a higher threshold than the individual rules. More importantly, however, notice what would happen if, instead of aggregating their individual preferred case dispositions, the judges aggregated their judgments of relevance and preferred rule thresholds (say, by taking the median rule threshold), and then used the resulting rule to arrive at the collegial dispositions. That is, they decide first whether each dimension should play a role in the collegial rule, each by majority vote. Then the aggregated rule would be ((1, 1, 1), 2), which yields a disposition *Y* in the cases (1, 1, 0), (1, 0, 1), and (0, 1, 1) in contrast to the disposition *N* by simple majority vote in these cases. In short, *aggregating individual preferred dispositions may lead to different outcomes than disposing of cases with the rule that is arrived at by aggregating individual dimensions of the preferred rules.* Deliberating over a case outcome can yield a different result than deliberating over the rule first and then applying it to the case. This result is a different type of doctrinal paradox than Kornhauser and Sager's, in

which the rule itself is fixed, but it also raises concerns of instability or incoherence.

In *Legal Doctrine on Collegial Courts*, we analyze some of the conditions that give rise to the outcomes illustrated by the three-judge examples above.²⁶ We find, in particular, that two conditions play key roles in avoiding these problems. One of these conditions is agreement on rule thresholds. The other signifies not an agreement, but rather, a kind of “orderly disagreement.” It is the possibility of ordering judges by dispositional inclusion—that is, by overall ideological leaning—so that, relative to the universe of possible cases, the second judge has at least all the *Y* dispositions of the first judge, the third judge has at least all the *Y* dispositions of the second, and so on. The interaction between these conditions ensures both that a rule that induces collegial dispositions one-by-one is a simple additive rule (like the rules of the individual judges) and also that it is the same rule that would result from aggregating elements of individual judges’ rules (as in the discussion of the second example above).

D. Disagreements About Direction Within Dimensions

We move now to the full case-space, no longer limited to dichotomous case values. Assume each judge has a monotonic rule, but that judges may disagree as to the “correct” direction within a dimension. That is, as dimension 1 increases, Judge 1 may be more inclined to vote *Y* but Judge 2 may be more inclined to vote *N*. We would then say that *common monotonicity*, a property across a set of judges and their preferred rules, does not hold. We could also simply say a set of rules is or is not commonly monotonic.

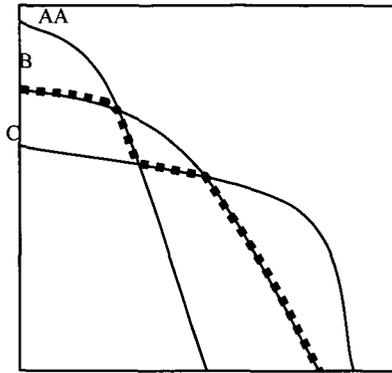
Suppose that common monotonicity does hold. Then, there will always exist a monotonic rule that captures the set of collegial dispositions.²⁷ In Figure 2, we show a set of commonly monotonic rules. The bold line shows the rule that captures all cases that would receive *Y* by majority vote, a set which is itself monotonic. *The aggregation of commonly monotonic rules is itself a monotonic rule.*

²⁶ Landa & Lax, *supra* note 2.

²⁷ See Lax, *Legal Rules*, *supra* note 2, at 594 (showing that commonly monotonic rules (called proper rules) can be aggregated into a collegial monotonic rule).

FIGURE 2: AGGREGATING COMMONLY MONOTONIC RULES

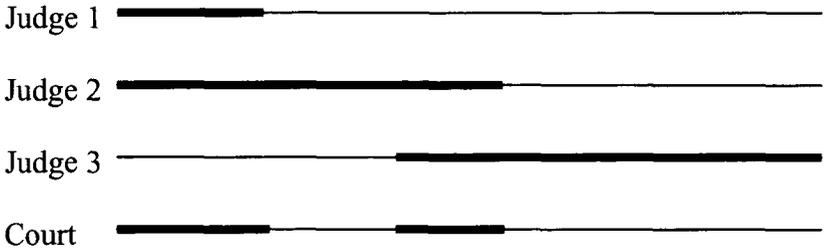
Dimension 2



Dimension 1

On the other hand, suppose all rules are still individually monotonic, but are not commonly monotonic, so that the judges can disagree about directionality. Then, even a simple one-dimensional example reveals a problem: the aggregation of monotonic rules (the set of collegial dispositions that result from a set of monotonic rules) may not itself be monotonic. Suppose Judges 1 and 2 prefer *Y* outcomes for low values on dimension 1, but Judge 3 has preferences in the opposite direction on that same dimension, so that higher values should yield *Y* outcomes. Specifically, suppose, as in Figure 3, Judge 1 wants a *Y* only in the bottom 20% of cases, Judge 2 wants a *Y* in only the bottom 50% of cases, and Judge 3 wants *Y* in the top 60% of cases.

FIGURE 3: AGGREGATING NON-COMMONLY MONOTONIC RULES



Now, the set of collegial dispositions of *Y* (i.e., where at least two judges would vote *Y*) consists of the range between 0 and 20% and

the range between 40 and 50%, which is obviously not a monotonic rule. This shows that, *while common monotonicity buys monotonicity at the aggregate level, "non-common" monotonicity is insufficient to do so.*

E. Disagreements About Thresholds Within Dimensions

As noted above, the three bargaining models discussed in the policy section could be interpreted as bargaining over a threshold in a one-dimensional case space. Here, we consider other aspects of disagreement over thresholds, in one- and multi-dimensional case spaces.

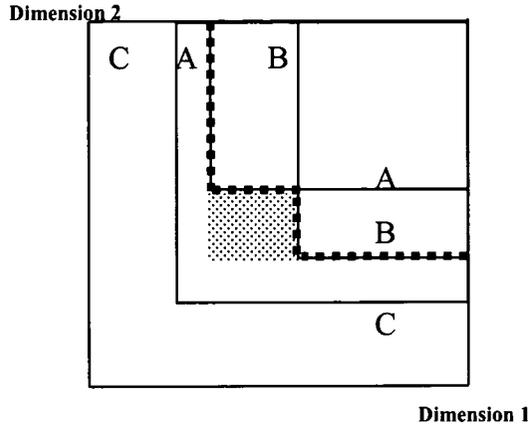
Suppose that all individual rules are commonly monotonic and that the judges agree as to which dimensions are relevant. Further, assume that all judges have strictly disjunctive rules, of the logical form $P \vee Q \Rightarrow Y$. That is, if the threshold is met on any dimension, then the case should get a Y . We now consider the effect of different judges having different thresholds within dimensions. Judge 1 may have a lower threshold on dimension 1 than Judge 2, or a higher threshold on dimension 2 than Judge 3.

If the judges can be ordered by their thresholds, such that the order of their thresholds is the same across all dimensions, with Judge 1 always having a lower threshold on each dimension than Judge 2, and so on, then the rule of the median judge will match the set of collegial dispositions.²⁸ Thus, there will exist a strict disjunctive rule, specifically the median individual rule, which captures this set of Y dispositions perfectly.

However, suppose that this condition does not hold. Then, disagreements over thresholds might not be so easily sorted out. Figure 4 shows that *the aggregation of strictly disjunctive rules may not itself be a strictly disjunctive rule.* There is no strictly disjunctive rule that captures the set of collegial dispositions. Also, because a disjunctive rule for a Y disposition is equivalent to having a conjunctive rule for a N disposition (requiring $\sim P \wedge \sim Q$ for the case to get a disposition of N), this means that *the aggregation of strictly conjunctive rules need not itself be a conjunctive rule.*

²⁸ See *id.* at 597 (showing a sufficient condition for there to exist a true median judge, whose preferred rule will be the collegial rule capturing majoritarian dispositions).

FIGURE 4: AGGREGATING STRICTLY DISJUNCTIVE RULES



We can also consider another method of aggregating individual rules as an alternative to voting case by case. The judges can consider dimension by dimension whether a case meets the threshold for a *Y* disposition. If they do so, they are, in effect, applying the median threshold within each dimension, one by one. Each dimension is judged separately, and the judges can differ in these sub-judgments. The resulting set of median thresholds itself defines a strictly disjunctive rule, with the horizontal threshold set by Judge 1's preferred rule, and the vertical threshold set by Judge 2's rule. However, note that this rule would not yield the set of collegial dispositions. In every case in the shaded region in Figure 4, the aggregate disjunctive rule would yield the "wrong" outcome, with respect to a majority of individual judges. Given differences in dimensional disposition thresholds, *voting dimension by dimension need not yield the majority disposition in a case.*

This type of disagreement, over the thresholds within a dimension, can explain why judges in Kornhauser and Sager's "doctrinal paradox" can reach different judgments over the premises of a rule. Indeed, the cases in the shaded region are the very cases that would be subject to the Paradox. Within each dimension, they may simply have a different threshold. Neither method of aggregation is obviously superior: it might be just as meaningful to ask whether the case satisfies the majority of individual rules as to ask whether it satisfies the standard for each prong or dimension, one by one, again by majority vote.

V. DELIBERATION AND DISAGREEMENT

We argued in the preceding Part that the nature and pervasiveness of disagreements on collegial courts fundamentally affect the decision making on those courts, focusing primarily on the aggregation of judges' preferences and judgments by a collective decision rule. Recent work in the intersection of political science, economics, and legal and political theory has explored another fundamental aspect of the decision-making process on collegial bodies: the deliberative give-and-take between the members prior to the aggregation by the collective decision rule.

There are at least two key reasons deliberation may be relevant to the quality of the outcome over and above aggregation by voting. First, deliberation may affect perceived legitimacy. As Ferejohn and Pasquino argue, because high courts tend not to be elected, the deliberative process and the reason-giving requirement are a critical mechanism for legitimizing the court decisions "without representation."²⁹ Second, deliberation may affect informational welfare. Intuitively, deliberation might improve the quality of decision making by directly affecting the votes of large segments of the court, over and above the influence of a single vote of a better informed member—but it may also fail to improve the quality of court decisions or, even worse, have a negative net effect. The nature of the disagreements on the courts and how the court deliberates are critical factors in determining which of these informational effects is to be expected.

Broadly speaking, deliberation in the courts takes the form of costless (cheap-talk) communication; that is, communication in which speech does not entail a cost to the speaker or in which the cost of speech does not depend on the content of speech.³⁰ When such communication is unverifiable, a speaker effectively asks the lis-

29 See John Ferejohn & Pasquale Pasquino, *Constitutional Courts as Deliberative Institutions: Towards an Institutional Theory of Constitutional Justice*, in 62 CONSTITUTIONAL JUSTICE, EAST AND WEST: DEMOCRATIC LEGITIMACY AND CONSTITUTIONAL COURTS IN POST-COMMUNIST EUROPE IN A COMPARATIVE PERSPECTIVE 21, 21–23 (W. Sadurski ed., 2002) (arguing that judicial review of legislative actions, by non-elected judges, must be legitimized to the public by insulating the Justices from political pressures, and requiring published, reasoned decisions with the accompanying rationales); cf. Martin Shapiro, *The Giving Reasons Requirement*, 1992 U. CHI. LEGAL F. 179, 181 (1992) (stating that reasons are given with administrative decisions as a way to create a record for judicial review).

30 Lax and Cameron construct a model of costly opinion writing on the Supreme Court in which the equilibrium content of the opinion co-varies with the cost of writing it, but that model is not a model of communication in the sense of sender-receiver games. See Lax & Cameron, *supra* note 13, at 280–84 (formulating a bargaining model of Supreme Court opinion writing that takes into account the work that goes into writing the opinion).

teners to accept what she says based on her credibility. When it is at least *partially verifiable*, the speaker either can provide outside evidence for her contention or can make arguments that are intrinsically true given the set of premises shared by some or all members of the audience. *Unverifiable* communication is best understood as related to the speaker's private knowledge of independently unverifiable facts. In contrast, *verifiable* communication is instantiated by the communication of verifiable facts and principled arguments that, after they are made, vacate the speaker's claim to having access to private information.

Recall that when judges can vote strategically, the positive effect of judgment aggregation over facts implied by the Condorcet Jury Theorem (CJT) cannot always be sustained. But if judges can engage in (unverifiable) communication before voting, universal sincere voting, and thus its positive consequences for selecting the right outcome, can be restored³¹—if, that is, the differences between judges' preferences over decisions are, in fact, reducible to the differences in information about the case. If judges differ in how they would vote given the same information—that is, if they are subject to ideological biases that go beyond the facts of the case—then, once again, the classic CJT result is in doubt.³² The issue is that now they would have incentives to withhold information in the course of the communication, given that others could use this information to advance less-preferred outcomes. More generally, the greater the ideological disagreements between the judges, the lower the expectation should be that they engage in credible unverifiable communication before voting.

When communication is verifiable, does a similar conclusion find support? Suppose, as in the model of disagreement we describe above, members of the court disagree as to which dimensions may be relevant to a decision making at hand. But, whereas in the model above we posited that judges know with certainty whether any given dimension is relevant for them or not, in the model with deliberation before aggregation, it makes sense to suppose that the relevance of some of those dimensions is itself in question as the object of delib-

31 See Peter J. Coughlan, *In Defense of Unanimous Jury Verdicts: Mistrials, Communication, and Strategic Voting*, 94 AM. POL. SCI. REV. 375, 382–93 (2000) (finding that a jury voting model allowing sincere communication between jurors generates sincere-voting in equilibrium).

32 See Adam Meirowitz, *In Defense of Exclusionary Deliberation: Communication and Voting with Private Beliefs and Values*, 19 J. THEORETICAL POL. 301, 308–12 (2007) (finding that truthfulness in communication is maximized in small homogenous groups).

eration. Hafer and Landa analyze informational properties of debate in such a model.³³ They model a deliberative debate as verifiable (inherently persuasive) communication but describe one in which parties disagree with respect to what they find as persuasive (e.g., in the debate on the constitutionality of laws limiting abortions, arguments based on a right to privacy may be acceptable to some and unacceptable to others).³⁴ They find that the informational properties of debate vary fundamentally with *how* the judges aggregate their judgments after the debate.³⁵ In particular, if they use a majority rule to choose from some finite number of alternatives using a binary sequential agenda (pitting a possible decision 1 against a possible decision 2, then the majority winner of this contest against a possible decision 3, and so on), then there always exists an agenda that leads parties to make all of their arguments without delay—thus allowing the members of the court to take full advantage of all information in aggregating their judgments.³⁶

33 See Catherine Hafer & Dimitri Landa, *Deliberation as Self-Discovery and Institutions for Political Speech*, 19 J. THEORETICAL POL. 329, 329–60 (2007) (creating a model of “deliberation as self-discovery” in which individuals are not presumed to fully understand their own beliefs and arguments are geared more toward the relevance of a specific criteria than toward refuting facts); Catherine Hafer & Dimitri Landa, *Majoritarian Debate* (Aug. 28, 2007) (unpublished manuscript, on file with the University of Pennsylvania Journal of Constitutional Law) [hereinafter Hafer & Landa, *Majoritarian Debate*] (creating and analyzing a model of debates in which different arguments vary in persuasiveness, depending on the listener).

34 Hafer & Landa, *Majoritarian Debate*, *supra* note 33, at 4–6.

35 *Id.* at 9–10 (comparing simple majority and other voting rules).

36 The following example based on Hafer & Landa, *Majoritarian Debate*, provides an intuitive account of why all members of the court may want to make all their arguments up front. Suppose that there are three mutually exclusive possibilities for the court decision: $\{a_1, a_2, a_3\}$ ordered in ideological (left-to-right) sequences and that alternatives are to be voted on in the indexed order: a_1 versus a_2 , and then the winner against a_3 . Each alternative may be associated with a unique combination of dimensions considered relevant and a complementary set considered irrelevant—as discussed above. Assume that for each dimension, there is an argument that the dimension is relevant or irrelevant, that this argument could settle judges’ preferences regarding the relevance of that dimension—at least for the purposes of choosing from the set of possible decisions—and that the judges who prefer the left-most alternative a_1 and the right-most alternative a_3 (call them j_{a1} and j_{a3} , respectively) can make those arguments to the rest of the court.

Suppose, first, that a_2 wins the first vote and that it is preferred by the majority of judges to a_3 before the second vote. Then, the judge whose preferred decision is a_3 (judge j_{a3}) will want to make every feasible argument in its favor (the probability of changing the majority’s mind increases as the number of arguments j_{a3} throws at them increases). But, anticipating this, the judge whose preferred decision is a_1 (judge j_{a1}) would have preferred to make all of her feasible arguments before the first vote, because doing so then only increases the lower bound of her expected utility (improves the worst-case scenario). If a_1 wins the first vote but instead a_2 is majority-preferred before the sec-

On the other hand, if the court members aggregate judgments by plurality rule (selecting a decision that simply has more votes than others in a voting agenda that includes all relevant alternatives), then the individual incentives to make arguments are fundamentally different. When choosing whether to make arguments, a judge must weigh the possibility of moving the majority toward her preferred outcome against the likelihood that the majority will be unpersuaded and so move farther away in the opposite direction. Given the standard assumption of diminishing returns as policy moves closer to one's most preferred policy and increasing marginal loss as policy moves farther away, a majority's move farther away will decrease the speaker's utility by a greater amount than the increase in the utility from an equally sized move by the majority toward the speaker's preferred alternative. If the majority on the court prefers a relatively moderate judgment, then we should often expect members (including more extreme ones) to be reticent to make arguments, and deliberation need not lead to full information revelation.

Two related implications of these conclusions regarding the effects of voting rules on the willingness to make arguments are worthy of special note in the context of considering decision making on collegial courts, and in particular, on the United States Supreme Court. The final resolution of any case is, ultimately, dichotomous—the lower court decision is either reversed or affirmed by majority vote. This would suggest full information revelation. On the other hand, the legal policy as set down by the Supreme Court's opinion is actually set down by a process more closely resembling plurality rule. Multiple opinions can be circulated, and if no opinion gathers a majority of votes, then the opinion that gets the most votes is a plurality opinion. This opinion lacks full precedential status, but can still have considerable weight. This might suggest some incentive to withhold full information revelation. This contrast underscores the presence of a tension between the incentives to continue debating before issuing the disposition (with the particular case alone in mind) and foregoing further debate (now thinking about the broader legal policy as set out in the opinions). How precisely this tension is resolved in

ond vote, then j_a will prefer to make all her arguments before it, but also prefer to have done so before the first vote, since she stands only to gain from doing so—again, by increasing the lower bound of her expected utility. Suppose now that a_1 wins the first vote and that it is preferred by the majority to a_2 going into the second vote. Then, j_a will want to make all her arguments before that vote and will prefer to have done so before the first vote.

practice remains to be seen, but the following behavioral implications can be readily articulated.

First, cases that are “high profile,” because of the outcomes rather than because of their broader implications for precedent, should, on average, elicit greater debate than cases that are important because of their precedential implications. Second, the rise in what Sunstein has termed “incompletely theorized agreements” may be explained in part by judges’ attempts to maximize the consistency between outcomes and their ideologically preferred courses of action.³⁷ Sunstein advocates that deep moral and philosophical disagreements in society—and as manifested in the composition of the Supreme Court—may be best dealt with (which is to say, avoided) by foregoing the divisive debate on the “deepest . . . commitments” and seeking to resolve cases with relatively narrow, case-specific decisions.³⁸ The foregoing discussion suggests that, to the extent that “deepest . . . commitments” are a matter for supporting opinions rather than for the particular case disposition, we should expect “incompletely theorized agreements” in the cases with relatively important potential precedential implications, all else being equal. But, unlike in Sunstein’s account, the rationale for them here is not the value of avoiding open conflict, but the pragmatic assessment of what argumentative posture is most effective with respect to the issue in question and with respect to one’s ideological goals.

VI. CONCLUSION

Our exploration of various forms of collegial disagreement highlights the implications of collegiality for key aspects of legal policy-making—in particular, the stability, coherence, and structure of legal doctrine. These problems persist even when we think of judicial disagreements as taking the form of sincere differences as to what the proper legal rule should be and how it should be enacted doctrinally.

37 Cass R. Sunstein, Commentary, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1735–36 (1994) (positing that judges tend to issue “narrow or low-level” opinions in order to harmonize social disagreements).

38 *Id.* at 1767 (arguing that judges should not issue opinions with broad abstractions because doing so will avoid disagreement on fundamental beliefs and because these ideas are created by abstracting incompletely theorized outcomes).