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## The Second Dimension of the Supreme Court

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## THE SECOND DIMENSION OF THE SUPREME COURT

JOSHUA B. FISCHMAN\* & TONJA JACOBI\*\*

### ABSTRACT

*Describing the Justices of the Supreme Court as “liberals” and “conservatives” has become so standard—and the left-right division on the Court is considered so entrenched—that any deviation from that pattern is treated with surprise. Attentive Court watchers know that the Justices are not just politicians in robes, deciding each case on a purely ideological basis. Yet the increasingly influential empirical legal studies literature assumes just that—that a left-right ideological dimension fully describes the Supreme Court. We show that there is a second, more legally-focused dimension of judicial decision making. A continuum between legalism and pragmatism also divides the Justices in ways that cut against ideological preferences. The second dimension is systematic and significant, occurring in multiple legal areas and in consistent patterns. Seen in this way, the Justices (and their decisions) can be understood in more complex terms, not just as ideological flag bearers, but as jurists who regularly have to choose between legal methodology and outcome preferences. In two dimensions, different patterns of coalitions emerge: in the second dimension, it is the Chief Justice and Justice Sotomayor, not Justice Kennedy, who sit at the median of the Court and decide the balance of power.*

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## INTRODUCTION

Observers of the Supreme Court have become so accustomed to viewing it as a political body that they often seem surprised when the Justices deviate from their typical coalitions. For example, when the Court decided *Williams v. Illinois*, a case applying the Confrontation Clause to expert testimony involving crime lab reports,<sup>1</sup> the *New York Times* highlighted the “odd-bedfellows coalition of justices” constituting the majority.<sup>2</sup> Similarly, when the Court held in *Maryland v. King* that the Fourth Amendment permitted police to take DNA swabs as part of routine booking procedures,<sup>3</sup> the *Times* pointed out the “alignment of justices that scrambled the usual ideological alliances.”<sup>4</sup>

*Williams* and *King*, however, did not feature merely unusual voting alignments; they featured the same unusual alignment. In both cases, Justice Breyer joined with four conservatives, Chief Justice Roberts and Justices Kennedy, Thomas, and Alito, to form a majority; Justice Scalia joined three of the liberals, Justices Ginsburg, Sotomayor, and Kagan, in dissent.<sup>5</sup> The same divide has also appeared in several other cases. In *Adoptive Couple v. Baby Girl*, the same majority held that the Indian Child Welfare Act (ICWA) did not govern adoptions of Native American children when the Native American parent had never had custody prior to the adoption.<sup>6</sup> *Maracich v. Spears*, a case involving the Driver’s Privacy Protection Act of 1994, divided along the same lines,<sup>7</sup> but with a twist: the majority that opposed constitutional privacy rights in *King* supported

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1. See 132 S. Ct. 2221, 2227 (2012).

2. Adam Liptak, *No Majority Rationale in Crime Lab Testimony Ruling*, N.Y. TIMES (June 18, 2012), <http://www.nytimes.com/2012/06/19/us/supreme-court-ruling-on-crime-lab-testimony-lacks-majority-rationale.html> [https://perma.cc/H4R7-JC9W].

3. See 133 S. Ct. 1958, 1980 (2013).

4. Adam Liptak, *Justices Allow DNA Collection After an Arrest*, N.Y. TIMES (June 3, 2013), <http://www.nytimes.com/2013/06/04/us/supreme-court-says-police-can-take-dna-samples.html> [https://perma.cc/4X5J-GVA9].

5. See *King*, 133 S. Ct. at 1965; *Williams*, 132 S. Ct. at 2227.

6. 133 S. Ct. 2552, 2556, 2565 (2013).

7. See 133 S. Ct. 2191, 2195 (2013).

statutory privacy rights in *Maracich*,<sup>8</sup> while the dissenters supported constitutional privacy rights but not statutory ones.<sup>9</sup>

When such “unusual” coalitions keep recurring, especially in cases involving diverse legal issues and policy implications, it is appropriate to question how unusual they really are. Although most “unusual” alignments do not coincide exactly with the divide that occurred in *Williams*, *King*, *Adoptive Couple*, and *Maracich*, we find that many divisions on the Court adhere to a common structure. A few prior commentators have noted such recurring alignments in particular doctrinal areas, such as in cases involving the Confrontation Clause,<sup>10</sup> the right to a jury trial,<sup>11</sup> punitive damages,<sup>12</sup> and search and seizure questions.<sup>13</sup> We show that such alignments transcend particular substantive areas of law. These patterns of coalitions are not idiosyncratic but rather are evidence of a second dimension in Supreme Court decision making.

Patterns of coalitions that divide across party lines are only one sign of a second dimension of Supreme Court decision making. When cases divide into the so-called unusual alignments, which are not really so unusual, the rationales that the Justices give also follow a discernible pattern. The Roberts, Breyer, Kennedy, and Alito group often points to pragmatic reasons for its decisions, such as

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8. *See id.* at 2195-96.

9. *See id.* at 2213 (Ginsburg, J., dissenting).

10. *See* Liptak, *supra* note 2 (“In a series of decisions starting with *Crawford v. Washington* in 2004, an odd-bedfellows coalition of justices from the court’s conservative and liberal wings have breathed new but fragile and halting life into the clause.”).

11. *See* Rachel E. Barkow, *Originalists, Politics, and Criminal Law on the Rehnquist Court*, 74 GEO. WASH. L. REV. 1043, 1046 (2006) (“[T]he Sixth Amendment cases are ... the product of an alliance between Justices that the attitudinalists view as the extreme left and right of the Court.”); Stephanos Bibas, *Originalism and Formalism in Criminal Procedure: The Triumph of Justice Scalia, the Unlikely Friend of Criminal Defendants?*, 94 GEO. L.J. 183, 194 (2005) (noting the coalition of liberals and conservatives that formed the majority in the jury trial cases).

12. *See* Linda Greenhouse, *Justices Overturn \$79.5 Million Tobacco Ruling*, N.Y. TIMES (Feb. 21, 2007), <http://www.nytimes.com/2007/02/21/washington/21scotus.html> [<https://perma.cc/EFZ3-H7Q6>] (“It is typical for the court’s punitive damages rulings to cut across the usual ideological lines.”).

13. *See* Erin Murphy, *License, Registration, Cheek Swab: DNA Testing and the Divided Court*, 127 HARV. L. REV. 161, 186-87 (2013) (“The press found the *King* lineup confounding, but criminal proceduralists who watch the Court could have called it.... It is not left or right that decided this case—or that decides most criminal procedure cases these days. It is the classic divide between rules and standards, amplified by a split between skeptics and believers in the beneficence of unfettered law enforcement.”).

considering individualized fairness, the practical ramifications of its determinations, and the broad policy goals of lawmakers.<sup>14</sup> They tend to favor balancing tests and broad holdings, rather than rigid rules that apply regardless of circumstance.<sup>15</sup> In contrast, the Scalia, Ginsburg, Sotomayor, and Kagan wing of the Court typically relies on more legalistic determinations, prioritizing development of clear rules, closely tied to the plain meaning of legal sources, adherence to positive law, and consistency in application, without exceptions for individual cases.<sup>16</sup> When the most natural interpretation of legal sources conflicts with the most desirable result in a particular case, the legalists tend to favor the former while the pragmatists favor the latter.<sup>17</sup> The division reflects the trade-off between rule of law values and individualized fairness. Justice Thomas consistently sided with the legalists during the early years of the Roberts Court but has occasionally defected from the legalist coalition in recent Terms, although sometimes on grounds that are unrelated to the legalism-pragmatism divide.<sup>18</sup> Justice Sotomayor could be considered the swing vote in the second dimension, a position also occupied by her predecessor, Justice Souter.<sup>19</sup> What emerges from this understanding is a second dimension characterized by division based primarily on legal methodology.

Although contemporary discourse about the Court often views it as one-dimensional, this was not always the case; early research in judicial politics often viewed the Court as multidimensional.<sup>20</sup> More recently, many scholars have again challenged the dominant conception of the Court as one-dimensional.<sup>21</sup> This Article is the first to

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14. See *infra* text accompanying note 150.

15. See *infra* Part II.B.

16. See *infra* text accompanying notes 148-50.

17. See *infra* text accompanying notes 132-33.

18. See *infra* Part I.B.

19. See *infra* Part I.B.

20. See, e.g., Glendon Schubert, *Judicial Attitudes and Voting Behavior: The 1961 Term of the United States Supreme Court*, 28 LAW & CONTEMP. PROBS. 100, 119 (1963); Glendon Schubert, *The 1960 Term of the Supreme Court: A Psychological Analysis*, 56 AM. POL. SCI. REV. 90 (1962); L.L. Thurstone & J.W. Degan, *A Factorial Study of the Supreme Court*, 37 PROC. NAT'L ACAD. SCI. 628, 630, 635 (1951).

21. See, e.g., Paul H. Edelman, *The Dimension of the Supreme Court*, 20 CONST. COMMENT. 557, 566 (2003) (expressing skepticism that two dimensions are adequate to describe the "decision space of the Rehnquist Court"); Paul H. Edelman & Jim Chen, *The Most Dangerous Justice Rides into the Sunset*, 24 CONST. COMMENT. 199, 200 (2007) ("The presence of unre-

establish empirically the existence, nature, and effect of a second, methodologically based dimension of decision making on the Supreme Court. Most scholars agree that a simple left-right, one-dimensional spectrum cannot account for the full considerations of the nation's top judges, but many empirical studies of the judiciary ignore this reality.<sup>22</sup> The one-dimensional assumption persists because (1) it is convenient—it makes measuring judicial preferences easy; (2) even though most scholars agree the assumption is inapt, due to simple path dependence, it goes unquestioned because others have done the same; and (3) it has never been clear how to tell if a second dimension exists. However, the existence of a legally based dimension that shapes Supreme Court rulings should come as little surprise to most Court observers. Although it is common now for both popular and scholarly accounts of the Supreme Court to depict the Justices as occupying only a left-right, one-dimensional spectrum,<sup>23</sup> scholars have long recognized that such a characterization

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dictable voting coalitions suggests that Supreme Court Justices' decisions may in some cases be structured along divergent or cross-cutting issue dimensions.”); Harry T. Edwards & Michael A. Livermore, *Pitfalls of Empirical Studies that Attempt to Understand the Factors Affecting Appellate Decisionmaking*, 58 DUKE L.J. 1895, 1916 (2009) (criticizing the assumption that “an individual judge’s personal views” can be modeled on a “left-right axis”); Joshua B. Fischman, *Do the Justices Vote Like Policy Makers? Evidence from Scaling the Supreme Court with Interest Groups*, 44 J. LEGAL STUD. S269, S284-85 (2015) (finding a “robust two-dimensional voting structure” on the Roberts Court in criminal cases); Joshua B. Fischman & David S. Law, *What Is Judicial Ideology, and How Should We Measure It?*, 29 WASH. U. J.L. & POL’Y 133, 150-54 (2009) (criticizing the assumption that judicial ideology is unidimensional); Benjamin E. Lauderdale & Tom S. Clark, *The Supreme Court’s Many Median Justices*, 106 AM. POL. SCI. REV. 847 (2012) (finding different unidimensional ordering of the Justices in different issue areas); Michael Peress, *Small Chamber Ideal Point Estimation*, 17 POL. ANALYSIS 276, 285-86 (2009) (estimating ideal points of Supreme Court Justices in two dimensions); Carolyn Shapiro, *Coding Complexity: Bringing Law to the Empirical Analysis of the Supreme Court*, 60 HASTINGS L.J. 477, 501-02 (2009) (arguing that observed unidimensional voting on the Court is a consequence of coding protocols of the Supreme Court Database); Lawrence Sirovich, *A Pattern Analysis of the Second Rehnquist U.S. Supreme Court*, 100 PROC. NAT’L ACAD. SCI. 7432, 7432 (2003) (recognizing the necessity of nine dimensions to describe the nine-Justice Court).

22. See, e.g., Andrew D. Martin & Kevin M. Quinn, *Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999*, 10 POL. ANALYSIS 134, 145 (2002).

23. See, e.g., *id.*; Aaron Blake, *The Supreme Court’s Rightward Shift — Or Not (In Two Charts)*, WASH. POST (Mar. 26, 2013), <http://www.washingtonpost.com/news/the-fix/wp/2013/03/26/the-supreme-courts-rightward-shift-or-not-in-two-charts/> [https://perma.cc/2XUW-KVL6] (“The court’s five more conservative justices, meanwhile, are clearly [historically] right-of-center.”); Alicia Parlapiano et al., *The Roberts Court’s Surprising Move Leftward*, N.Y.

does not come close to capturing the full considerations of the nation's top judges.<sup>24</sup> It is well understood that legal considerations are also significant determinants of judicial decision making.<sup>25</sup> More specifically, the division between legalism and pragmatism is a well-established distinction.<sup>26</sup> Nevertheless, almost all empirical studies of the judiciary ignore this reality and assume a simple, one-dimensional model of judicial decision making that captures only ideological division. Ignoring what we show to be the significant effect of legal methodology on judicial decision making leads to unreliable empirical conclusions and a distorted view of judicial behavior and the judicial role.

This work in no way denies the contribution of the existing empirical literature that has established the significance of the left-right "first dimension" on the Court. That literature represents an important field that has shown the influence of ideology on judicial behavior, from nominations<sup>27</sup> and choice of cases,<sup>28</sup> through to final decisions,<sup>29</sup> opinion writing,<sup>30</sup> and coalition formation.<sup>31</sup> But hiding

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TIMES (June 29, 2015), <http://www.nytimes.com/interactive/2015/06/23/upshot/the-roberts-courts-surprising-move-leftward.html> [<https://perma.cc/ZV7C-TUXP>] ("The Supreme Court under Chief Justice John G. Roberts Jr. has been a conservative court. But even conservative courts have liberal terms — and the term that ended Monday leaned left.")

24. See *supra* notes 20-21 and accompanying text.

25. As evidenced by judicial interviews, see generally H.W. PERRY, JR., DECIDING TO DECIDE: AGENDA SETTING IN THE UNITED STATES SUPREME COURT (1991) (reporting interviews wherein judges describe using a mixture of legal and pragmatic analysis), as well as first-hand judicial accounts, see Richard A. Posner, *What Do Judges and Justices Maximize? (The Same Thing Everybody Else Does)*, 3 SUP. CT. ECON. REV. 1, 40 (1993) (suggesting that precedent is important for judges, largely as a mechanism for maximizing efficiency, and thus their own leisure time).

26. See WILLIAM N. ESKRIDGE JR. ET AL., CASES AND MATERIALS ON LEGISLATION AND REGULATION: STATUTES AND THE CREATION OF PUBLIC POLICY 625 (5th ed. 2014); RICHARD A. POSNER, HOW JUDGES THINK 8-13 (2008); JEFFREY ROSEN, THE SUPREME COURT: THE PERSONALITIES AND RIVALRIES THAT DEFINED AMERICA 206-12 (2007).

27. See, e.g., Charles M. Cameron et al., *Senate Voting on Supreme Court Nominees: A Neoinstitutional Model*, 84 AM. POL. SCI. REV. 525 (1990).

28. See, e.g., Gregory A. Caldeira et al., *Sophisticated Voting and Gate-Keeping in the Supreme Court*, 15 J.L. ECON. & ORG. 549 (1999) (describing how judges strategically vote for or against a grant of certiorari according to expectations of the ultimate success of the case). See generally VANESSA A. BAIRD, ANSWERING THE CALL OF THE COURT: HOW JUSTICES AND LITIGANTS SET THE SUPREME COURT AGENDA (2007) (analyzing how litigants respond to judicial signals about their preferred agendas).

29. See, e.g., Frank B. Cross & Emerson H. Tiller, *The Three Faces of Federalism: An Empirical Assessment of Supreme Court Federalism Jurisprudence*, 73 S. CAL. L. REV. 741, 770 (2000) (finding that ideology dominates questions of institutional federalism); Rafael Gely &



in plain sight in all of those studies is an inherent limitation of the extent to which they can provide a nuanced understanding of judicial behavior without factoring in a legal dimension of judicial decision making. We find that, indeed, a large number of cases split between the liberal and conservative blocs, but many do not.

We also do not deny that Justices sometimes allow their preferences for particular outcomes to override their methodological commitments. Some of the first-dimension divides may arise when legalists disagree about the best interpretation of a legal text or pragmatists disagree about which consequences are most desirable. At other times, outcome preferences may simply overwhelm legal principle.

Furthermore, the differences between legalist and pragmatic judges are a matter of degree rather than kind; most judges value adherence to clear rules, and most judges seek to avoid patently unjust results. For this reason, the second-dimension divisions that we observe typically arise in close cases in which there is some ambiguity in the legal sources and a tension between the most natural interpretation of those sources and the most sensible policy. In our view, the common characterization of such divisions as “unusual” stems from a highly simplistic conception of judging as a purely political enterprise. Simply acknowledging the role of interpretive methodology explains a large proportion of these so-called unusual voting alignments. Whether focusing on coalitions or the potential tradeoff between ideology and jurisprudence, a two-dimensional model yields a far thicker account of Supreme Court decision making than either dimension standing alone. The second

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Pablo T. Spiller, *A Rational Choice Theory of Supreme Court Statutory Decisions with Applications to the State Farm and Grove City Cases*, 6 J.L. ECON. & ORG. 263, 296 (1990).

30. See, e.g., FORREST MALTZMAN ET AL., *CRAFTING LAW ON THE SUPREME COURT: THE COLLEGIAL GAME* 4-5, 10 (2000); Ryan J. Owens & Justin P. Wedeking, *Justices and Legal Clarity: Analyzing the Complexity of U.S. Supreme Court Opinions*, 45 LAW & SOC'Y REV. 1027, 1033 (2011).

31. See, e.g., 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, 2175 (1998) (showing that review of administrative regulations under a deferential Supreme Court rule varied by composition of the ideology of the bench); Tonja Jacobi, *Competing Models of Judicial Coalition Formation and Case Outcome Determination*, 1 J. LEGAL ANALYSIS 411 (2009) (showing the tradeoff that exists between maximizing coalition formation and ideal case outcome determination).

dimension of judicial decision making that we identify is statistically significant and substantially meaningful. It accords with what judges say they do and is consistent with many results in the existing empirical judicial behavior literature.

Our analysis is based on a simple examination of disagreement rates among the Justices.<sup>32</sup> In Part I, we use metric multidimensional scaling to generate two-dimensional maps of the Roberts Court, in which the distances among the Justices approximate their disagreement rates.<sup>33</sup> Because these maps are generated from disagreement rates among pairs of Justices, they avoid making any controversial judgment about the ideological or jurisprudential direction of particular votes. The two-dimensional structure is highly stable between the 2005-2008 natural Court and the 2010-2012 natural Court, suggesting that it is a robust phenomenon and not merely an empirical artifact of a given docket.<sup>34</sup> We show that the Justices' disagreement rates are not adequately explained by a one-dimensional structure. For example, Justice Scalia agrees with Justice Ginsburg more often than he agrees with Justice Breyer, and Justice Alito agrees with Justice Breyer more often than he agrees with Justice Ginsburg. We find that many of the disagreements within each bloc are orthogonal to the disagreements between the blocs.<sup>35</sup> The differences between Justices Breyer and Ginsburg, or between Justices Scalia and Alito, are more easily explained by the second dimension than by the first. Finally, we show that the second dimension also explains many of the coalitions that cannot be explained by the first dimension.

In Part II, we develop a method for identifying cases that most strongly implicate the second dimension. For each nonunanimous case decided by the Roberts Court, we calculate "disorder scores"<sup>36</sup> for the first and second dimensions, representing the degree of disorder in the voting alignments in each dimension. We identify a group of "second dimension cases" that are highly disordered in the first dimension but well ordered in the second dimension. We select

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32. See *infra* note 98 and accompanying text.

33. See *infra* note 98 and accompanying text.

34. See *infra* Part I.B.

35. See *infra* text accompanying notes 108-10.

36. Paul H. Edelman et al., *Measuring Deviations from Expected Voting Patterns on Collegial Courts*, 5 J. EMPIRICAL LEGAL STUD. 819, 839 (2008).

these cases for examination because they most cleanly present a divide along the second dimension. Unsurprisingly, the second dimension cases include many cases involving the Confrontation Clause, the right to a jury trial, and the Fourth Amendment.<sup>37</sup> However, there are also many cases involving statutory interpretation—in both civil and criminal contexts—as well as procedure, punitive damages, and intellectual property. This spread strongly suggests that the second dimension is not a product of idiosyncratic judicial views in narrow or particular subject areas; rather, the second dimension is trans-substantive.

Finally, we present our hypothesis that the second dimension corresponds to a divide between legalism and pragmatism.<sup>38</sup> Acknowledging the inherent ambiguity of these terms, we clarify how we are using them in describing the second dimension. Our analysis demonstrates the importance of judicial philosophy and interpretive method, even in the hard cases that the Court typically hears. By demonstrating that judicial decision making is not merely another form of policy making, our Article has important implications for how we conceive of judging in the separation of powers political-legal system. This conception has broad theoretical and practical significance. It is significant for theories of the judicial role and how legal methodology affects, or arguably constrains, judicial decision making, including the foundational debates over what constitutes legitimate sources of law and the relative merit of rules versus standards. The practical significance of our Article includes indicating a way ahead for better measurements and predictions of judicial preferences and case determinations, as well as what advocacy is likely to be more or less effective before the Court.

## I. JUDICIAL DECISION MAKING: ONE DIMENSION OR TWO?

### A. *The Standard Assumption of a One-Dimensional Supreme Court*

On what basis do judges decide cases? This is the most fundamental question of law. If, for instance, the old legal realist claim that

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37. See *infra* notes 139-42 and accompanying text.

38. See *infra* Part II.B.

case outcomes depend on what the judge had for breakfast<sup>39</sup> is entirely correct, then law plays no role in judicial decisions, and judges are no different from politicians. At the other extreme, if judges make determinations entirely free of their own biases or preferences, could judges be replaced by complex artificial intelligence?<sup>40</sup> The question of whether both law and ideology shape judicial decision making, and to what extent, has been extensively debated.<sup>41</sup> It is well established that much judicial behavior can be predicted on the basis of the standard left-right ideological divide,<sup>42</sup> and much public discourse regarding the Supreme Court characterizes the disagreements among the Justices as “political”<sup>43</sup> or even “partisan.”<sup>44</sup>

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39. This phrase is often used to summarize the views of the legal realists and is often ascribed to Jerome Frank. *See generally* JEROME FRANK, *COURTS ON TRIAL: MYTH AND REALITY IN AMERICAN JUSTICE* (1949) (Frank’s most famous work); *see also* O.W. HOLMES, JR., *THE COMMON LAW* 3 (Lawbook Exch. Ltd. 2005) (1881).

40. *See* E. Donald Elliott, *Holmes and Evolution: Legal Process as Artificial Intelligence*, 13 J. LEGAL STUD. 113, 143 (1984) (“[L]egal logic generates first approximations, which have a better than random chance of being tolerable to the community because they are based on analogies to solutions accepted in the past; external experience then operates to modify those results which the community cannot accept, thereby transforming the law for the future.”); G. Sartor & L. Karl Branting, *Introduction: Judicial Applications of Artificial Intelligence*, 6 ARTIFICIAL INTELLIGENCE & L. 105, 110 (1998), *reprinted in* JUDICIAL APPLICATIONS OF ARTIFICIAL INTELLIGENCE 110 (Giovanni Sartor & Karl Branting eds., 1998) (arguing artificial intelligence will promote uniformity in judging but still maintain judicial discretion). For a similar argument as applied to lawyers, *see* John O. McGinnis, *Machines v. Lawyers*, CITY J., Spring 2014, at 12, 19 (“[I]n the Age of Computation, the calculators are gaining on the lawyers—at work and in politics.”).

41. *Compare, e.g.*, Harry T. Edwards, *Collegiality and Decision Making on the D.C. Circuit*, 84 VA. L. REV. 1335, 1370 (1998) (finding judicial decision making is positively affected by collegial deliberation among judges), *with* Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717, 1719 (1997) (finding that “ideology significantly influences judicial decisionmaking” and judges’ votes are also greatly affected by the party affiliation of the other judges on the panel in environmental cases).

42. The attitudinalist literature is vast. For foundational works, *see* C. HERMAN PRITCHETT, *THE ROOSEVELT COURT: A STUDY IN JUDICIAL POLITICS AND VALUES, 1937-1947* (1948), and Glendon A. Schubert, *The Study of Judicial Decision-Making as an Aspect of Political Behavior*, 52 AM. POL. SCI. REV. 1007 (1958). For more modern applications, *see, for example*, LAWRENCE BAUM, *THE PUZZLE OF JUDICIAL BEHAVIOR* (1997), and JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL* 220 tbl.6.1 (1993) (finding the attitudinal model correctly predicts 76 percent of cases in search and seizure context). For an overview of the literature, *see* Daniel R. Pinello, *Linking Party to Judicial Ideology in American Courts: A Meta-Analysis*, 20 JUST. SYS. J. 219 (1999) (providing an overview of various empirical legal studies).

43. *E.g.*, Richard A. Posner, *The Supreme Court, 2004 Term—Foreword: A Political Court*, 119 HARV. L. REV. 32, 34 (2005).

44. Neal Devins & Lawrence Baum, *Split Definitive: How Party Polarization Turned the*

Yet there is also widespread recognition that legal doctrine shapes and structures judicial decision making.<sup>45</sup> Most legal scholars and analysts agree that both law and policy preferences affect judicial decisions, yet this recognition of dual influences on judges is all but ignored in empirical studies of the Justices' voting behavior. Those studies almost uniformly rely on one-dimensional ideological mappings of the Supreme Court.<sup>46</sup> In the standard, entirely ideological mode in which empiricists assess Supreme Court decision making, on the Roberts Court, Justice Ginsburg is at the liberal end of the spectrum,<sup>47</sup> Justice Thomas occupies the conservative end,<sup>48</sup> and Justice Kennedy is at the median.<sup>49</sup> No allowance is made for the jurisprudential differences within the left and right blocs, or areas of commonality between those blocs.

This conventional account of the Court relies on two important assumptions, which have not been well examined. The first assumption is that a single dimension can adequately characterize the divisions among the Justices. Of course, this conception does not mean that the divisions in every case correspond perfectly to this one-dimensional spectrum; there are inevitably some coalitions that deviate from the usual left-right split. But according to this account, such deviations are viewed as idiosyncratic or random, and not as a form of systematic behavior that could be subject to meaningful examination.

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*Supreme Court into a Partisan Court* 3 (William & Mary Law Sch. Research Paper No. 09-276, 2014), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2432111](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2432111) [<https://perma.cc/C7GC-5HUK>].

45. As one scholar concluded: "Both quantitative research on decision making and doctrinal research by historical institutionalists point to ways that legal rules help to structure decisions." Lawrence Baum, *Judicial Behavior and the Counter-Majoritarian Difficulty* 2 (May 10, 2013) (unpublished manuscript), <https://nierworkshop.files.wordpress.com/2013/04/gw-essay-1.doc> [<https://perma.cc/7PHG-LUY4>]; see also Herbert M. Kritzer & Mark J. Richards, *Taking and Testing Jurisprudential Regimes Seriously: A Response to Lax and Rader*, 72 J. POL. 285 (2010).

46. See Michael A. Bailey, *Comparable Preference Estimates Across Time and Institutions for the Court, Congress, and Presidency*, 51 AM. J. POL. SCI. 433, 434 (2007); Martin & Quinn, *supra* note 22, at 145.

47. See Adam Liptak, *Right Divided, a Disciplined Left Steered the Supreme Court*, N.Y. TIMES (June 30, 2015), [http://www.nytimes.com/2015/07/01/us/supreme-court-tacks-left-with-push-from-disciplined-liberals.html?\\_r=0](http://www.nytimes.com/2015/07/01/us/supreme-court-tacks-left-with-push-from-disciplined-liberals.html?_r=0) [<https://perma.cc/ZS2S-9F9F>] (describing Justice Ginsburg as "the senior member of the liberal justices").

48. See *infra* note 110.

49. See *infra* notes 53-56 and accompanying text.

Second, the conventional account interprets the one-dimensional array representing the Court as a policy spectrum. To be a liberal Justice is to support the same policies as a liberal legislator, and likewise for a conservative Justice.<sup>50</sup> Although such claims are widely repeated, they have surprisingly little foundation. Certainly, many studies have shown that Republican-appointed judges reach more conservative outcomes than Democratic-appointed judges.<sup>51</sup> Similarly, Justices of the Supreme Court who are labeled as “liberal” are more likely to reach results that would be endorsed by political liberals.<sup>52</sup> The fact that judicial votes are correlated with policy outcomes, however, does not show that the Justices are motivated exclusively by policy preferences.

The reductionist, one-dimensional model of judicial decision making denies that judges genuinely care about potential cross-cutting factors, including legal variables—such as federalism or legal methodology—and even other potential political factors—such as minimalism of decisions for prudential goals. This Article shows that a second, substantially meaningful dimension of judicial decision making exists, one that we interpret as essentially legal methodology. In this Section, we set the stage for that analysis by first describing how almost all empirical studies of the law ignore this important factor and why this omission leaves something clearly missing from existing empirical legal analysis.

Recognizing the second dimension is important not just for legal scholars, but also for advocates appearing before the Court. It is now common in both the general legal literature<sup>53</sup> and the popular

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50. See Fischman, *supra* note 21, at S269-70 (describing how empirical studies and formal models of the Supreme Court assume a one-dimensional policy space); G. Edward White, *Unpacking the Idea of the Judicial Center*, 83 N.C. L. REV. 1089, 1168-69 (2005) (describing “a universe of commentary whose practitioners agree that Justices are a species of lawmakers and that constitutional adjudication is a form of policymaking”).

51. See, e.g., CASS R. SUNSTEIN ET AL., ARE JUDGES POLITICAL? AN EMPIRICAL ANALYSIS OF THE FEDERAL JUDICIARY 11-12 (2006); Pinello, *supra* note 42, at 243.

52. Cf. JEFFREY A. SEGAL & HAROLD J. SPAETH, THE SUPREME COURT AND THE ATTITUDINAL MODEL REVISITED 86 (2002).

53. See, e.g., Jack M. Balkin & Sanford Levinson, *The Processes of Constitutional Change: From Partisan Entrenchment to the National Surveillance State*, 75 FORDHAM L. REV. 489, 501 (2006) (“[T]he median Justice in a multimember Court, simply because he or she is the median, tends to push the Court’s work back to the center.”); Roderick M. Hills, Jr., *The Individual Right to Federalism in the Rehnquist Court*, 74 GEO. WASH. L. REV. 888, 897 (2006) (noting “the decisive influence for the median Justice” in federalism cases); Andrew D. Martin

press<sup>54</sup> to focus on the “Court median” or the “swing Justice,” because the Justice who lies in the middle of the Court is essential to securing a majority.<sup>55</sup> In the context of the Roberts Court, that is usually taken to mean that the outcome favored by Justice Kennedy will determine the Court’s decision in most cases, and so advocates will craft their briefs as “love letters” to Justice Kennedy.<sup>56</sup> However, Justice Kennedy’s vote does not always determine the case outcome. For instance, in 2011 in *Global-Tech Appliances, Inc. v. SEB S.A.*, Justice Kennedy was the sole dissenter over whether willful blindness was enough to establish the requisite knowledge to find an inducement of violation of a patent.<sup>57</sup> Over the last century, the Court median has in fact quite regularly been excluded from Court majorities.<sup>58</sup> One reason is that the median can dominate only if there are always four Justices to both his or her left and right; but if there is a second dimension, who the median is can vary. As we

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et al., *The Median Justice on the United States Supreme Court*, 83 N.C. L. REV. 1275, 1281-83 (2005) (providing a theoretical demonstration of the power of the median Justice in sex discrimination cases).

54. See, e.g., L.A. Powe, Jr., *The Not-So-Brave New Constitutional Order*, 117 HARV. L. REV. 647, 680 (2003) (reviewing MARK TUSHNET, *THE NEW CONSTITUTIONAL ORDER* (2003)) (“After 1962, Brennan was the Warren Court’s median Justice; the Rehnquist Court’s is either O’Connor or Kennedy .... When the median Justice is Rehnquist or Scalia, then talk of revolution will be appropriate.”) (citation omitted) (footnotes omitted); Linda Greenhouse, *Clues to the New Dynamic on the Supreme Court*, N.Y. TIMES, July 3, 2007, at A11 (“A new dynamic emerged in the court’s last term, which ended last week with Justice Kennedy standing in the middle, all alone. Not only the lawyers, but also the justices themselves, are now in the business of courting him.”); Jacob Dagger, *Q & A: The Shape of the Supreme Court*, DUKE MAG. (Jan. 31, 2006), <http://dukemagazine.duke.edu/article/q-and-a-the-shape-of-the-supreme-court> [<https://perma.cc/Y99E-63JT>] (“Anthony Kennedy will be the new median justice, and [he] is significantly to the right of O’Connor.” (quoting Erwin Chemerinsky)).

55. Cf. DUNCAN BLACK, *THE THEORY OF COMMITTEES AND ELECTIONS* 18 (1958); Duncan Black, *On the Rationale of Group Decision-Making*, 56 J. POL. ECON. 23, 27-28 (1948).

56. Robert Barnes, *Justices Weigh Courts’ Role in Detainee Cases*, WASH. POST, Dec. 5, 2007, at A20 (quoting Kathleen M. Sullivan, describing the briefs in *Boumediene v. Bush*). Solicitor General Paul D. Clement said of the 2007 Term, “This current court is going to be about as conservative or about as liberal as Justice Kennedy.” Robert Barnes, *Supreme Court to Take on Contentious Cases in New Term*, WASH. POST, Oct. 1, 2007, at A8.

57. See 131 S. Ct. 2060, 2072 (2011) (Kennedy, J., dissenting).

58. In over 10 percent of all Supreme Court cases since 1937, median Justices are not in the majority. See Lee Epstein & Tonja Jacobi, *Super Medians*, 61 STAN. L. REV. 37, 56 (2008). In close cases—one-vote divisions—medians are excluded from the majority in about one quarter of cases. See *id.* at 58. Three median Justices in the last sixty years voted with the majority in close cases 50 percent of the time or less while they held the swing vote. See *id.* at 60.

establish below, and as seen in Figures 3 and 5, Justice Kennedy is the median in the first dimension, but he is in fact an outlier in the second dimension on the second natural Roberts Court.<sup>59</sup> So in cases such as *National Federation of Independent Business v. Sebelius*<sup>60</sup> and *King v. Burwell*,<sup>61</sup> where factors other than the simple left-right divide were arguably at play—even if they were prudential considerations such as judicial legitimacy and power, rather than pure legal methodology concerns<sup>62</sup>—lawyers should not look to sway Justice Kennedy. *NFIB* may seem like an exceptional case, but we show that in the second dimension, as it was in *NFIB*, the Chief Justice sits at the median of the Court, along with Justice Souter in the first natural Roberts Court and Justice Sotomayor in the second. This pattern occurs across cases and subject matters. When the second dimension is determinative in cases, advocates who focus on persuading Justice Kennedy will be focusing on the wrong Justice.

The assumption of one dimensionality, then, is affecting both scholarship and legal practice, but there is in fact very little empirical evidence, or even much empirical inquiry, into the matter. In fact, the assumption that the Court is one-dimensional is difficult to evaluate because there are no established criteria for determining the dimensionality of a voting body. Although various tests of dimensionality have been proposed, they are not widely used and can generate conflicting results.<sup>63</sup> Single dimensionality is simply an assumption made consistently in the literature. Early measurement of judicial attitudes was undertaken by political scientists, who drew on the far more developed literature on Congress, an institution whose members' views can be arguably summarized on one dimension.<sup>64</sup> But models of Congress are not apt for judges: representatives and senators have different incentives than judges, especially federal judges, since the former are “single-minded

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59. See *infra* Figures 3 & 5.

60. 132 S. Ct. 2566 (2012).

61. 135 S. Ct. 2480 (2015).

62. See, e.g., Tonja Jacobi, *Obamacare as a Window on Judicial Strategy*, 80 TENN. L. REV. 763, 845 (2013).

63. See Fischman & Law, *supra* note 21, at 151-52.

64. See KEITH T. POOLE & HOWARD ROSENTHAL, CONGRESS: A POLITICAL-ECONOMIC HISTORY OF ROLL CALL VOTING 5 (1997) (“For most of American history, the structure is indeed one-dimensional .... A second continuum was most important during two periods when the race issue was central to American politics.”).



seekers of reelection.”<sup>65</sup> Nonetheless, early empirical scholars also made that assumption of judges.

In the earliest quantitative study of voting behavior on the U.S. Supreme Court, C. Herman Pritchett examined the votes of the Justices from 1939 to 1941, and identified two dominant voting blocs, which he denoted as “liberal” and “conservative.”<sup>66</sup> Using disagreements from the Court majority as a crude measure of ideology, Pritchett mapped the Justices onto a one-dimensional scale with Justice McReynolds at the right-wing extreme and Justices Black and Douglas occupying the left-wing extreme.<sup>67</sup> Pritchett acknowledged that his “use of the term ‘right-wing’ assumes that the division of opinion on the Court results from differences of opinion as to desirable public policy. It assumes that the above scale reflects relative ‘liberalism’ and ‘conservatism’ as those terms are understood by the man in the street.”<sup>68</sup> Although Pritchett himself acknowledged the need for further research to validate this assumption,<sup>69</sup> these claims that originated as assumptions eventually evolved into conventional wisdom.

Other early quantitative studies of Supreme Court voting, most notably that of Glendon Schubert, viewed judicial preferences as multidimensional. Schubert mapped the Justices along separate “political” and “economic” scales, along with various “minor” scales.<sup>70</sup> But most contemporary work in judicial politics simply assumes that the Court occupies a one-dimensional policy spectrum. The justification for this assumption is commonly attributed to two studies. First, Bernard Grofman and Timothy Brazill used multidimensional scaling to examine fifteen different natural Courts of the Supreme Court.<sup>71</sup> They found that a one-dimensional model explained 86

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65. DAVID R. MAYHEW, CONGRESS: THE ELECTORAL CONNECTION 5 (1974); see also MORRIS P. FIORINA, CONGRESS: KEYSTONE OF THE WASHINGTON ESTABLISHMENT 37 (2d ed. 1989).

66. C. Herman Pritchett, *Divisions of Opinion Among Justices of the U.S. Supreme Court, 1939-1941*, 35 AM. POL. SCI. REV. 890, 895 (1941).

67. See *id.* at 894.

68. *Id.* at 895.

69. See *id.* (“This assumption should be checked by an examination of the issues actually involved in the cases where dissents were filed.”).

70. GLENDON SCHUBERT, THE JUDICIAL MIND: THE ATTITUDES AND IDEOLOGIES OF SUPREME COURT JUSTICES, 1946-1963, at 285, 287 (1965).

71. See Bernard Grofman & Timothy J. Brazill, *Identifying the Median Justice on the Supreme Court Through Multidimensional Scaling: Analysis of “Natural Courts” 1953-1991*, 112

percent of the variance in the Justices' voting behavior, while a two-dimensional model explained 97 percent of the variance.<sup>72</sup> Although their analysis hardly repudiated the two-dimensional model, they reported only one-dimensional results, "for ease of interpretation and because it explains so much of the variance in the data."<sup>73</sup> Yet without ever providing a criterion for assessing how much variance should be explained by a model, Grofman and Brazill ultimately asserted that the Supreme Court was "fundamental[ly] unidimensional[.]"<sup>74</sup> Nevertheless, they acknowledged that a second dimension would provide "a more fine-tuned analysis."<sup>75</sup>

Most modern studies in judicial politics not only assume that the Court occupies a single dimension, but that this dimension represents preferences over public policy.<sup>76</sup> The attitudinal model, as characterized by Jeffrey Segal and Harold Spaeth,<sup>77</sup> provided the second core justification for adhering to one dimension. This model presumes that Justices' votes are determined by "the facts of the case juxtaposed against their personal policy preferences."<sup>78</sup> Segal and Spaeth found empirical support for this claim by demonstrating a correlation of 0.76 between the Justices' "ideological values," as measured by newspaper editorials at the time of the Justices' confirmation votes, and their proportion of liberal votes.<sup>79</sup> They claim that the attitudinal model correctly classifies 77 percent of the Court's search and seizure decisions from the 1962 to the 1998 Terms.<sup>80</sup> But critics such as Michael Gerhardt<sup>81</sup> and Brian Leiter<sup>82</sup> have pointed out that this approach leaves 23 percent of the decisions unexplained. And the introduction of a second dimension has been shown

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PUB. CHOICE 55, 57 (2002).

72. *Id.* at 58.

73. *Id.*

74. *Id.* at 57.

75. *Id.* at 58.

76. See Fischman, *supra* note 21, at S271-72.

77. See SEGAL & SPAETH, *supra* note 52, at 312.

78. *Id.*

79. *Id.* at 323.

80. *Id.* at 316, 319.

81. See Michael J. Gerhardt, *Attitudes About Attitudes*, 101 MICH. L. REV. 1733, 1748, 1751 (2003) (reviewing SEGAL & SPAETH, *supra* note 52).

82. See BRIAN LEITER, NATURALIZING JURISPRUDENCE: ESSAYS ON AMERICAN LEGAL REALISM AND NATURALISM IN LEGAL PHILOSOPHY 192 (2007).

to improve that rate to approximately 85 percent, depending on the area of law.<sup>83</sup>

In fact, neither position should be given much weight, as focusing on percentage explained actually tells us little, because the proportion of outcomes correctly classified is not a rigorous method for assessing the validity of an empirical model.<sup>84</sup> For instance, if we proposed a model of ovarian cancer that is simply that it never occurs, it would be 99 percent accurate. If gender was added to that model, it would increase the accuracy by 0 percent. Obviously, the former model is useless, despite its high percentage explained rate, and the latter is a far superior model, despite its lack of increasing that rate of predicted accuracy. In addition, as the ovarian cancer example illustrates, the factor used as the first dimension will greatly affect the relative percentages explained by the first and second dimensions: if gender was the only factor in predicting ovarian cancer, accuracy would go from 0 percent to 50 percent.

More recent work, including the highly influential ideal point model of judicial decision making created by Andrew Martin and Kevin Quinn, perpetuates the assumption that the Court is one-dimensional, but there has been little effort to validate this assumption. Martin and Quinn estimated dynamic ideal points of the Justices in a single dimension by modeling every imaginable combination of Supreme Court Justices' preferences that could explain the pattern of majority voting and dissenting over their study period of time, and found the best fit.<sup>85</sup> The result looks a lot like common impressions of the Justices on a liberal-conservative scale—the second natural Roberts Court is, from left to right, Ginsburg, Breyer,

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83. Alexandra Dunworth, Joshua Fischman, and Daniel Ho have shown that the increase in the predictive value of the second dimension, by area of law, is as follows: For libertarianism, the two-dimensional model improves the accuracy of the predictions from 0.76 to 0.85; for criminal defense, from 0.79 to 0.85; for commerce, from 0.79 to 0.84; and for localism, from 0.81 to 0.85. Alexandra Dunworth et al., *Policy Voting: What Amici Tell Us About Law* 34 tbl.3 (Oct. 30, 2009) (unpublished manuscript), <http://dho.stanford.edu/research/amici.html> [https://perma.cc/VHN2-ZG9X].

84. See James J. Heckman & James M. Snyder, Jr., *Linear Probability Models of the Demand for Attributes with an Empirical Application to Estimating the Preferences of Legislators*, 28 RAND J. ECON. S142, S165-66 (1997) (“[C]lassification success may be ... a poor guide for choosing the dimension of a model.”).

85. See Martin & Quinn, *supra* note 22, at 135.

Sotomayor, Kagan, Kennedy, Roberts, Alito, Scalia, Thomas<sup>86</sup>—and so Martin-Quinn scores have been interpreted in those terms. But Martin and Quinn did not claim that they were establishing that judicial preferences were ideological. They also simply assumed that one dimension of judicial decision making applied, as others had before them.<sup>87</sup> Martin and Quinn found that their model correctly classified 76 percent of decisions, relative to 63 percent for a null model that assumed that all decisions were reversed.<sup>88</sup> Although their results show that a one-dimensional model is informative, Martin and Quinn did not purport to assess the performance of a two-dimensional model.

So in summary, an extensive empirical judicial literature simply assumes that only one dimension—a dimension that represents ideology—is necessary to explain judicial decision making. Yet there has never been any solid evidence of that claim, despite the centrality of the question of whether judicial votes simply reflect political ideology or whether legal factors such as legal methodology also significantly shape judicial decision making. Judges answer the question by regularly insisting that legal methodology is vitally important in shaping their decisions,<sup>89</sup> yet very little scholarship has attempted to prove, rather than assume away, the answer. In the next Section, we begin to answer this question.

### *B. Scaling the Roberts Court in One and Two Dimensions*

In this Section, we first describe how judicial decision making can be scaled by using the Justices' rulings in all cases in a given time

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86. See generally *Measures*, MARTIN-QUINN SCORES, <http://mqscores.berkeley.edu/measures.php> [<https://perma.cc/L3HA-85VY>] (last visited Mar. 30, 2016).

87. Martin & Quinn, *supra* note 22, at 145 (“For our application, however, we restrict our attention to the unidimensional case. This is an assumption made in nearly all statistical analyses of Supreme Court behavior.”).

88. *Id.* at 150.

89. Judges regularly profess to be influenced by judicial methodology, including textualism, formalism, purposivism, consequentialism, minimalism, and concerns for judicial role. See, e.g., STEPHEN BREYER, *ACTIVE LIBERTY: INTERPRETING OUR DEMOCRATIC CONSTITUTION* 7-8 (2005); WILLIAM H. REHNQUIST, *THE SUPREME COURT* 49-50, 200, 273, 279 (new ed. 2001); Antonin Scalia, *Originalism: The Lesser Evil*, 57 U. CIN. L. REV. 849, 862 (1989); Jeffrey Rosen, *Big Chief*, *NEW REPUBLIC* (July 13, 2012), <http://www.newrepublic.com/article/politics/magazine/104898/john-roberts-supreme-court-aca> [<https://perma.cc/F4H9-3WG6>].

period to map their positions relative to one another. Then we apply this method to the Roberts Court. Scaling can be done in one, two, or more dimensions; we show how more than one set of factors significantly impacts the Justices' decision-making patterns. We then show that the second dimension uncovered by the scaling procedure is robust over time; the second dimension alignment is notably similar between the 2005-2008 natural Court and the 2010-2012 natural Court. In our analysis of the Roberts Court, we use multidimensional scaling (MDS), a method for generating graphical representations that depict dissimilarities among pairs of objects in a low-dimensional space.<sup>90</sup> In some applications, those dissimilarities may represent concrete phenomena, such as physical distances. Given a matrix of distances between cities, for example, MDS generates a two-dimensional map of those cities.<sup>91</sup> In other applications, the distances may be more conceptual. In marketing research, for example, MDS may be used to generate a "map" of a product market, where the distances might represent consumers' perceived dissimilarities among competing products.<sup>92</sup>

In the context of voting bodies such as courts or legislatures, the rate of disagreement for each pair of voters provides a natural measure of dissimilarity. Several prior studies of the Justices' voting behavior have used MDS in this manner to study the Supreme Court. In one influential study, Grofman and Brazill used MDS to examine the dimensionality of the Court and to identify the median Justices in various natural Courts between 1953 and 1991.<sup>93</sup> Peter Hook similarly used MDS to generate maps of the Rehnquist Court from 1994 until 2003, examining free speech cases as well as all nonunanimous cases.<sup>94</sup> Paul Edelman, David Klein, and Stefanie Lindquist used MDS to generate one-dimensional ideal points of the Justices for measuring the degree of disorder in voting coalitions.<sup>95</sup>

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90. See INGWER BORG & PATRICK J.F. GROENEN, *MODERN MULTIDIMENSIONAL SCALING: THEORY AND APPLICATIONS* 3 (2d ed. 2005).

91. See *id.* at 19-23.

92. See, e.g., TREVOR F. COX & MICHAEL A.A. COX, *MULTIDIMENSIONAL SCALING* 71-73 (2d ed. 2000) (mapping brands of breakfast cereals).

93. See Grofman & Brazill, *supra* note 71, at 55-56.

94. See Peter A. Hook, *The Aggregate Harmony Metric and a Statistical and Visual Contextualization of the Rehnquist Court: 50 Years of Data*, 24 *CONST. COMMENT.* 221, 254-55 (2007).

95. See Paul H. Edelman et al., *Consensus, Disorder, and Ideology on the Supreme Court*,

Most recently, one of the co-authors used MDS to scale the Justices of the Roberts Court with interest groups that frequently file amicus briefs in criminal justice and business cases,<sup>96</sup> finding that the disagreements among the Justices often deviated from the policy dimensions defined by these interest groups.<sup>97</sup>

Our analysis begins with a matrix of disagreement rates among the Justices. The MDS algorithm then generates a map of the Court in which the distances between pairs of Justices are roughly proportional to their disagreement rates.<sup>98</sup> To illustrate how MDS works in practice, consider four of the Justices: Ginsburg, Breyer, Scalia, and Alito. As we shall explain shortly, these Justices can be viewed as representing the four “corners” of the Roberts Court in a two-dimensional mapping. Table 1 provides all pairwise disagreement rates among these Justices, taken from all cases from the 2005-2012 Terms in which all four participated. MDS can transform this Table into a two-dimensional graphical representation, as shown in Figure 1.

Table 1. Disagreement Rates Among Justices Ginsburg, Breyer, Scalia, and Alito (Percent)

	Ginsburg	Breyer	Scalia	Alito
Ginsburg	0.0	15.8	40.0	40.5
Breyer	15.8	0.0	40.5	35.4
Scalia	40.0	40.5	0.0	14.3
Alito	40.5	35.4	14.3	0.0

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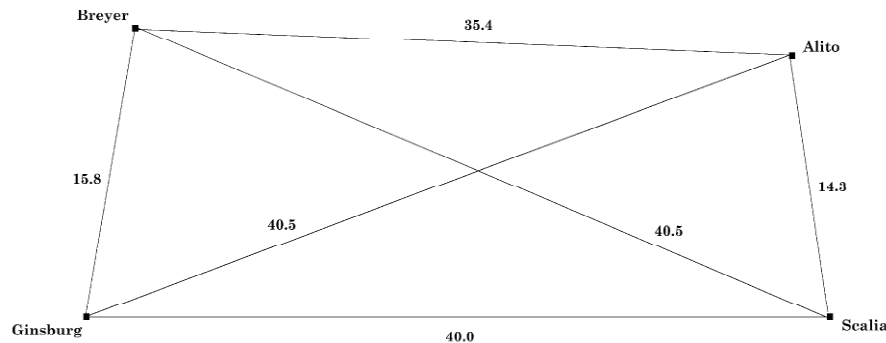
9 J. EMPIRICAL LEGAL STUD. 129, 135 n.10 (2012).

96. See Fischman, *supra* note 21, at S269, S274.

97. See *id.* at S282-87.

98. The metric MDS algorithm uses an iterative procedure to find coordinates that minimize the sum of squared errors between the distances and the true disagreement rates. See BORG & GROENEN, *supra* note 90, at 169-97 (describing an algorithm for computing MDS solution). We implement the MDS algorithm with the “mdscale” routine in MATLAB, using the option to minimize the criterion “metricstress.”

Figure 1. Two-Dimensional Metric Multidimensional Scaling:  
Justices Ginsburg, Breyer, Scalia, and Alito\*



\*Disagreement rates indicated in percentages.

The MDS algorithm finds the coordinates that best approximate the disagreement rates given in Table 1. The fit typically will not be exact, although it is extremely close in this example. In one sense, however, the mapping will not be unique, since a rotation or reflection of Figure 1 would generate a graph with identical distances. Thus, generating a scaling diagram always requires a decision regarding how to rotate and reflect the graph. This choice is important because the substantive interpretation of the horizontal and vertical dimensions will necessarily depend on the rotation and reflection that are chosen. Some applications of MDS present a natural choice for rotation and reflection. For example, if the dissimilarities are distances between cities, it is natural to rotate and reflect the resulting map so that the east-west axis coincides with the horizontal axis on the graph and the north-south axis coincides with the vertical axis.

When applied to the Justices of the Supreme Court, there is no such natural choice for rotation or reflection; the decision necessarily requires subjective judgment. In Figure 1, we have rotated and reflected the graph so that Scalia is directly to the right of Ginsburg and Breyer and Alito are above the Ginsburg-Scalia axis. The two-dimensional structure of the disagreement among these Justices is

readily apparent. Justices Breyer and Ginsburg each disagree with Justice Scalia in about 40 percent of cases, but they disagree with each other around 16 percent of the time.<sup>99</sup> Justice Breyer agrees with Justice Alito substantially more than he agrees with Justice Scalia, but Justice Ginsburg agrees with Justice Scalia slightly more than she agrees with Justice Alito.<sup>100</sup> Of course, the left-right disagreements are between two and three times as large as the top-down disagreements, but we argue below that these top-down disagreements are both large and meaningful enough that they should not be dismissed as mere noise.

We now turn to mapping the entire Roberts Court. To contrast the two-dimensional model with the one-dimensional approaches that are dominant in the literature, we begin by mapping the Court in a single dimension. Figure 2 provides a one-dimensional MDS diagram for the natural Court constituting the 2005-2008 Terms (the first natural Roberts Court), beginning when Justice Alito joined the Court and ending with Justice Souter's retirement. Figure 3 provides a similar diagram for the natural Court constituting the 2010-2012 Terms (the second natural Roberts Court), beginning when Justice Kagan replaced Justice Stevens. We made the natural choice to place the liberal bloc on the left, but there is no need to choose a rotation for the one-dimensional model.

Figure 2. One-Dimensional MDS Diagram of the Roberts Court, 2005-2008 Terms



99. See *supra* Table 1.

100. See *supra* Table 1.



Figure 3. One-Dimensional MDS Diagram of the Roberts Court, 2010-2012 Terms



These one-dimensional diagrams are consistent with the standard discourse about divisions among the Justices as well as widely used one-dimensional estimates of judicial ideology, such as the Martin-Quinn scores.<sup>101</sup> There are important differences, however, between the MDS coordinates and Martin-Quinn scores. The MDS coordinates are chosen so that the distances in the diagrams approximate the disagreement rates among the Justices; thus, the distances depicted have an intuitive interpretation. In the Martin-Quinn model, the Justices' ideology scores are depicted in a nonlinear scale, so the distances among the Justices do not have an intuitive interpretation.<sup>102</sup>

It should not be surprising that the one-dimensional mapping fails to provide a perfect fit with the Justices' disagreement rates. Comparing the distances in Figures 2 and 3 with the actual disagreement rates in Table 1 reveals the limitations of the one-dimensional model. For example, Justices Ginsburg and Breyer are depicted as being roughly 0.1 apart in Figure 2, whereas they actually disagree 16 percent of the time.<sup>103</sup> Justices Scalia and Alito are roughly 0.05 apart in Figure 2 (and even less in Figure 3), although they disagree 14 percent of the time.<sup>104</sup>

Figure 4 provides a two-dimensional MDS diagram for the first natural Roberts Court, beginning when Justice Alito joined the Court and ending with Justice Souter's retirement. As in Figure 1, we rotate and reflect the graph so that Justices Ginsburg and Scalia

101. See generally Martin & Quinn, *supra* note 22.

102. See Fischman & Law, *supra* note 21, at 188-89 ("[T]he Martin-Quinn ... ideology scores are reported on numerical scales that have no natural interpretation.").

103. Compare *supra* Figure 2, with *supra* Table 1.

104. Compare *supra* Figure 2, and *supra* Figure 3, with *supra* Table 1.

constitute the left-right axis and Justices Breyer and Alito are placed above Ginsburg and Scalia. Without additional interpretation, which we provide in Part II, we can view the horizontal axis derived from this rotation as capturing the degree to which Justices are “Ginsburg-like” versus “Scalia-like.”<sup>105</sup> The vertical axis could be understood as capturing the component of being “Breyer-like” or “Alito-like” that is orthogonal to the Ginsburg-Scalia axis. These terms, of course, are not self-defining; they are only meaningful to the extent that we have a substantive understanding of these Justices’ ideological or philosophical inclinations.<sup>106</sup> Of course, most American lawyers would recognize that the Ginsburg-Scalia axis corresponds closely to the familiar “left-right” divide among the Justices.<sup>107</sup> However, we suspect that many observers of the current Court would have greater difficulty articulating the meaning of a Breyer-Ginsburg axis or a Scalia-Alito axis.

The standard left-right divide is evident in Figure 4, but there is also a visible top-down divide. Justices Ginsburg, Scalia, and Thomas are positioned at one end of the vertical dimension, while Justices Stevens, Breyer, Kennedy, and Alito occupy the opposing end. In the top-down dimension, Justices Souter and Roberts appear to be the swing voters. As expected, there is a clear horizontal divide between the liberal bloc and the conservative bloc. There are substantial disagreements *within* each bloc, however, which are largely orthogonal to the disagreements *between* the blocs. Justices Ginsburg and Breyer, for example, are mostly separated along the vertical dimension, despite Justice Breyer’s reputation as being the more “moderate” liberal Justice.<sup>108</sup> Similarly, Justices Scalia and

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105. See Fischman & Law, *supra* note 21, at 162-63 (describing “agnostic” coding models in which liberalism and conservatism are defined by reference to agreement with Justices designated as liberal or conservative).

106. *Cf. id.* at 163 (“One could conceive of the ideological spectrum of Canadian justices as ranging from ‘L’Heureux-Dubé-like’ to ‘Sopinka-like.’ However, for readers who are unfamiliar with Canadian constitutional law ... such an ideological scale may prove less than intuitive.”) (footnote omitted).

107. A less arbitrary approach would have been to rotate the mapping so that the centroids of liberal and conservative blocs defined the horizontal axis. This would have generated a virtually identical solution. We defined the dimensions by reference to Ginsburg and Scalia for ease of explanation.

108. See, e.g., Lee Epstein et al., *Ideological Drift Among Supreme Court Justices: Who, When, and How Important?*, 101 NW. U. L. REV. 1483, 1519 (2007) (describing Justice Breyer as the “most moderate member” of the Court’s “liberal wing”); Richard A. Posner, *Justice*

Alito are primarily separated along the vertical dimension. Justices Scalia and Kennedy differ along both dimensions, but the vertical disagreement predominates over the horizontal disagreement, despite Justice Kennedy's reputation as a "moderate"<sup>109</sup> and Justice Scalia's reputation as an "extreme" conservative.<sup>110</sup>

Figure 4. Two-Dimensional MDS Diagram of the Roberts Court, 2005-2008 Terms



Figure 5 provides an MDS diagram for the 2010-2012 Terms, starting when Justice Kagan replaced Justice Stevens. Aside from the change in composition of the Court, the overall structure of the voting alignments is extremely stable between Figures 4 and 5. Justices Breyer, Kennedy, and Alito are still diametrically opposed to Justices Ginsburg and Scalia in the top-down dimension. Justice

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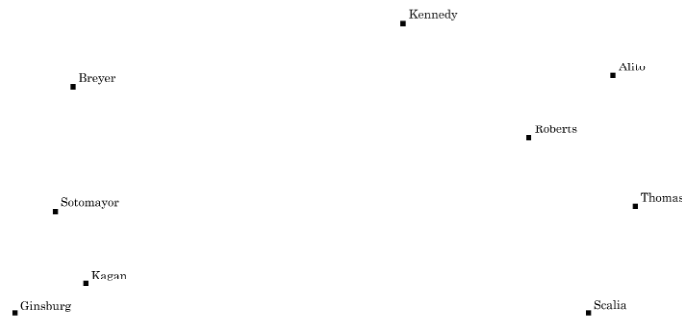
*Breyer Throws Down the Gauntlet*, 115 YALE L.J. 1699, 1699 (2006) (reviewing BREYER, *supra* note 89) (describing Justice Breyer as a moderate liberal).

109. See, e.g., Thomas J. Miles & Cass R. Sunstein, *Do Judges Make Regulatory Policy? An Empirical Investigation of Chevron*, 73 U. CHI. L. REV. 823, 834 (2006) (describing Justice Kennedy as a moderate, along with Justices Souter and O'Connor); Ernest Young, *Rediscovering Conservatism: Burkean Political Theory and Constitutional Interpretation*, 72 N.C. L. REV. 619, 715 (1994) (same).

110. See, e.g., CHRISTOPHER L. EISGRUBER, *THE NEXT JUSTICE: REPAIRING THE SUPREME COURT APPOINTMENTS PROCESS* 5 (2007) (describing Justices Scalia and Thomas as occupying "the Court's extreme right edge"); Epstein et al., *supra* note 108, at 1528-29 (describing Justice Scalia as "an extreme conservative who has grown more extreme with time").

Roberts still appears as a moderate in the vertical dimension, although marginally closer to the Breyer-Kennedy-Alito camp. Justice Sotomayor is a strikingly close substitute for Justice Souter in both dimensions, placing her as a second-dimension moderate. The replacement of Justice Stevens by Justice Kagan represents a moderate move toward the center in the left-right dimension, but also a larger vertical move toward the Ginsburg-Scalia camp. The most difficult Justice to explain, surprisingly, is Justice Thomas, who appears to have drifted away from Justice Scalia and toward Justice Alito. It may be premature to interpret this vertical change as evidence of a philosophical shift on the part of Justice Thomas, but an examination of future Terms could clarify if this drift is enduring.

Figure 5. Two-Dimensional MDS Diagram of the Roberts Court, 2010-2012 Terms



It is well known that a two-dimensional model of the Supreme Court provides a better fit than a one-dimensional model;<sup>111</sup> indeed, more dimensions always guarantee a better fit to the data.<sup>112</sup> The

111. See Grofman & Brazill, *supra* note 71, at 58 (reporting mean r-squared values of 0.86 for one-dimensional MDS and 0.97 for two-dimensional MDS for natural Courts of the Supreme Court from 1953 to 1991).

112. See J.B. Kruskal, *Multidimensional Scaling by Optimizing Goodness of Fit to a Non-metric Hypothesis*, 29 *PSYCHOMETRIKA* 1, 16 (1964) (observing that stress always decreases as the number of dimensions increases).

stability of the two-dimensional structure between the two natural Courts suggests that this structure is robust across time. In the one-dimensional model, Justices Alito and Scalia appear to have switched places on the ideological spectrum between the two natural Courts. In the two-dimensional model, their relative positions are in fact quite stable, suggesting that the perceived drift in the one-dimensional model may be illusory. Disagreements that do not fall along the left-right dimension should not be dismissed as mere noise; they are based on recurring coalitions that are susceptible to meaningful explanation. As we discuss below, the second dimension also reveals useful insights about Supreme Court decision making that would be lost in a one-dimensional model.

In the two-dimensional model, it looks as if Justice Breyer is in fact not more moderate than the other liberals, as appears in the one-dimensional model. But we cannot safely conclude that Justice Breyer is definitively *not* more liberal than Justices Sotomayor, Kagan, and Ginsburg—that conclusion depends on the specific rotation chosen, as discussed above. This understanding illustrates that some of the orthodoxies about judicial positioning that are drawn from the one-dimensional model may in fact be products of the assumptions of one dimensionality, rather than of actual, manifested judicial preferences.

The figures presented above demonstrate that a simple mapping of disagreement rates reveals a clear two-dimensional voting structure on the Supreme Court. The two-dimensional model explains substantially more variance in voting behavior than the one-dimensional model. Moreover, the two-dimensional structure is noticeably robust across different natural Courts. The challenge, which we pursue in the following Part, is to demonstrate that the second dimension has a meaningful interpretation and that understanding the second-dimension divide can enrich our understanding of the Court.

## II. THE SECOND-DIMENSION CASES IN THE ROBERTS COURT

In Part II.A, we describe our methodology for identifying the second-dimension cases. Using voting data from 688 cases decided on the merits during the 2005-2012 Terms, we identify 29 cases that

most directly implicate the second dimension. In Part II.B, we present our hypothesis that the second dimension we have uncovered generally tracks the divide between pragmatism and legalism.

#### A. Identifying Second-Dimension Cases

The scaling diagrams of the Roberts Court shown in Figures 4 and 5 reveal a two-dimensional structure, but they do not explain what these dimensions represent. To explore what these dimensions capture, we search for cases that are highly disordered along the first dimension but well ordered along the second dimension. We select for disorder in the first dimension so as to exclude the kinds of policy- or value-based considerations that often characterize left-right splits.

We measure disorder using a procedure developed by Paul Edelman, David Klein, and Stefanie Lindquist to quantify the degree of disorder in Supreme Court coalitions.<sup>113</sup> When a vote is perfectly ordered in one dimension, there exists a cutpoint that cleanly separates the majority coalition from the Justices in dissent.<sup>114</sup> In the one-dimension diagrams shown in Figures 2 and 3, for example, a cutpoint placed at 0.2 would perfectly separate the liberal bloc from the conservative bloc. All cases that are divided by a 5-4 split between these two blocs would thus be perfectly ordered. When an alignment is disordered, no such cutpoint exists. Some of the Justices would have to travel along the spectrum in order for the coalition to be properly ordered. The disorder measure for each case is determined by the amount of travel that must occur for the voting alignment to be ordered.

For example, in *Alleyne v. United States*, Justice Thomas joined the four liberals to form a majority.<sup>115</sup> *Alleyne* is a disordered vote since there is no cutpoint in the one-dimensional spectrum that separates the majority and dissenting coalitions. The disorder score is determined by the cutpoint that minimizes the amount of travel necessary to achieve separation of the coalitions. In *Alleyne*, this would occur with a cutpoint to the left of Justice Kennedy.

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113. See Edelman et al., *supra* note 36, at 821-28.

114. See *id.* at 822.

115. 133 S. Ct. 2151, 2155 (2013).

The procedure developed by Edelman, Klein, and Lindquist was designed to measure disorder in a single dimension, but it can easily be applied to two dimensions by examining disorder in each dimension separately. In addition, we use a simplified version of their disorder formula. If various Justices have to travel distances of  $x_1, \dots, x_j$  in order for the vote to be ordered with respect to a proposed cutpoint, we define the disorder as  $x_1 + \dots + x_j$ . The disorder score for each case is determined by the cutpoint that minimizes the total disorder.<sup>116</sup>

To measure disorder in two dimensions for the entire period of the Roberts Court, we use MDS to generate coordinates for all eleven Justices who served on the Roberts Court during the 2005-2012 Terms, which are displayed in Table 2.<sup>117</sup> We analyze these Terms together so that we can include the 2009 Term, which featured a distinct natural Court, and also to avoid the yearly fluctuations that would arise if we analyzed each Term separately.<sup>118</sup> We use these coordinates to measure disorder in both dimensions. As before, Justice Ginsburg is normalized to have zero coordinates in both dimensions, while Justice Scalia is normalized to zero in the second dimension. The range among the Justices is 0.5 in the first dimension, from Justice Stevens on the left to Justice Thomas on the right. The range in the second dimension is 0.19, from Justices Ginsburg and Scalia on the bottom, to Justice Kennedy on the top.

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116. Edelman, Klein, and Lindquist measure disorder using the formula  $\sqrt{x_1^2 + \dots + x_j^2}$ . See Edelman et al., *supra* note 36, at 825. Their formula has appealing mathematical foundations but is somewhat less intuitive. The disorder rankings for the cases are quite similar using either measure.

117. We use weighted MDS, where each pair of Justices is weighted by the number of cases in which both Justices participated.

118. Analyzing Terms separately might yield more accurate results when there is ideological drift among the Justices that would be obscured when analyzing the aggregate voting data. Given that we do not find strong evidence of drift between the 2005-2008 Terms and the 2010-2012 Terms, we feel more comfortable analyzing all the Terms together.

Table 2. Two-Dimensional MDS Coordinates for the Justices of the Roberts Court, 2005-2012 Terms

Justice	1st-Dimension Coordinate	Justice	2nd-Dimension Coordinate
Stevens	-0.074	Scalia	0.000
Souter	-0.025	Ginsburg	0.000
Ginsburg	0.000	Thomas	0.041
Kagan	0.016	Kagan	0.052
Sotomayor	0.032	Souter	0.069
Breyer	0.034	Sotomayor	0.082
Kennedy	0.265	Roberts	0.099
Roberts	0.338	Stevens	0.147
Scalia	0.373	Alito	0.153
Alito	0.389	Breyer	0.185
Thomas	0.426	Kennedy	0.193

To illustrate our method for calculating voting disorder, consider the voting alignment in *Williams v. Illinois*, in which the majority consisted of Chief Justice Roberts and Justices Breyer, Kennedy, Thomas, and Alito.<sup>119</sup> Figure 6 depicts the voting alignment, with the majority Justices represented as solid squares and the dissenting Justices as hollow squares. The vertical line represents a potential cutline separating the coalitions. It is evident that the voting is disordered in the left-right dimension. With the cutline depicted, Justices Breyer and Scalia must both travel in the horizontal direction to be on the appropriate side of the cutline. Since Justices Breyer and Scalia have first-dimension coordinates of 0.034 and 0.373, respectively,<sup>120</sup> they must travel a total distance of 0.339 to both be on the correct side of the cutline. Note that any vertical cutline separating the liberal and conservative blocs will yield the same result, which minimizes the total amount of travel to achieve perfect

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119. 132 S. Ct. 2221, 2227 (2012).

120. See *supra* Table 2.



ordering in the first dimension.<sup>121</sup> Thus, the first-dimension disorder score for *Williams* is 0.339.

Figure 6. Voting Alignment in *Williams v. Illinois*, with Vertical Cutline

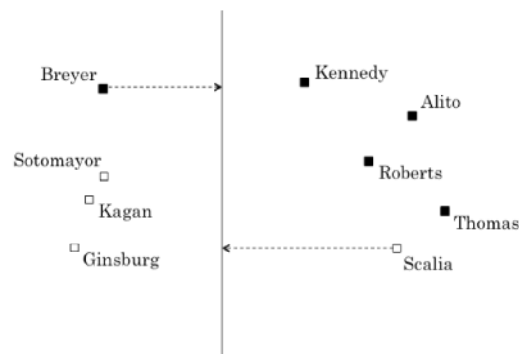


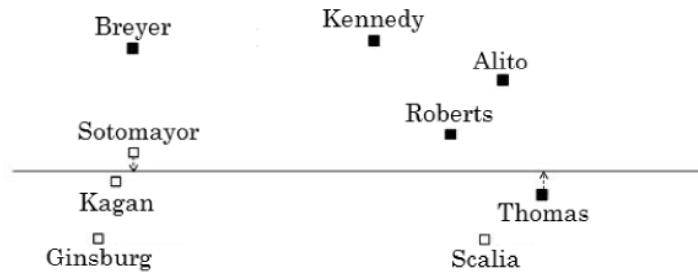
Figure 7 shows the alignment in *Williams*, but with a horizontal cutline. The alignment is also slightly disordered in the second dimension, because Justices Thomas and Sotomayor are each on the wrong side of the horizontal cutline. *Williams* is much less disordered, however, in the second dimension. Justices Thomas and Sotomayor need to travel shorter distances in order to move to the correct side of the horizontal cutline than Justices Breyer and Scalia did with the vertical cutline.<sup>122</sup> The second-dimension coordinates for Justices Thomas and Sotomayor are 0.041 and 0.082, respectively,<sup>123</sup> so they must travel a combined distance of 0.041 in order to be correctly positioned with respect to the cutline. Because this cutline minimizes the total amount of travel, the second-dimension disorder score for *Williams* is 0.041, which is significantly less than the first-dimension disorder score. Intuitively, this suggests that in *Williams*, the second dimension is far more salient in explaining the divisions on the Court than the first dimension is.

121. In this example, any vertical cutline that separates the liberal bloc and the conservative bloc will generate the minimum disorder score.

122. See *supra* Figure 6.

123. See *supra* Table 2.

Figure 7. Voting Alignment in *Williams v. Illinois*, with Horizontal Cutline



By repeating this procedure for every case during our period of study of the Roberts Court, we can derive disorder scores in both dimensions for each case. Figure 8 provides a scatter plot of these disorder scores for all nonunanimous cases decided by the Roberts Court. Disorder scores are generally larger in the first dimension, just as the distances among the Justices are larger in the first dimension. One-half of the nonunanimous cases are perfectly ordered in the first dimension. To identify cases that best exemplify the second-dimension divide, we select cases with high disorder scores in the first dimension but low disorder scores in the second dimension. Specifically, we select cases with first-dimension disorder scores of at least 0.3 and second-dimension disorder scores of at most 0.1. Although these thresholds are admittedly arbitrary, we chose them to conform to media and academic commentary about disordered voting. Cases such as *Williams* and *King*, for example, were described as disordered in the media<sup>124</sup> and have first-dimension disorder scores of 0.34. The cases meeting our criteria for disorder scores are listed in Table 3.

Unsurprisingly, many of the areas of case law known for generating unusual alignments are well represented among these second-dimension cases. Five of the second-dimension cases we identify involve the Confrontation Clause,<sup>125</sup> and three involve the Sixth

124. See *supra* notes 1-9 and accompanying text.

125. Those cases are: *Williams v. Illinois*, 132 S. Ct. 2221 (2012); *Bullcoming v. New Mexico*, 131 S. Ct. 2705 (2011); *Michigan v. Bryant*, 131 S. Ct. 1143 (2011); *Melendez-Diaz v. Massachusetts*, 557 U.S. 305 (2009); *Giles v. California*, 554 U.S. 353 (2008).

Amendment right to a jury trial.<sup>126</sup> The Justices also divided along the second dimension in three cases involving the Fourth Amendment.<sup>127</sup> There are four cases involving procedural or jurisdictional issues arising out of civil litigation<sup>128</sup> and two involving statutory criminal procedure.<sup>129</sup> Finally, many of the second-dimension cases involve issues of statutory interpretation, including four arising out of civil litigation<sup>130</sup> and four involving criminal statutes.<sup>131</sup>

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126. Those cases are: *S. Union Co. v. United States*, 132 S. Ct. 2344 (2012); *Oregon v. Ice*, 555 U.S. 160 (2009); *Cunningham v. California*, 549 U.S. 270 (2007).

127. Those cases are: *Maryland v. King*, 133 S. Ct. 1958 (2013); *Florida v. Jardines*, 133 S. Ct. 1409 (2013); *Arizona v. Gant*, 556 U.S. 332 (2009).

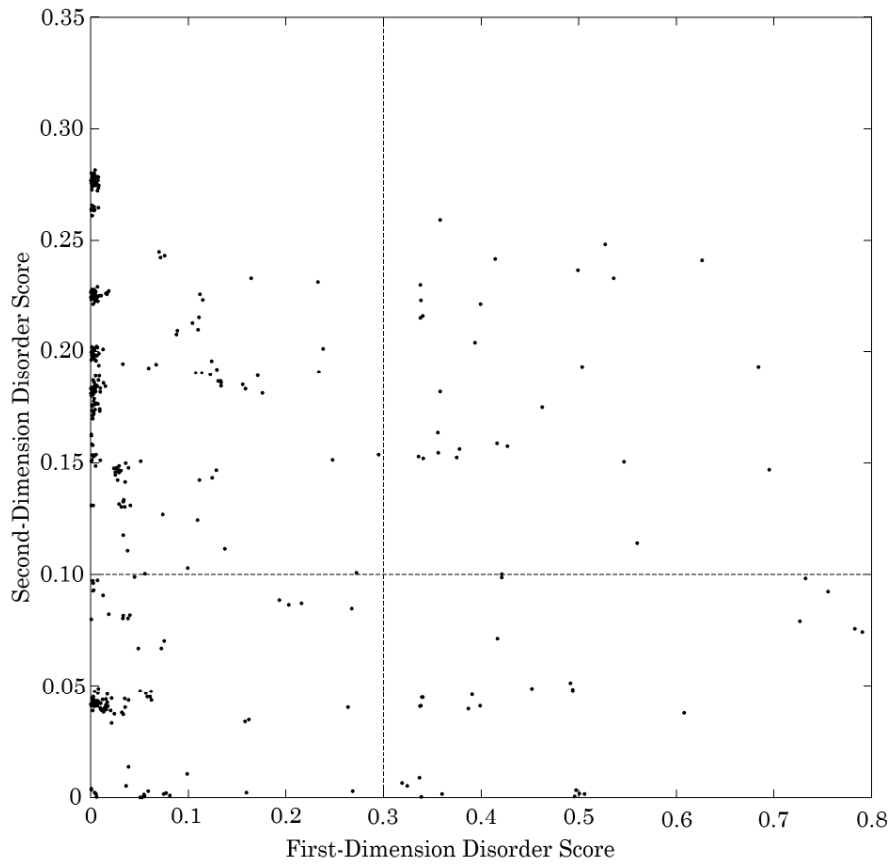
128. Those cases are: *Shady Grove Orthopedic Assocs. v. Allstate Ins. Co.*, 559 U.S. 393 (2010) (applicability of state statute regulating class actions in federal diversity case); *Vaden v. Discover Bank*, 556 U.S. 49 (2009) (Federal Arbitration Act); *Hall St. Assocs. v. Mattel, Inc.*, 552 U.S. 576 (2008) (Federal Arbitration Act); *Empire Healthchoice Assurance, Inc. v. McVeigh*, 547 U.S. 677 (2006) (federal question jurisdiction).

129. Those cases are: *Bloate v. United States*, 559 U.S. 196 (2010) (Speedy Trial Act); *Greenlaw v. United States*, 554 U.S. 237 (2008) (power of circuit court to correct sentencing errors absent cross-appeal).

130. Those cases are: *Adoptive Couple v. Baby Girl*, 133 S. Ct. 2552 (2013) (Indian Child Welfare Act); *CSX Transp., Inc. v. Ala. Dep't of Revenue*, 131 S. Ct. 1101 (2011) (Railroad Revitalization and Regulatory Reform Act); *Forest Grove Sch. Dist. v. T.A.*, 557 U.S. 230 (2009) (Individuals with Disabilities Education Act); *Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ.*, 550 U.S. 81 (2007) (federal Impact Aid Act).

131. Those cases are: *Reynolds v. United States*, 132 S. Ct. 975 (2012) (Sex Offender Registration and Notification Act); *Sykes v. United States*, 131 S. Ct. 2267 (2011) (Armed Career Criminal Act); *United States v. Santos*, 553 U.S. 507 (2008) (federal money laundering statute); *James v. United States*, 550 U.S. 192 (2007) (Armed Career Criminal Act).

Figure 8. Disorder Scores in Two Dimensions for Nonunanimous Cases, 2005-2012 Terms\*



\* Points are jittered so that cases with identical disorder scores are visible as clusters. The list of second-dimension cases is determined by the list of lower-right quadrant.

Table 3: List of Second-Dimension Cases\*

List of Second-Dimension Cases, 2005-2008 Terms												
Term	Case Name	Souter	Stevens	Ginsburg	Breyer	Kennedy	Roberts	Alito	Scalia	Thomas	1st-Dim Disorder	2nd-Dim Disorder
2006	Philip Morris USA v. Williams		X		X	X	X	X			0.79	0.08
2006	James v. United States		X		X	X	X	X			0.79	0.08
2008	Vaden v. Discover Bank		X	X		X			X	X	0.75	0.09
2005	Empire Healthchoice Assurance, Inc. v. McVeigh	X		X			X		X	X	0.73	0.08
2006	United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth.		X	X	X		X		X	X	0.61	0.04
2006	Cunningham v. California	X	X	X			X		X	X	0.5	0
2007	United States v. Santos	X	X	X					X	X	0.5	0.05
2008	Arizona v. Gant	X	X	X					X	X	0.5	0.05
2008	Melendez-Diaz v. Massachusetts	X	X	X					X	X	0.5	0.05

2007	Greenlaw v. United States		X	X		X	X		X	X	0.45	0.05
2006	Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ.	X		X	X	X		X			0.41	0.10
2008	Forest Grove Sch. Dist. v. T.A.	X		X	X	X	X	X			0.41	0.07
2008	Oregon v. Ice	X		X	X	X		X			0.41	0.10
2007	Hall St. Assocs. v. Mattel, Inc.		X	X			X	X	X	X	0.32	0.01
2007	Giles v. California		X	X			X	X	X	X	0.32	0.01

\*Justices in the majority are indicated with an "X."

List of Second-Dimension Cases, 2009 Term												
Term	Case Name	Stevens	Ginsburg	Sotomayor	Breyer	Kennedy	Roberts	Alito	Scalia	Thomas	1st-Dim Disorder	2nd-Dim Disorder
2009	South Carolina v. North Carolina	X			X	X		X	X		0.73	0.10
2009	Bloate v. United States	X	X	X		X	X		X	X	0.39	0.04

\*Justices in the majority are indicated with an "X."

List of Second-Dimension Cases, 2010-2012 Terms												
Term	Case Name	Ginsburg	Kagan	Sotomayor	Breyer	Kennedy	Roberts	Alito	Scalia	Thomas	1st-Dim Disorder	2nd-Dim Disorder
2010	Bullcoming v. New Mexico	X	X	X					X	X	0.5	0
2011	S. Union Co. v. United States	X	X	X			X		X	X	0.5	0
2012	Florida v. Jardines	X	X	X					X	X	0.5	0
2011	Golan v. Holder	X	—	X		X	X		X	X	0.39	0.04
2010	CSX Transp., Inc. v. Ala. Dep't of Revenue		X	X	X	X	X	X	X		0.39	0.04
2011	Reynolds v. United States		X	X	X	X	X	X		X	0.36	0
2010	Michigan v. Bryant		—	X	X	X	X	X		X	0.34	0
2010	Sykes v. United States			X	X	X	X	X		X	0.34	0.01
2011	Williams v. Illinois				X	X	X	X		X	0.34	0.04
2012	Maryland v. King				X	X	X	X		X	0.34	0.04
2012	Maracich v. Spears				X	X	X	X		X	0.34	0.04
2012	Adoptive Couple v. Baby Girl				X	X	X	X		X	0.34	0.04

\*Justices in the majority are indicated with an "X." Justice Kagan did not participate in cases denoted by a dash.

*B. A Theory of the Second Dimension: Pragmatism Versus Legalism*

Although Figures 4 and 5 demonstrate the existence of a second dimension on the Roberts Court, they do not reveal what this second dimension represents. As we have defined it, the second dimension is the axis orthogonal to the Ginsburg-Scalia axis. In a crude way, the second dimension captures the difference between Justices Scalia and Alito or the difference between Justices Ginsburg and Breyer. In this Section, we observe that many of the second dimension cases reflect a divide between pragmatism and legalism.

According to Judge Richard Posner:

Legalism [is] a positive theory of judicial behavior ... [that] hypothesizes that judicial decisions are determined by “the law,” conceived of as a body of preexisting rules found stated in canonical legal materials, such as constitutional and statutory texts and previous decisions of the same or a higher court, or derivable from those materials by logical operations.<sup>132</sup>

In contrast, Posner describes pragmatism as “basing a judicial decision on the effects the decision is likely to have, rather than on the language of a statute or of a case, or more generally on a preexisting rule.”<sup>133</sup>

Divides often arise between legalists and pragmatists in cases involving the breadth of a legal rule. Legalists generally prefer categorical application of rules, even in situations where the background justifications of the rule apply weakly, or not at all. On the other hand, pragmatists prefer to apply rules narrowly, especially in settings where the application of a rule might conflict with its purpose. Thus, pragmatists favor balancing tests and particularized rules, which provide judges greater discretion to achieve fair results in individual cases.

The second kind of consideration involves conflicts between legal texts and extratextual considerations such as policy, efficiency, or morality. Legalists are more concerned with reaching the decision that is best justified by official legal sources, even if such a holding

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132. POSNER, *supra* note 26, at 41.

133. *Id.* at 40.



might create bad policy or an unjust result in the individual case. Pragmatists, on the other hand, are less inclined to view legal texts as decisive and are more concerned about reaching fair and sensible results.

The connection between the second dimension and the legalism-pragmatism divide is well known in cases involving the Confrontation Clause and the jury trial right of the Sixth Amendment.<sup>134</sup> The Confrontation Clause cases on our list followed the Rehnquist Court's 2004 decision in *Crawford v. Washington*, which replaced the Court's prior balancing approach with a categorical rule requiring that all testimonial statements in criminal trials be subject to cross-examination.<sup>135</sup> However, the Court in *Crawford* left open the question of what constitutes "testimonial."<sup>136</sup> Instead of defining that key term, the Court merely described a number of broad categories structured around the primary purpose of the statement at the time of its utterance and whether the circumstances of the utterance suggested its likely future relevance in a criminal prosecution.<sup>137</sup> This approach left open many questions for later cases.<sup>138</sup>

The questions raised in our second-dimension Confrontation Clause cases fall into two broad categories: whether the definition of "testimony" extends to statements made by technicians' reports when the individual technician is not available to testify,<sup>139</sup> and

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134. See Barkow, *supra* note 11, at 1045-47; Stephanos Bibas, *Justice Kennedy's Sixth Amendment Pragmatism*, 44 MCGEORGE L. REV. 211, 211-14, 216-17 (2013); Bibas, *supra* note 11, at 184, 199-201; Jeffrey L. Fisher, *Categorical Requirements in Constitutional Criminal Procedure*, 94 GEO. L.J. 1493, 1495 (2006).

135. See 541 U.S. 36, 67-69 (2004).

136. See *id.* at 68.

137. See *id.* at 51-52, 68.

138. See, e.g., Jennifer L. Mnookin, *Expert Evidence and the Confrontation Clause After Crawford v. Washington*, 15 J.L. & POL'Y 791, 795 (2007) ("[*Crawford* has] raised as many questions as it has answered."); Deborah Tuerkheimer, *Confrontation and the Re-Privatization of Domestic Violence*, 113 MICH. L. REV. FIRST IMPRESSIONS 32, 32 (2014), <http://michiganlawreview.org/confrontation-and-the-re-privatization-of-domestic-violence/> [<https://perma.cc/7YKB-JDG9>] ("A sound articulation of the meaning of 'testimonial,' which *Crawford* introduced but failed adequately to define, continues to elude the Court, and lower courts have struggled to implement the testimonial concept.") (footnote omitted).

139. See *Williams v. Illinois*, 132 S. Ct. 2221, 2227-28 (2012) (testimony of an outside expert who is qualified to interpret such a report but was not involved in its creation); *Bullcoming v. New Mexico*, 131 S. Ct. 2705, 2710 (2011) (testimony of the supervisor of such a technician, when the supervisor did not observe the testing process); *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 307 (2009) (regarding technician's reports analyzing tests on samples).

whether the definition includes prior victim statements when the victim is unavailable.<sup>140</sup> Justices Scalia, Ginsburg, Souter, and Sotomayor applied a categorical approach to the Confrontation Clause in all of these cases in which they participated; Justices Breyer and Kennedy favored a balancing approach in all of the cases; and Chief Justice Roberts and Justice Alito favored balancing in four out of five of the cases.<sup>141</sup>

The second-dimension divide is also familiar in cases involving the Fourth Amendment. *Maryland v. King*, for example, concerned a criminal suspect objecting to a suspicionless DNA swab taken as part of the routine booking procedure.<sup>142</sup> A majority consisting of Chief Justice Roberts and Justices Kennedy, Thomas, Breyer, and Alito upheld the search, while Justices Scalia, Ginsburg, Sotomayor, and Kagan dissented.<sup>143</sup> As Erin Murphy observed following the Court's recent decision in *King*:

The press found the *King* lineup confounding, but criminal proceduralists who watch the Court could have called it. Generally speaking, the dissenters believe in the warrant requirement....

The majority, in contrast, believes in the government. They believe in “reasonableness” and “free-form balancing” as the Fourth Amendment’s anchors, not something as rigid as suspicion or a warrant.... It is not left or right that decided this case—or that decides most criminal procedure cases these days. It is the classic divide between rules and standards, amplified by a split between skeptics and believers in the beneficence of unfettered law enforcement.<sup>144</sup>

However, one of our Fourth Amendment cases, *Arizona v. Gant*, raises challenging questions about the interpretation of the second dimension as implicating a divide between legalism and pragmatism.<sup>145</sup> In *Gant*, the Court considered whether police can search a vehicle incident to arrest when a defendant is handcuffed in the

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140. See *Michigan v. Bryant*, 131 S. Ct. 1143, 1150 (2011) (victim statements made at the scene of the crime when the accused is still at large); *Giles v. California*, 554 U.S. 353, 357 (2008) (victim unavailable due to a murder allegedly committed by the accused).

141. See *supra* notes 139-40.

142. 133 S. Ct. 1958, 1965-66 (2013).

143. *Id.* at 1965-66, 1980.

144. Murphy, *supra* note 13, at 186-87 (footnotes omitted).

145. See *generally* 556 U.S. 332 (2009).

back of the locked patrol car.<sup>146</sup> Under a broad reading of prior precedent, such a search was permitted because the area within “one lunge” of the place of an arrest was deemed to be presumptively within an arrestee’s immediate control.<sup>147</sup> Justice Stevens, joined by a mostly legalist coalition consisting of Justices Ginsburg, Souter, Scalia, and Thomas, rejected this broad reading, holding that the search was impermissible because the defendant was not physically capable of accessing his car at the time of the search, and police could not reasonably have believed the contrary.<sup>148</sup> Thus, the legalist coalition rejected a broad reading of the prior rule in order to avoid “untether[ing] the rule from [its] justifications.”<sup>149</sup> The dissenting pragmatists, by contrast, criticized the majority for abandoning a clear rule, arguing that the majority’s new test was “virtually certain to confuse law enforcement officers and judges for some time to come.”<sup>150</sup>

Although a detailed examination of the statutory second-dimension cases is beyond the scope of this Article, the Court’s recent decision in *Adoptive Couple v. Baby Girl* provides a useful illustration.<sup>151</sup> In *Adoptive Couple*, the Court held that the ICWA, which ordinarily governs state custody proceedings involving Native American children, did not apply to a girl who had never been in the custody of her Native American father.<sup>152</sup> Justice Alito—writing for the same pragmatist majority as in *King*—emphasized various facts that were not germane to the statutory text, such as the girl’s remote biological connection to the Cherokee tribe and the biological father’s failure to support the mother during pregnancy.<sup>153</sup> The dissent, by

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146. *See id.* at 335.

147. *See* *New York v. Belton*, 453 U.S. 454, 460 (1981) (applying a broader assumption specifically to automobiles that articles inside the relatively narrow compass of the passenger compartment of an automobile are in fact “generally, even if not inevitably, within ‘the area into which an arrestee might reach in order to grab a weapon or evidentiary ite[m]’” (quoting *Chimel v. California*, 395 U.S. 752, 763 (1969)) (alteration in original)); *Chimel v. California*, 395 U.S. 752, 763, 768 (1969) (allowing searches of “the area into which an arrestee might reach”).

148. *See Gant*, 556 U.S. at 344.

149. *See id.* at 343.

150. *Id.* at 356 (Alito, J., dissenting).

151. 133 S. Ct. 2552 (2013).

152. *See id.* at 2557.

153. *See id.* at 2556, 2564-65.

contrast, criticized the majority for “adopt[ing] a reading of ICWA that is contrary to both its text and its stated purpose.”<sup>154</sup>

### CONCLUSION

In cases that divide along the second dimension, whatever the subject matter, it is easy to criticize the position of judges on each side of an issue as either twisting the law to achieve a desired outcome or as being insensitive to injustice or even to perverse effects. But when thought of in methodological rather than simple policy terms, these two broad camps capture the divide between pragmatists and legalists. That division can be thought of as a disagreement over which type of error is better to make in legal analysis: providing too much discretion to judges to choose outcomes according to their policy preferences, on one hand, or giving too little consideration of the justice meted out to individual parties, on the other. That debate underlies many of the high-level jurisprudential disputes that play out in appellate courts and legal scholarship—over the relative merits of rules versus standards, over what sources of law are legitimate, and over the role of judges and the ideal level of judicial discretion. Given this widespread impact, it is not surprising that we find that the second dimension arises in a variety of subject areas, from civil and criminal statutory interpretation cases, to constitutional criminal procedure cases, to administrative law cases, and many others.

There are a number of reasons to think that our methods may actually be understating the significance of the second dimension. First, in our data analysis, we treat all votes for a majority position the same, without taking account of concurrences; but as we saw in our doctrinal analysis, many concurrences, when considered qualitatively, could be recategorized between pragmatism and legalism. As such, our empirical tests utilize a noisy measure of second dimensionality and, thus, constitute a conservative assessment of the strength of the second dimension. Second, because we look at only the U.S. Supreme Court, we are arguably undertaking the hardest test for the power of the second dimension. An extensive

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154. *Id.* at 2572 (Sotomayor, J., dissenting).

literature,<sup>155</sup> as well as accounts of judges themselves,<sup>156</sup> suggest that legal methodology is more important for the lower courts, both because the Supreme Court tends to take the most highly salient political cases and because lower courts face oversight for failure to follow Supreme Court precedent. A similar argument has been made that the U.S. Supreme Court is comparatively more policy-oriented than supreme and constitutional courts in other Western nations.<sup>157</sup> Thus, the fact that we find that a second dimension significantly shapes U.S. Supreme Court decisions suggests that the methodological dimension may be even clearer when analyzed in other contexts.

Accordingly, the second dimension needs to be taken seriously in a variety of arenas. For advocates, our results suggest that the popular media's idea that every argument made before the current Court should be directed at persuading Justice Kennedy may be misidentifying the median in multiple relevant areas. Additionally, in some cases it may be easier to change a Justice's vote in the second dimension than the first,<sup>158</sup> particularly in highly salient political cases. For scholars, our results raise significant challenges for how empirical legal studies should measure judicial preferences. In addition, the second dimension raises important questions about some of the empirical claims made in that literature. For instance, the claim that all but one Justice in the post-1930s era have "drifted" in their political preferences over time<sup>159</sup> may simply be a

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155. See Frank Cross et al., *A Positive Political Theory of Rules and Standards*, 2012 U. ILL. L. REV. 1, 14 (surveying the empirical literature and concluding that "[l]egal obedience ... appears to be a much stronger constraint on lower courts than higher courts, as expected given the nature of judicial hierarchy").

156. See, e.g., Posner, *supra* note 25, at 40 (arguing that legal doctrine provides an important time-saving heuristic for lower court judges).

157. See Michel Rosenfeld, *Comparing Constitutional Review by the European Court of Justice and the U.S. Supreme Court*, 4 INT'L J. CONST. L. 618, 627, 630, 632-34, 645, 648 (2006) (describing how the European Court of Justice is more vulnerable to external pressure than the U.S. Supreme Court). The German Federal Constitutional Court hears, on average, less than three major constitutional issues per year. David Fontana, *Docket Control and the Success of Constitutional Courts*, in *COMPARATIVE CONSTITUTIONAL LAW* 624, 627 (Tom Ginsburg & Rosalind Dixon eds., 2011).

158. Vanessa Baird & Tonja Jacobi, *How the Dissent Becomes the Majority: Using Federalism to Transform Coalitions in the U.S. Supreme Court*, 59 DUKE L.J. 183, 186 (2009) (showing how, in a significant number of cases, dissenting Justices are able to use federal-state division to split substantive coalitions and craft subsequent majority coalitions).

159. See Epstein et al., *supra* note 108, at 1486.

result of a failure to measure judicial preferences in two dimensions. Because the second dimension is largely orthogonal to the first dimension, Justices will at times have to choose between the way they want to decide a case ideologically versus methodologically. This understanding illustrates just one of the significant implications of this Article having rigorously established the existence of the second dimension: the suggestion that judicial preferences are so variable and weakly anchored that every single Justice—bar one—has significantly changed his or her view while on the nation's highest Court provides a very different conception of judging than our view of judges as, rather, battling internally between methodological and policy considerations, which at times pull in opposite directions.

