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THE BIG DATA JURY

Andrew Guthrie Ferguson*

ABSTRACT

Big data technologies now exist to create algorithmically perfect jury pools matching the demographic realities of a community. Big data technologies also exist to provide litigants a wealth of personal information about potential jurors. The question remains whether these technological innovations benefit the jury system. This Article addresses the disruptive impact of big data on jury selection and the dilemma it presents to courts, lawyers, and citizens.

INTRODUCTION

Jury selection requires personal information about citizens. Courts need to know whom to summon. Litigants need to know whom to select. Personal identifying data is central to providing a representative and fair jury. Yet, courts and litigants know very little about individuals called to serve on juries. This institutional ignorance is purposeful, puzzling, and soon to be challenged by ever-expanding "big data" technologies which are currently collecting billions of bits of personal data on American citizens.[1]

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1 Steve Lohr, *How Big Data Became So Big*, N.Y. TIMES (Aug. 11, 2012), http://www.nytimes.com/2012/08/12/business/how-big-data-became-so-big-unboxed.html ("Big Data is a shorthand label that typically means applying the tools of artificial intelligence, like machine learning, to vast new troves of data beyond that captured in standard databases."); *see* JAMES MANYIKA ET AL., MCKINSEY GLOB. INST., BIG DATA: THE NEXT FRONTIER FOR INNOVATION, COMPETITION, AND PRODUCTIVITY 1 (2011), http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation ("'Big data' refers to datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze. This definition is intentionally subjective and incorporates a moving definition of how big a dataset needs to be in order to be considered big data—i.e., we don't define big data in terms of being larger than a certain number of terabytes (thousands of gigabytes). We assume that, as technology advances over time, the size of datasets that qualify as big data will also increase.").

This Article addresses the dilemma that big data poses to jury selection. The Article examines the law, practice, and theoretical questions that arise when courts and litigants apply new technologies of data collection to jury selection. Evolving big data information systems have the potential to create perfectly representative jury venires and even generate personalized dossiers on individual jurors. Yet, such informational precision presents real challenges to the existing jury system, offering promises of efficiency and accuracy at the expense of privacy and legitimacy.

The basic problem is one of information. Today, court systems interested in summoning a "fair-cross-section"[2] of citizens know only basic identifying data about citizens—gender, race, age, employment, and limited geographic characteristics.[3] Jurors, as citizens, are considered equal, so long as they meet the statutory requirements of service.[4] In an effort to avoid historically rooted discriminatory practices, courts have limited the data collected about jurors and randomized the selection process.[5] This egalitarian and purposely myopic selection process, while an improvement over past exclusionary practices, has not solved the problem of unrepresentative juries.[6] Constitutional fair cross-section litigation regularly exposes unrepresentative jury pools, and courts have responded with a confused and contradictory body of case law about what constitutes an impartial jury venire.[7]

Litigants equally know very little about individual jurors, although in contrast to the court, wish to know as much as possible to predict who might be favorable to their claims.[8] In high profile cases, lawyers hire jury consultants to divine the inclinations and attitudes of potential jurors.[9] In most cases, however, lawyers rely on hunches, stereotypes, and sometimes impermissible judgments based on race, ethnicity, or gender to find perceived partisans for their cause.[10] New methods of online investigation, involving both

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2   Duren v. Missouri, 439 U.S. 357, 364 (1979) (establishing the fair cross-section test).

3   *See* Gregory E. Mize & Paula Hannaford-Agor, *Jury Trial Innovations Across America: How We Are Teaching and Learning from Each Other*, 1 J. CT. INNOVATION 189, 206–07 (2008) (detailing the limited information provided to litigants about jurors).

4   *See* 28 U.S.C. § 1861 (2012).

5   *See* JEFFREY ABRAMSON, WE THE JURY 99–100 (1994); Shirley S. Abrahamson, *Justice and Juror*, 20 GA. L. REV. 257, 266–67 (1986).

6   Nina W. Chernoff, *Wrong About the Right: How Courts Undermine the Fair Cross-Section Guarantee by Confusing It with Equal Protection*, 64 HASTINGS L.J. 141, 145–46 (2012).

7   *Id.* at 165–83.

8   Thaddeus Hoffmeister, *Investigating Jurors in the Digital Age: One Click at a Time*, 60 U. KAN. L. REV. 611, 611 (2012) ("[A]ttorneys have long sought to learn as much as possible about those deciding the fate of their clients.").

9   *See, e.g.*, Franklin Strier & Donna Shestowsky, *Profiling the Profilers: A Study of the Trial Consulting Profession, Its Impact on Trial Justice and What, If Anything, to Do About It*, 1999 WIS. L. REV. 441, 442–43.

10   Valerie P. Hans & Alayna Jehle, *Avoid Bald Men and People with Green Socks? Other Ways to Improve the Voir Dire Process in Jury Selection*, 78 CHI.-KENT L. REV. 1179, 1190 (2003) ("One consequence of limited voir dire is that it encourages attorneys to rely on stereotypes based on a juror's demographic characteristics because that is often the primary information that they have about each individual juror."); Gregory E. Mize & Paula Hanna-

"Googling" potential jurors and studying social media connections, have generated additional ways to reveal information about potential jurors.[11] Such information derives from sources external to the court system, requiring additional financial expenditures, and is accessible only to those who can afford it.[12]

The result: a jury selection system that is both limiting and unequal. Courts, purposely limited to basic identifying data, randomly select jury pools that do not reflect demographic realities in society.[13] Litigants, practically limited to basic identifying data, choose jurors informed by the rough proxies of race, ethnicity, or gender, resulting in the discriminatory use of peremptory challenges.[14] Only those litigants with the financial means to investigate individual jurors can go beyond rough stereotypes to find out detailed personal information about potential jurors for their case.[15] Limited data collection thus impacts both selection of the jury venire and the actual jury panel in negative ways.

The rise of "big data" has the potential to upend the current informational limitations of jury selection.[16] Big data companies collect, and have collected, public and quasi-public information about most Americans' consumer, criminal, financial, health, political, and reading interests.[17] Google knows you have the flu before the doctor does.[18] Target knows you are preg-

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ford-Agor, *Building a Better Voir Dire Process*, 47 JUDGES' J. 4, 4 (2008) ("The parties and their lawyers want to learn as much as possible about the attitudes and life experiences of each venire member to know who they want to keep out of the jury box. But at times, lawyers obtain so little information that jury selection becomes a hunch game.").

11   Hoffmeister, *supra* note 8, at 611–12.

12   Dru Stevenson, *Jury Selection and the Coase Theorem*, 97 IOWA L. REV. 1645, 1654 n.39 (2012) ("The price tag for a full-service jury consultant helping prioritize peremptory strikes during voir dire, and coaching with persuasion techniques throughout the trial, can be hundreds of thousands or millions of dollars; prices for simply conducting a mock jury to vet issues or arguments can range from $2000 to $20,000.").

13   Nancy J. King, *Racial Jurymandering: Cancer or Cure? A Contemporary Review of Affirmative Action in Jury Selection*, 68 N.Y.U. L. REV. 707, 719 (1993) ("[I]n many communities across the country, the percentage of minority veniremembers, trial and grand jurors, and grand jury forepersons is significantly lower than the percentage of minority adults living in the communities from which they are drawn.").

14   *See infra* Section I.B.

15   *See* Hoffmeister, *supra* note 8, at 611.

16   *See infra* Part II.

17   FED. TRADE COMM'N, DATA BROKERS: A CALL FOR TRANSPARENCY AND ACCOUNTABILITY, at i–ii (2014), http://www.ftc.gov/system/files/documents/reports/data-brokers-call-transparency-accountability-report-federal-trade-commission-may-2014/140527databroker-report.pdf [hereinafter DATA BROKERS] (studying the data collection practices of nine companies: Acxiom, Corelogic, Datalogix, eBureau, ID Analytics, Intelius, PeekYou, Rapleaf, and Recorded Future).

18   DAVID BOLLIER, THE ASPEN INST., THE PROMISE AND PERIL OF BIG DATA 1–2 (2010) ("Google now studies the timing and location of search-engine queries to predict flu outbreaks and unemployment trends before official government statistics come out. Credit card companies routinely pore over vast quantities of census, financial and personal information to try to detect fraud and identify consumer purchasing trends.").

nant before your friends do.[19] Amazon will soon send you items that you want before you actually order them.[20] According to a Federal Trade Commission Report, commercial data brokers possess as many as 3,000 data points on every American consumer, segmented into household categories such as "Affluent Baby Boomer," "Bible Lifestyle," "Leans Left," or "African American Professional."[21] If tasked to do so by court administrators, these companies could produce a fair cross-section of individuals that not only represent the racial and gender demographics of a jurisdiction, but also a fair cross-section, as measured by class, age, geography, political affiliation, and even consumer interests or hobbies.[22]

This Article examines the dilemma that "big data" presents to those responsible for summoning and selecting jurors. Commercial providers possess, and government databases contain, better, more targeted, but very personal data in easily accessible formats.[23] I call this information, focused on individuals or groups, "bright data"—"bright" because it is smart (precise and targeted) and because it is illuminating (revealing preferences and patterns). Courts could use this data to select the larger jury venire, and litigants could use this data to select the particular jury panel. For court administrators, the availability of additional information provides the potential for increased jury diversity, beyond the rough categories of race, gender, and geography. For litigants, the available information could provide a wealth of insights once only available from expensive jury consultants. Big data could democratize

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19   Lior Jacob Strahilevitz, *Toward a Positive Theory of Privacy Law*, 126 HARV. L. REV. 2010, 2022 (2013) [hereinafter Strahilevitz, *Privacy Law*] ("Target famously used data mining to observe that pregnant women were likely to buy calcium, magnesium, and zinc supplements in their first trimester, unscented lotion early in their second trimester, and hand sanitizer close to their due dates."); Kashmir Hill, *How Target Figured Out a Teen Girl Was Pregnant Before Her Father Did*, FORBES (Feb. 16, 2012, 11:02 AM), http:// www.forbes.com/ sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did.

20   Lydia DePillis, *Amazon Wants to Send Stuff Before You Order It. Are Other Retailers Doomed?*, WASH. POST WONKBLOG (Jan. 30. 2014), http://www.washingtonpost.com/blogs/ wonkblog/wp/2014/01/30/amazon-wants-to-send-stuff-before-you-order-it-are-other-retailers-doomed/.

21   DATA BROKERS, *supra* note 17, at 47 ("[D]ata brokers hold a vast array of information on individual consumers. For example, one of the nine data brokers has 3000 data segments for nearly every U.S. consumer."); *see also id.* at 21 (outlining some data segment examples).

22   *Id.* at 19 ("[T]he data brokers use not only the raw data that they obtain from their sources, such as a person's name, address, home ownership status, age, income range, or ethnicity ('actual data elements'), but they also derive additional data ('derived data elements'). For example, a data broker might infer that an individual with a boating license has an interest in boating, that a consumer has a technology interest based on the purchase of a *Wired* magazine subscription, that a consumer has an interest in shoes because she visited Zappos.com, or that a consumer who has bought two Ford cars has loyalty to that brand.").

23   *See infra* Part II.

access to information about jurors, leading to more diverse juries and jury venires, and potentially less discriminatory jury selection practices.

At the same time, court usage of big data technology carries real risks. Traditional jury roles and values, including the continued legitimacy of the jury system itself, are at stake.[24] Big data threatens to disrupt, improve, and re-imagine jury selection, just as it will affect other areas of our lives. Increased big data collection of personal information involves an invasion of privacy that, if embraced by the court system, could result in significant backlash against jury service. Issues of juror privacy continue to increase as new technologies allow lawyers and the public to learn about the nameless, faceless citizens called to service.[25] Potential jurors might find the idea of the court having access to this personal data (even if otherwise publicly accessible) so unpalatable as to undermine cooperation with the existing jury system.[26] In addition, the idea of the juror constituting a representative "data point," rather than serving as a representative of the larger community, runs counter to the traditional ideal of the juror as the community conscience.[27] This affirmative targeting of classes of jurors also presents thorny constitutional issues, as considerations of race, gender, or ethnicity could run into equal protection problems.[28] Equalizing the availability of big data information about jurors, and making it a part of the jury selection system, raises practical, theoretical, and constitutional dilemmas which must be addressed.

Part I of this Article looks at the longstanding problems of diversity and discrimination in the jury selection process, with a focus on how the existing system limits the available information about jurors.[29] Currently, the jury selection system relies on very basic, almost uninformed data—here termed "dim data." Courts use this purposely shadowed and opaque dim data in an effort to avoid past discriminatory practices and equal protection scrutiny.[30] This approach necessarily limits the information available to courts and the parties. With the exception of Sixth Amendment fair cross-section chal-

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24   *See infra* Section III.C.

25   *See infra* Section III.B.

26   *See infra* Section III.B.

27   United States v. Dougherty, 473 F.2d 1113, 1142 (D.C. Cir. 1972) (Bazelon, C.J., concurring in part, dissenting in part) ("The very essence of the jury's function is its role as spokesman for the community conscience in determining whether or not blame can be imposed.").

28   Richard M. Re, Note, *Re-Justifying the Fair Cross Section Requirement: Equal Representation and Enfranchisement in the American Criminal Jury*, 116 YALE L.J. 1568, 1580 (2007) ("Demographic conceptions suggest a greater role for selected competence by focusing on the benefits generated by including particular group members in petit juries. In so doing, demographic conceptions take a step away from impartiality. At the extreme, a perfect understanding of the relationship between group membership and jury deliberations would permit jury-reforming officials to influence verdicts by changing the input of juror group membership.").

29   *See infra* Part I.

30   *See, e.g.*, Jeffrey S. Brand, *The Supreme Court, Equal Protection and Jury Selection: Denying that Race Still Matters*, 1994 WIS. L. REV. 511, 513.

lenges and Fourteenth Amendment equal protection challenges, courts choose to operate largely in the dark when it comes to who serves on juries.[31] Further, even within fair cross-section challenges, courts have disagreed on the appropriate analytical approach to remedy the defect of unrepresentative jury venires.[32]

Compounding the issue, there exists the problem of discrimination in the peremptory challenge stage.[33] While formal racial discrimination ended with *Batson v. Kentucky*,[34] and formal gender discrimination ended with *J.E.B. v. Alabama*,[35] scholars and practitioners acknowledge that race and gender considerations still influence the use of peremptory strikes.[36] These discriminatory practices result, in part, from the lack of information provided to lawyers about jurors.[37] Simply put, one reason why lawyers strike jurors based on the proxies of racial or gender stereotypes is because no better information is available. Consequently, despite great advances in creating larger, more diverse jury pools, concerns about racial or gender diversity within actual jury panels remain.[38]

Part II looks at the potential of "bright data" to respond to the problems of diversity and discrimination by providing more detailed information about potential jurors. This personal information already exists, is easily accessible, and could improve the diversity of jury venires and jury panels. Big data knows the demographic makeup of a community better than the court system does.[39] Big data companies regularly target zip codes, neighborhoods, households and even individuals based on numerous data points.[40] Big data has become a big business precisely because it can target predicted interests, sensibilities, and attitudes.[41] For jury administrators, this not only offers greater access to increased diversity in the jury venire, but information about whom (or what type(s) of person(s)) is not appearing for jury service. As

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31 *See infra* Part I.

32 Berghuis v. Smith, 559 U.S. 314, 329 (2010); Castaneda v. Partida, 430 U.S. 482, 496 n.17 (1977); United States v. Hernandez-Estrada, 749 F.3d 1154, 1160–66 (9th Cir. 2014) (en banc).

33 Caren Myers Morrison, *Negotiating Peremptory Challenges*, 104 J. Crim. L. & Criminology 1, 5 (2014); *see also infra* subsection I.A.2.

34 476 U.S. 79 (1986).

35 J.E.B. v. Alabama ex rel. T.B., 511 U.S. 127, 146 (1994).

36 *See, e.g.*, Leslie Ellis & Shari Seidman Diamond, *Race, Diversity, and Jury Composition: Battering and Bolstering Legitimacy*, 78 Chi.-Kent L. Rev. 1033 (2003); Nancy J. King, *The Effects of Race-Conscious Jury Selection on Public Confidence in the Fairness of Jury Proceedings: An Empirical Puzzle*, 31 Am. Crim. L. Rev. 1177 (1994).

37 *See infra* Section I.C.

38 *See infra* Section I.A.

39 *See infra* Section II.A.

40 *See generally* Data Brokers, *supra* note 17.

41 Reed Albergotti, *Big Data, Big Dollars: Palantir Valued at $9 Billion*, Wall St. J. (Dec. 5, 2013), http://www.wsj.com/articles/SB1000142405270230349780457924050107 8423362; Katy Bachman, *Big Data Added $156 Billion in Revenue to Economy Last Year*, Adweek (Oct. 14, 2013), http://www.adweek.com/news/technology/big-data-added-156-billion-revenue-economy-last-year-153107.

"jury yields" (meaning the number of summoned jurors who show up to court)[42] have decreased in jurisdictions across the country, courts have begun recognizing that jury management systems need updating.[43] Targeting jurors to diversify the venire will necessarily result in additional information useful to court administrators trying to increase the efficacy of the jury summoning system.

In addition, these individualized predictive correlations about potential jurors could provide valuable information to litigants in the adversarial system.[44] For defendants who have liberty at stake or companies facing significant financial risk, identifying sympathetic members of the jury will be both a comfort and a tactical advantage.[45] Instead of knowing a juror is a twenty-three-year-old, white woman who works as a nurse, litigants in a big data world might know that the juror also reads parenting magazines, but not news magazines, recently went bankrupt, votes Republican, owns a licensed gun, and gives to religious charities. In some cases, that additional, public, relatively benign information may help make a more accurate predictive judgment about who would be a more suitable juror. This Part lays out the possibilities of how "bright data" could impact jury selection and the jury system.

Part II also examines how such a system incorporating bright data might be implemented. Basic jury venire practices are just beginning to adapt to the technological age.[46] Jury lists generally derive from state databases, including motor vehicle records, voting registries, and government benefit recipient lists.[47] Any big data record on an individual includes some of the same variables that these data points represent.[48] In fact, most data collection companies start by collecting available public records, including the

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42 GREGORY E. MIZE ET AL., NAT'L CTR. FOR STATE COURTS, THE STATE-OF-THE-STATES SURVEY OF JURY IMPROVEMENT EFFORTS: A COMPENDIUM REPORT 20 (2007), http:// cdm16501.contentdm.oclc.org/cdm/ref/collection/juries/id/112 ("The term 'jury yield' refers to the number of citizens who are found to be *qualified* and *available* for jury service expressed as a percentage of the total number of qualification questionnaires or summonses mailed.").

43 Shaun Bowler et al., *GOTJ: Get Out the Juror*, 36 POL. BEHAV. 515, 516–17 (2013).

44 Jonathan M. Redgrave & Jason J. Stover, *The Information Age, Part II: Juror Investigation on the Internet—Implications for the Trial Lawyer*, 2 SEDONA CONF. J. 211, 211 (2001).

45 *Id.*

46 Bowler et al., *supra* note 43, at 516–17.

47 MIZE ET AL., *supra* note 42, at 13 ("For those states that mandate which source lists to use, the ones that occur most frequently are the voter registration list (38 states) and the licensed driver list (35 states). . . . Nineteen states mandate the use of a combined voter/ driver list. Eleven mandate the use of three or more lists—typically, registered voters, licensed drivers, and state income or property tax lists, although other combinations are also common. Seven states restrict the number of source lists to a single list: Mississippi and Montana mandate the use of the registered voters list only; Florida, Michigan, Nevada, and Oklahoma mandate the use of the licensed drivers list only; and Massachusetts employs a unique statewide census for its master jury list.").

48 DATA BROKERS, *supra* note 17, at iv–v ("[C]ategories include those that primarily focus on ethnicity and income levels, such as 'Urban Scramble' and 'Mobile Mixers,' both

same datasets that help create official jury lists.[49] This Part briefly highlights how current technologies could be linked with existing court practices.

Part III examines the dilemma this type of bright data presents to the jury system. The decision about whether to incorporate available big data into the jury selection process exposes several tensions in the jury system itself. Do jurors exist to resolve cases between parties or do they represent the community as part of the constitutional structure? Does juror privacy outweigh litigants' desire to know more information about potential jurors? Would the incorporation of more personal data into the jury system have negative or unintended consequences to the perceived legitimacy of the jury system? Would increased access to information about jurors prevent real, if unacknowledged, racial or gender discrimination, or would this new data just provide different proxies to justify the same unconstitutional strikes?[50] Would better information about jurors change the outcome in any particular case? Would court administrators run afoul of the Equal Protection Clause by intentionally considering race and gender?[51] These questions are raised and answered to provide a framework for analysis for courts and scholars interested in considering the adoption of big data within the jury system.

The Article concludes by asking whether such a big data-based system, if possible, should be adopted. The fact that a technology exists and could be feasibly integrated into the court system does not answer the question of whether the system should be encouraged. Court administrators and judges will soon need to make these decisions as the temptations of big data are growing and will need to be evaluated and acted upon.

I. Jury Selection Design: A System of "Dim Data"

This Part briefly reviews the problem of jury diversity and discrimination with the goal of identifying the information deficits that arise from the current jury selection system. Dozens of wonderful articles, books, and historical projects have been devoted to the evolution of jury equality.[52] This Part merely canvasses that rich literature as a framework to study the data problems arising from the current legal standards. As will be discussed, in a

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of which include a high concentration of Latinos and African Americans with low incomes.").

   49   *See infra* subsection III.A.2.
   50   *See infra* Section III.D.
   51   *See infra* Section III.E.
   52   *See, e.g.*, Abramson, *supra* note 5, at 25; Vikram David Amar & Alan Brownstein, *The Hybrid Nature of Political Rights*, 50 Stan. L. Rev. 915, 916–17 (1998); Barbara Allen Babcock, *A Place in the Palladium: Women's Rights and Jury Service*, 61 U. Cin. L. Rev. 1139, 1147–48 (1993); Laura Gaston Dooley, *Our Juries, Our Selves: The Power, Perception, and Politics of the Civil Jury*, 80 Cornell L. Rev. 325, 355 (1995); James Forman, Jr., *Juries and Race in the Nineteenth Century*, 113 Yale L.J. 895, 910–14 (2004); Nancy S. Marder, *Introduction to the Jury at a Crossroad: The American Experience*, 78 Chi.-Kent L. Rev. 909, 923 (2003); Gretchen Ritter, *Jury Service and Women's Citizenship Before and After the Nineteenth Amendment*, 20 Law & Hist. Rev. 479, 481 (2002).

well-meaning effort to design a jury in an impartial, non-discriminatory manner, courts and legislatures have shielded themselves from valuable information about jurors, with limiting and distorting consequences. The current jury selection system relies on a purposely shrouded and opaque process that blinds court systems and litigants to more information.

A. Designing an Inclusive Jury Venire

The jury has long mirrored the promise and problems of American equality.[53] Battles over jury diversity have paralleled the battles over equality after the Reconstruction Amendments, the Nineteenth Amendment, and the civil rights and women's rights movements.[54] As the idea of citizenship expanded to reflect the gains of these successful social movements, so did the problems of selecting a jury that represented this new democratic polity.[55]

In direct response to a history of jury selection dominated by exclusionary "key man system[s]"[56] and "blue ribbon juries"[57] which subjectively, arbitrarily, and discriminatorily restricted which citizens were picked from the jury rolls, the modern jury system strives to be objective and random.[58] The federal Jury Selection and Service Act of 1968 mandates random selection of citizens from certain governmentally maintained lists.[59] Because of this federal law, and its influence in state systems, most courts randomly select jurors from specific lists of official government records.[60] Generally, federal courts rely on voter registration lists to assemble juror names.[61] Some districts have

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53   Andrew Guthrie Ferguson, *The Jury as Constitutional Identity*, 47 U.C. DAVIS L. REV. 1105, 1121–35 (2014).

54   *Id.*

55   Dooley, *supra* note 52, at 355; Marder, *supra* note 52, at 922–23.

56   Vikram David Amar, *Jury Service as Political Participation Akin to Voting*, 80 CORNELL L. REV. 203, 207 n.26 (1995) ("Under a key man system, citizens of good reputation in the community (the 'key' men) recommend persons to fill the jury venire.").

57   Franklin Strier, *The Educated Jury: A Proposal for Complex Litigation*, 47 DEPAUL L. REV. 49, 58 (1997) ("In the United States, special 'blue ribbon' juries were common in the first half of the twentieth century, but fell into desuetude thereafter." (footnote omitted)).

58   *See* 28 U.S.C. § 1861 (2012).

59   *Id.* § 1863.

60   MIZE ET AL., *supra* note 42, at 13 ("[T]he choice of source lists is an important policy decision for state courts insofar that it establishes the inclusiveness and the initial demographic characteristics of the potential jury pool. Thirty states mandate that courts within the jurisdiction use only the designated source lists, while 15 states and the District of Columbia permit local courts to supplement the required lists with additional lists. The remaining five states do not mandate the use of any specific source list, but enumerate the permissible lists that can be employed for this purpose." (footnote omitted)); Paula Hannaford-Agor, *Systematic Negligence in Jury Operations: Why the Definition of Systematic Exclusion in Fair Cross Section Claims Must Be Expanded*, 59 DRAKE L. REV. 761, 780 (2011) ("The use of multiple source lists to improve the demographic representation of the master jury list is perhaps the most significant step courts have undertaken since they abandoned the key-man system in favor of random selection from broad-based lists.").

61   28 U.S.C § 1863(b)(2) (2012) ("[P]rospective jurors shall be selected from the voter registration lists or the lists of actual voters of the political subdivisions within the district or

supplemented voter registration lists with names of persons holding a driver's license or state identification card.[62] Many state courts compile jury lists from driver's license data,[63] tax information,[64] public utility customer information,[65] and other sources,[66] such as unemployment or public benefits lists.[67]

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division. The plan shall prescribe some other source or sources of names in addition to voter lists where necessary to foster the policy and protect the rights secured by sections 1861 and 1862 of this title.").

62   *See generally* MIZE ET AL., *supra* note 42, at 14 ("21 states permit courts to supplement the mandated lists with additional source lists including state and local income or property tax rolls, unemployment . . . lists . . . and 'other' lists. In most instances, 'other' referred to state identification card holders, which is often maintained by the same agency that maintains the list of licensed drivers."); Andrew J. Lievense, Note, *Fair Representation on Juries in the Eastern District of Michigan: Analyzing Past Efforts and Recommending Future Action*, 38 U. MICH. J.L. REFORM 941, 947 (2005) (arriving at the same conclusion).

63   *See, e.g.*, NEB. REV. STAT. § 25-1628(1) (2015) ("[T]he officer having charge of the election records shall furnish to the jury commissioner a complete list of the names, dates of birth, addresses, and motor vehicle operator license numbers or state identification card numbers of all registered electors nineteen years of age or older in the county."); N.M. STAT. ANN. § 38-5-3 (West 2015) ("The director of the motor vehicle division of the taxation and revenue department shall make available by electronic media to the department of information technology a database of driver's license holders in each county, which shall be updated every six months."); Ronald Randall et al., *Racial Representativeness of Juries: An Analysis of Source List and Administrative Effects on the Jury Pool*, 29 JUST. SYS. J., 71, 72 (2008) ("A combined voter/driver list is required in nineteen states, and three or more lists are mandated in eleven states. It is difficult to know precisely how many jurisdictions in the United States use drivers' lists or registered voters' lists exclusively because of the discretion left to local jurisdictions in many states." (citations omitted)).

64   *See, e.g.*, TENN. CODE ANN. § 22-2-301(a) (2015) ("The jury commission for each county shall compile and maintain a master jury list consisting of the current voter registration list for the county supplemented with names from other lists of persons resident therein, such as lists of utility customers, property taxpayers, motor vehicle registrations, drivers' licenses, and state identification cards, which the supreme court from time to time designates.").

65   *See, e.g.*, IDAHO CODE ANN. § 2-206(1) (2015) ("The jury commission for each county shall compile and maintain a master jury list consisting of the current voter registration list for the county supplemented with names from other lists of persons resident therein, such as lists of utility customers, property taxpayers, motor vehicle registrations, drivers' licenses, and state identification cards, which the supreme court from time to time designates."); IOWA CODE § 607A.22(2) (2015) ("The appointive jury commission or the jury manager may use any other current comprehensive list of persons residing in the county, including but not limited to the lists of public utility customers, which the appointive jury commission or jury manager determines are useable for the purpose of a juror source list.").

66   Randall et al., *supra* note 63, at 75 ("[S]ome jurisdictions do supplement their main source list (voters' lists, drivers' lists, or both) with 'residents (according to state census), utility and telephone customers, newly naturalized citizens, property owners, motor vehicle owners, and state taxpayers, including welfare and unemployment recipients.'" (citation omitted) (quoting JURY TRIAL INNOVATIONS 35 (G. Thomas Munsterman et al. eds., 1997))).

67   *See* Hannaford-Agor, *supra* note 60, at 780 ("[T]he vast majority of state courts and a sizeable number of federal courts have adopted the use of multiple lists as the starting

Persons on these lists comprise the jury wheels from which courts select individual jury venires for jury summons,[68] and also serve as the basis for constitutional challenges when these lists do not create adequately representative juries.[69] While designed to be non-discriminatory, diversity within the jury venire often does not match the diversity of the local population, meaning that the jury venire does not match the demographic make-up of the community.[70]

The Supreme Court has considered jury venire challenges arising from both Sixth Amendment and the Fourteenth Amendment claims. Each has a separate history which will be addressed in turn, but both lines of cases have led courts to limit the type of information known about jurors.

1. Sixth Amendment—Impartial Jury

Textually, the only hint of the type of jury envisioned by the founders is the language in the Sixth Amendment, which requires an "impartial" jury.[71] Originally, an impartial jury meant a jury lacking bias toward the parties.[72] However, as the pool of jurors became democratized, the Supreme Court redefined an impartial jury to mean one reflecting a cross-section of the com-

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point for a defensible jury system. Forty-three states and the District of Columbia permit the use of two or more source lists to compile master jury lists, of which thirty-one mandate the use of at least two lists and eleven mandate the use of three or more lists—typically, registered voter, licensed driver, and state income or property tax lists."); Robert C. Walters et al., *Jury of Our Peers: An Unfulfilled Constitutional Promise*, 58 S.M.U. L. REV. 319, 352 (2005) ("To reach more people, court officials added lists from New York State income tax payers and state unemployment and welfare rolls.").

68   Mary R. Rose & Jeffrey B. Abramson, *Data, Race, and the Courts: Some Lessons on Empiricism from Jury Representation Cases*, 2011 MICH. ST. L. REV. 911, 915, 918–20, 949–50 (discussing different types of jury wheels and jury summonsing techniques).

69   Chernoff, *supra* note 6, at 143–44.

70   Kim Forde-Mazrui, *Jural Districting: Selecting Impartial Juries Through Community Representation*, 52 VAND. L. REV. 353, 356 (1999) ("Even when they are contacted, minority residents are less likely to complete a jury questionnaire or to respond to a jury summons due to apathy or resentment toward a criminal justice system from which many feel alienated.").

71   U.S. CONST. amend. VI ("In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed . . . ."); Mark Cammack, *In Search of the Post-Positivist Jury*, 70 IND. L.J. 405, 428 (1995) ("Indeed, impartiality is the only defining feature of the jury that is mentioned anywhere in the Constitution."). Of course, at the time of the Founding, only white men of property could serve on juries.

72   Caren Myers Morrison, *Jury 2.0*, 62 HASTINGS L.J. 1579, 1618–19 (2011) ("At common law, jurors were 'impartial,' not because they knew nothing about the case, but simply because they had no family ties to any of the parties and no financial interest in the outcome."). This understanding of impartiality still exists, but has been supplemented by other considerations as well. *See* Smith v. Phillips, 455 U.S. 209, 217 (1982) (defining "impartial jury" to be a jury "capable and willing to decide the case solely on the evidence before it").

munity.[73] As the Supreme Court stated in *Taylor v. Louisiana*, "[t]he unmistakable import of this Court's opinions, at least since 1940 and not repudiated by intervening decisions, is that the selection of a petit jury from a representative cross section of the community is an essential component of the Sixth Amendment right to a jury trial."[74]

   The current test for an impartial jury adopts this fair cross-section definition.[75] The court's focus has been on a representative *jury venire*, and not the ultimate composition of the actual jury panel.[76] And, at least in criminal cases, the fair cross-section requirement provides an attempt at a representative jury panel.[77] Because the Seventh Amendment controls civil cases, the Supreme Court has never had to formally apply the impartiality/fair cross-section language to civil juries.[78] However, federal statutory law—The Jury

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   73   Thiel v. S. Pac. Co., 328 U.S. 217, 220 (1946) ("The American tradition of trial by jury, considered in connection with either criminal or civil proceedings, necessarily contemplates an impartial jury drawn from a cross-section of the community."); Strauder v. West Virginia, 100 U.S. 303, 308 (1879) ("The very idea of a jury is a body of men composed of the peers or equals of the person whose rights it is selected or summoned to determine; that is, of his neighbors, fellows, associates, persons having the same legal status in society as that which he holds."), *abrogated by* Taylor v. Louisiana, 419 U.S. 522 (1975).

   74   *Taylor*, 419 U.S. at 527–28 (citation omitted); *id.* at 527 ("[I]t is part of the established tradition in the use of juries as instruments of public justice that the jury be a body truly representative of the community." (quoting Smith v. Texas, 311 U.S. 128, 130 (1940))).

   75   *Id.* at 530 ("We accept the fair-cross-section requirement as fundamental to the jury trial guaranteed by the Sixth Amendment and are convinced that the requirement has solid foundation."); *see also* Lockhart v. McCree, 476 U.S. 162, 174–75 (1986); Peters v. Kiff, 407 U.S. 493, 503 (1972) (plurality opinion); Apodaca v. Oregon, 406 U.S. 404, 410 (1972) (plurality opinion); Williams v. Florida, 399 U.S. 78, 100 (1970); Glasser v. United States, 315 U.S. 60, 86 (1942) (acknowledging "the concept of the jury as a cross section of the community").

   76   Holland v. Illinois, 493 U.S. 474, 480 (1990) ("The Sixth Amendment requirement of a fair cross section on the venire is a means of assuring, not a *representative* jury (which the Constitution does not demand), but an *impartial* one (which it does)."); *Lockhart*, 476 U.S. at 173 ("We have never invoked the fair-cross-section principle . . . to require petit juries, as opposed to jury panels or venires, to reflect the composition of the community at large."); *Taylor*, 419 U.S. at 538 (Rehnquist, J., dissenting) ("[W]e impose no requirement that petit juries actually chosen must mirror the community and reflect the various distinctive groups in the population. Defendants are not entitled to a jury of any particular composition . . . .").

   77   Chernoff, *supra* note 6, at 143–44 ("The fair cross-section standard reflects the Court's recognition that—separate and independent from the harm of discrimination—the absence of any distinctive group in the community 'deprives the jury of a perspective on human events' that may be critical to evaluating a criminal case." (quoting *Peters*, 407 U.S. at 503–04 (1972)); *see id.* at 144 ("When juries are not selected from a fair cross-section of the community and thus fail to fairly and reasonably represent distinctive groups in the community like African-Americans and Hispanics, the defendant's Sixth Amendment right to an impartial jury is violated.").

   78   Douglas G. Smith, *The Historical and Constitutional Contexts of Jury Reform*, 25 HOFSTRA L. REV. 377, 464 n.366 (1996) ("The Court's discussions of the need for a representative jury in the context of civil litigation have been infrequent, and significantly, the Supreme

Selection and Service Act—imposes a fair cross-section requirement, so jurors who are summoned for both criminal and civil trials (at the same time) are—as a practical matter—randomly selected in the same non-discriminatory manner.[79]

Despite a random selection system, fair cross-section challenges regularly occur.[80] The leading fair cross-section case remains *Duren v. Missouri*.[81] In *Duren* the Court set forth a three-part test:

> In order to establish a prima facie violation of the fair-cross-section requirement, the defendant must show (1) that the group alleged to be excluded is a "distinctive" group in the community; (2) that the representation of this group in venires from which juries are selected is not fair and reasonable in relation to the number of such persons in the community; and (3) that this underrepresentation is due to systematic exclusion of the group in the jury-selection process.[82]

For Sixth Amendment purposes, a "distinctive group" involves traditionally unrepresented groups (e.g., women, African-Americans, Latinos).[83] To

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Court has never used the Constitution to condemn civil jury selection practices that result in deviation from the fair cross-section standard."); *see also* Fleming v. Chi. Transit Auth., 397 F. App'x 249, 249 (7th Cir. 2010) ("[T]he right to a [federal] jury trial in civil cases is based in the Seventh Amendment, not the Sixth, and the Supreme Court has not recognized a Constitutional mandate that jury pools in civil cases reflect a fair cross-section of the community.").

79   *See* Jury Selection and Service Act of 1968, Pub. L. No. 90-274, § 101, 82 Stat. 53, 54–55 (codified at 28 U.S.C. §§ 1861–69 (2012)) (noting that "[i]t is the policy of the United States that all litigants in Federal courts entitled to trial by jury shall have the right to grand and petit juries selected at random from a fair cross section of the community in the district or division wherein the court convenes," suggesting jury selection lists be created from voter lists and other sources necessary to ensure a fair cross-section of the community). In addition, the Supreme Court, using its supervisory powers over the federal courts, has suggested that impartiality applies to civil cases. *See* Thiel v. S. Pac. Co., 328 U.S. 217, 220 (1946) ("The American tradition of trial by jury, considered in connection with either criminal or *civil proceedings*, necessarily contemplates an impartial jury drawn from a cross-section of the community." (emphasis added)).

80   *See* Chernoff, *supra* note 6, at 143–44.

81   439 U.S. 357 (1979).

82   *Id.* at 364.

83   Barber v. Ponte, 772 F.2d 982, 999 (1st Cir. 1985) (en banc) ("The *Duren* court used the concept of 'distinctive group' in a case where women were subjected to discrimination. It is fair to assume that the court wanted to give heightened scrutiny to groups needing special protection, not to all groups generally. There is nothing to indicate that it meant to take the further step of requiring jury venires to reflect mathematically precise cross sections of the communities from which they are selected. Yet if the age classification is adopted, surely blue-collar workers, yuppies, Rotarians, Eagle Scouts, and an endless variety of other classifications will be entitled to similar treatment. These are not the groups that the court has traditionally sought to protect from under-representation on jury venires."); Hannaford-Agor, *supra* note 60, at 766 ("A 'distinctive' group for fair cross section purposes often encompasses groups that see themselves as distinct from other groups, are seen by others as a distinct group, and hold values not necessarily held by other groups. Many court opinions also refer to these groups using equal protection terminology of 'cog-

find a cross-section violation, this group must be underrepresented relative to its representation in the pool of potentially eligible jurors in the community.[84] In addition, this lack of diversity must result from systemic flaws.[85]

Since *Duren*, courts have struggled to define the threshold for determining when a fair cross-section violation occurs, and even the appropriate analytical framework for making such a determination.[86] If jury venires cannot perfectly match the makeup of the population, what level of disparity should courts accept? Federal courts have been unable to agree on a test, debating the comparative merits of an "absolute disparity test,"[87] a "disparity of risk test,"[88] an "absolute impact test,"[89] and a standard deviation test.[90] The

nizable' groups."); *see, e.g.*, Hernandez v. Texas, 347 U.S. 475, 482 (1954) ("His only claim is the right to be indicted and tried by juries from which all members of his class are not systematically excluded—juries selected from among all qualified persons regardless of national origin or descent. To this much, he is entitled by the Constitution."); United States v. Gelb, 881 F.2d 1155, 1161 (2d Cir. 1989) ("Jews are a cognizable group . . . ."); State v. Fulton, 566 N.E.2d 1195, 1201 (Ohio 1991) ("In construing the standard set forth in *Duren* we find that members of the Old Order Amish religious faith do comprise a 'distinctive' group.").

84 Rose & Abramson, *supra* note 68, at 918 ("Whether a 'distinctive group' is underrepresented in the jury pools of the Southern District of California requires a comparison between (1) a group's representation in the larger community—the definition of which might vary but typically is limited to the community of people eligible to serve on a jury (for example, over 18 and a U.S. citizen); and (2) that group's representation on the master jury wheel—the list of names from which individuals are randomly summoned to serve on grand and petit juries." (footnote omitted)).

85 Ballard v. United States, 329 U.S. 187, 192–93 (1946) ("The American tradition of trial by jury, considered in connection with either criminal or civil proceedings, necessarily contemplates an impartial jury drawn from a cross-section of the community. . . . [P]rospective jurors shall be selected by court officials without systematic and intentional exclusion of any of these groups." (quoting Thiel v. S. Pac. Co., 328 U.S. 217, 220 (1946))). The Court based its decision in *Ballard* on its supervisory powers of the federal courts, not on constitutional grounds.

86 *See* United States v. Hernandez-Estrada, 749 F.3d 1154 (9th Cir. 2014) (en banc).

87 *Id.* at 1160 ("The absolute disparity test . . . examines the difference between the percentage of the distinctive group in the community and the percentage of that group in the jury pool." (internal quotation marks omitted)).

88 Commonwealth v. Arriaga, 781 N.E.2d 1253, 1265 (Mass. 2003) (testing "the likelihood that the difference between a group's representation in the jury pool and its population in the community will result in a significant risk that the jury will not fairly represent the group").

89 *Hernandez-Estrada*, 749 F.3d at 1162 ("Closely related to the absolute disparity test is the absolute impact test. Under this approach, the initial calculation is the same as for the absolute disparity test. However, the resulting number is then multiplied by the number of persons on the particular panel."); *see also* United States v. Test, 550 F.2d 577, 588 n.11 (10th Cir. 1976) (discussing absolute impact test).

90 Castaneda v. Partida, 430 U.S. 482, 496 n.17 (1977) (testing the "measure of the predicted fluctuations from the expected value"). *But see* United States v. Rioux, 97 F.3d 648, 655 (2d Cir. 1996) ("It is illogical to apply a theory based on random selection when assessing the constitutionality of a qualified wheel. By definition, the qualified wheel is not the product of random selection; it entails reasoned disqualifications based on numerous

Supreme Court has acknowledged the general confusion about these standards without offering a remedy.[91] Courts have drawn arbitrary lines about the acceptable level of disparity, generally permitting an acceptable absolute disparity of 7.7% to 10%.[92] As constitutional markers of discrimination, these percentages are difficult to justify. Worse still, these percentages leave certain groups who comprise a percentage of the population smaller than the acceptable absolute disparity unable to ever bring a fair cross-section challenge.[93] Other mathematical and statistical concerns also exist with the current tests.[94]

For purposes of this Article, three conclusions are relevant to the quality and utility of information obtained through the current jury selection system. First, the effort to avoid subjective selection methods by using random selection from objectively designed lists has had the unintended consequence of limiting courts' knowledge of potential jurors to the basic identifying demographic information contained in governmental lists. Second, because only "distinctive groups" can raise Sixth Amendment claims, courts have avoided studying or analyzing other types of diversity in the jury venire. Third, because a fair cross-section has no easy definition, courts have so far been unable to agree on an appropriate legal standard, leaving both the doctrine in disarray and the problem unsolved. Dim data has created a real problem in generating a fully representative jury venire and even worse, because of the lack of information, courts are not in a position to remedy the issue.

2. Fourteenth Amendment—Equal Protection

In addition to a Sixth Amendment right to an impartial jury venire, the Court has also recognized an equal protection right to be free from unlawful discrimination in the selection of the venire.[95] This Fourteenth Amendment

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factors. It is irrational to gauge the qualified wheel—an inherently non-random sample—by its potential for randomness.").

  91   Berghuis v. Smith, 559 U.S. 314, 329 (2010) (declining to specify "the method or test courts must use to measure the representation of distinctive groups in jury pools").

  92   *Hernandez-Estrada*, 749 F.3d at 1162 (discussing the current state of flux in the law).

  93   United States v. Rodriguez-Lara, 421 F.3d 932, 944 n.10 (9th Cir. 2005) ("The necessary implication of this margin is that if a distinctive group makes up 7.7% or less of the community, then the fair cross-section requirement offers no redress even if that group is *entirely shut out of the jury pool*.").

  94   *Hernandez-Estrada*, 749 F.3d at 1162 ("The absolute disparity test has been used by many courts because it is easy to administer. . . . However, no court has been able to articulate or defend it on any sound statistical basis."); Serena v. Mock, 547 F.3d 1051, 1054 n.2 (9th Cir. 2008) ("We question, however, whether the approach compelled by our case law [i.e., the absolute disparity approach] is mathematically sound.").

  95   Strauder v. West Virginia, 100 U.S. 303, 310 (1879), *abrogated by* Taylor v. Louisiana, 419 U.S. 522 (1975) ("[T]he statute of West Virginia, discriminating in the selection of jurors, as it does, against negroes because of their color, amounts to a denial of the equal protection of the laws to a colored man when he is put upon trial for an alleged offence against the State. . . ."); *see also* Chernoff, *supra* note 6, at 150 ("Up until 1975, the Supreme Court had primarily relied on the Equal Protection Clause when evaluating the constitu-

protection remains analytically separate from the Sixth Amendment.[96] The Equal Protection Clause applies to both civil and criminal venires, and also protects the rights of potential jurors (not simply defendants) in securing a jury constituted in a non-discriminatory manner.[97]

To establish an equal protection violation the movant must first show that the group allegedly excluded from the venire is a "recognizable, distinct class, singled out for different treatment under the laws, as written or as applied."[98] Second, the movant must show that the procedure employed

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tional requirements for racially representative juries, and intertwined Sixth and Fourteenth Amendment doctrine when discussing the fair cross-section right."); *see generally* J.E.B v. Alabama ex rel. T.B., 511 U.S. 127, 130–31 (1994) ("Intentional discrimination on the basis of gender by state actors violates the Equal Protection Clause. . . ."); Georgia v. McCollum, 505 U.S. 42, 59 (1992) (extending *Batson*'s prohibitions to defense counsel's exercise of peremptory challenges); Hernandez v. New York, 500 U.S. 352, 371–72 (1991) ("[A] policy of striking all who speak a given language, without regard to the particular circumstances of the trial or the individual responses of the jurors, may be found by the trial judge to be a pretext for racial discrimination."); Batson v. Kentucky, 476 U.S. 79, 89, 96 (1986) (holding that the Equal Protection Clause of Fourteenth Amendment prohibits government exercise of peremptory challenges solely because of juror's race, and allows court to find purposeful discrimination based solely on jury selection in the case at bar).

96 Chernoff, *supra* note 6, at 141 ("Instead, a defendant can establish a prima facie violation [of the Sixth Amendment] by showing that the underrepresentation of a distinctive group in the jury pool is inherent in the selection process, whether by accident or design. The equal protection clause, in contrast, demands evidence of discriminatory intent.").

97 *See* Johnson v. California, 545 U.S. 162, 172 (2005) ("Undoubtedly, the overriding interest in eradicating discrimination from our civic institutions suffers whenever an individual is excluded from making a significant contribution to governance on account of his race. Yet the 'harm from discriminatory jury selection extends beyond that inflicted on the defendant and the excluded juror to touch the entire community. Selection procedures that purposefully exclude black persons from juries undermine public confidence in the fairness of our system of justice.'" (quoting *Batson*, 476 U.S. at 87)); *id.* ("For racial discrimination to result in the exclusion from jury service of otherwise qualified groups not only violates our Constitution and the laws enacted under it but is at war with our basic concepts of a democratic society and a representative government." (quoting Smith v. Texas, 311 U.S. 128, 130 (1940))); Powers v. Ohio, 499 U.S. 400, 409 (1991) (holding that even in the context of the government's racially discriminatory use of peremptory challenges, "[a]n individual juror does not have a right to sit on any particular petit jury, but he or she does possess the right not to be excluded from one on account of race"); Brown v. Allen, 344 U.S. 443, 470 (1953) ("Discriminations against a race by barring or limiting citizens of that race from participation in jury service are odious to our thought and our Constitution. This has long been accepted as the law.").

98 Castaneda v. Partida, 430 U.S. 482, 494 (1977); *see also, e.g.*, Lockhart v. McCree, 476 U.S. 162, 175 (1986) ("Our prior jury-representativeness cases . . . have involved such groups as blacks, women, and Mexican-Americans. . . . [E]xclusion . . . on the basis of some immutable characteristic such as race, gender, or ethnic background, undeniably gave rise to an 'appearance of unfairness.'" (citations omitted)); Hernandez v. Texas, 347 U.S. 475, 479 (1954) ("The exclusion of otherwise eligible persons from jury service solely because of their ancestry or national origin is discrimination prohibited by the Fourteenth Amendment.").

resulted in a substantial underrepresentation of the excluded class for a sig-nificant period of time.[99] Whereas a defendant raising a fair cross-section challenge need only show that such underrepresentation resulted from sys-tematic exclusion of the excluded group, a movant raising an equal protec-tion challenge must show not only disparate impact, but *discriminatory intent*.[100] A movant can satisfy their burden of proving this prong of a prima facie case by showing that "a selection procedure . . . is susceptible [to] abuse or is not racially neutral," and by making a necessary statistical showing.[101] If a movant meets the burden of proving their prima facie case, the defendant must present evidence to show that they did not have a discriminatory pur-pose, or "that such purpose did not have a determinative effect."[102] If the defendant succeeds in such a showing, the equal protection claim fails. If the defendant fails to meet this burden, the equal protection claim succeeds.

In recent years, few equal protection claims have been litigated, as exam-ples of overt discriminatory intent have thankfully become quite rare. How-ever, because jury venire lists originate from the same source lists, with equally limited information, many of the same problems are relevant to the equal protection analysis. In both the Sixth Amendment and Fourteenth Amendment cases, information about jurors is limited to traditional concep-tions of discrimination.

B.   *Designing a Non-Discriminatory Petit Jury*

Beyond the jury venire, courts have also addressed discriminatory prac-tices of striking individual jurors from the petit jury based on race and gen-der. Much has been written about *Batson v. Kentucky*[103] and *J.E.B. v. Alabama*[104] and the Supreme Court's systematic approach to prohibiting per-emptory strikes based on race and gender in criminal[105] and civil[106] cases

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99   *Castaneda*, 430 U.S. at 494 ("[T]he defendant must show that the procedure employed resulted in substantial underrepresentation of his race or of the identifiable group to which he belongs.").

100   Hernandez v. New York, 500 U.S. 352, 360 (1991) ("Proof of racially discriminatory intent or purpose is required to show a violation of the Equal Protection Clause.").

101   *Castaneda*, 430 U.S. at 494.

102   Duren v. Missouri, 439 U.S. 357, 368 n.26 ("[Statistical evidence of disparity sug-gesting discriminatory purpose] is subject to rebuttal evidence either that discriminatory purpose was not involved or that such purpose did not have a determinative effect.").

103   476 U.S. 79 (1986).

104   511 U.S. 127, 129 (1994) (holding that "gender, like race, is an unconstitutional proxy for juror competence and impartiality").

105   *Batson*, 476 U.S. at 94, 124.

106   Edmonson v. Leesville Concrete Co., 500 U.S. 614, 630 (1991) (holding that *Batson* applies in civil trials).

and by all parties.[107] The Supreme Court has emphatically stated that race and gender are impermissible grounds to use peremptory strikes.[108]

Batson and its progeny also require a three-step procedure to evaluate the discriminatory use of peremptory challenges. First, the moving party must establish that a peremptory strike was based on purposeful discrimination.[109] If the moving party makes this initial showing, the responding party must offer a neutral basis for the peremptory strike.[110] The third step requires the court to evaluate this neutral justification by analyzing the reason and the credibility of the party.[111] If the trial court discredits the reason for the strike, the judge can remedy the unconstitutional action by re-seating the juror or empaneling a new jury.[112] If an appellate court finds a violation, the case will be reversed and remanded for a new trial.[113]

Batson, while appealing in theory, has, in large measure, been deemed a failure in practice.[114] As most trial lawyers know, the protections of *Batson* are weakly policed[115] and easily evaded.[116] In reality, the only limitation to

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107   Georgia v. McCollum, 505 U.S. 42, 59 (1992) (Rehnquist, C.J., concurring) (holding that "the Constitution prohibits a criminal defendant from engaging in purposeful discrimination on the ground of race in the exercise of peremptory challenges").

108   *See supra* notes 104–07.

109   *Batson*, 476 U.S. at 93–94 (holding this claim can be made "by showing that the totality of the relevant facts gives rise to an inference of discriminatory purpose").

110   *Id.* at 98 ("[The party must] articulate a neutral explanation related to the particular case to be tried.").

111   *Id.* at 98 & n.21 (requiring the court "to determine if the defendant has established purposeful discrimination," which "largely will turn on evaluation of credibility").

112   Jason Mazzone, Batson *Remedies*, 97 Iowa L. Rev. 1613, 1614 (2012) ("The *Batson* Court addressed remedies in a single ambiguous footnote that identifies two possible remedies: discharging the venire and selecting a new panel or reseating the improperly stricken juror.").

113   *See, e.g.*, Tankleff v. Senkowski, 135 F.3d 235, 248 (2d Cir. 1998) ("[A] *Batson/ Powers* claim is a structural error that is not subject to harmless error review."); Turner v. Marshall, 121 F.3d 1248, 1254 n.3 (9th Cir. 1997) ("There is no harmless error analysis with respect to *Batson* claims."); *see also* Jeffrey Bellin & Junichi P. Semitsu, *Widening* Batson*'s Net to Ensnare More Than the Unapologetically Bigoted or Painfully Unimaginative Attorney*, 96 Cornell L. Rev. 1075, 1109 (2011) (same).

114   David Cole, No Equal Justice: Race and Class in the American Criminal Justice System 120 (1999) ("*Batson* has by all accounts done relatively little to eliminate the use of race-based peremptory strikes . . . .").

115   Nancy S. Marder, Batson *Revisited*, 97 Iowa L. Rev. 1585, 1589 (2012) [hereinafter Marder, Batson *Revisited*] ("One reason *Batson* was so ineffectual was that lawyers quickly learned which reasons to give and which ones to avoid."); *see also id.* at 1592 ("Another reason that *Batson* and its progeny have been so ineffective is that trial judges are reluctant to find *Batson* violations, and appellate judges are deferential to trial judges' determinations.").

116   *Id.* at 1590–91 ("In some courtrooms, they could say that the prospective juror lived in a neighborhood where there was a lot of drug activity and the case involved drugs. They could also exclude prospective jurors because of their professions, clothing, or the way they wore their hair. As these reasons suggest, almost any reason that is not explicitly about race will suffice." (footnotes omitted)); Anna Roberts, *(Re)Forming the Jury: Detection and Disinfection of Implicit Juror Bias*, 44 Conn. L. Rev. 827, 843 (2012) ("The *Batson* doctrine has

striking a potential juror is a failure of imagination to come up with some neutral, non-discriminatory reason.[117] Courts have acknowledged this easy workaround, but have not designed a solution.[118]

Evading *Batson* is not always the result of explicit or implicit bias (although both exist).[119] Sometimes, the decisions to strike a particular juror are purely tactical[120] or arbitrary.[121] However, many times the decision to exercise a peremptory strike based on observational data (like the race or gender of a juror) results from the unavailability of other information. As Thaddeus Hoffmeister has noted, "[i]n recent years, obtaining additional information about jurors through traditional voir dire has become increasingly difficult. Numerous courts across the country, citing time constraints, have either reduced the time allocated for voir dire or switched from attor-

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failed to prevent attorneys from relying on explicit bias in jury selection. It is all too easy for attorneys who are 'of a mind to discriminate' to mask their discrimination behind a reason for their peremptory strike that is facially neutral, whatever its intent or disparate impact.").

117 Bellin & Semitsu, *supra* note 113, at 1075 (listing cases and examples).

118 *See, e.g.*, People v. Randall, 671 N.E.2d 60, 65 (Ill. App. Ct. 1996) ("[W]e now consider the charade that has become the *Batson* process. The State may provide the trial court with a series of pat race-neutral reasons for exercise of peremptory challenges. . . . Surely, new prosecutors are given a manual, probably entitled, 'Handy Race-Neutral Explanations' or '20 Time-Tested Race-Neutral Explanations.'"); Bellin & Semitsu*, supra* note 113, at 1102 ("Our survey reveals that in a broad array of cases . . . attorneys articulate and judges accept 'race-neutral' explanations for peremptory strikes that either highly correlate with race or are silly, trivial, or irrelevant to the case. Reviewing courts then affirm these determinations.").

119 Roberts, *supra* note 116, at 833; Mimi Samuel, *Focus on* Batson*: Let the Cameras Roll*, 74 BROOK. L. REV. 95, 95 (2008) ("[A] 2005 survey revealed that every lawyer interviewed considered race and gender when picking a jury. Indeed, although they recognized that such strikes are impermissible, lawyers listed some of the following stereotypes that they rely on in jury selection: 'Asians are conservative. African-Americans distrust cops. Latins are emotional. Jews are sentimental. Women are hard on women . . . .'" (citations omitted)).

120 Hoffmeister, *supra* note 8, at 634–35 ("Professor Stephen Saltzburg, who has advocated for providing attorneys with more information about prospective jurors, has offered insight into the realities of jury selection. '[M]ost lawyers resort to stereotypes, not because they want to, but because they have to . . . . [I have] never met a lawyer who would prefer a jury of a particular racial composition over one that will win a verdict for him.'" (alteration in original) (citations omitted)).

121 Reid Hastie, *Is Attorney-Conducted Voir Dire an Effective Procedure for the Selection of Impartial Juries?*, 40 AM. U. L. REV. 703, 706 (1991) ("[Academic analyses of trial tactics and other] sources provide suggestive evidence to support the conclusion that jury selection tactics, at least those articulated by legal experts, will often be arbitrary by scientific standards."); Brian W. Wais, Note, *Actions Speak Louder than Words: Revisions to the* Batson *Doctrine and Peremptory Challenges in the Wake of* Johnson v. California *and* Miller-El v. Dretke, 45 BRANDEIS L.J. 437, 439 (2007) ("[A]ny kind of selection of jurors, particularly when a person can be struck for non-legal reasons, will fundamentally be predicated on discrimination of some form. Due to this intrinsically discriminatory nature of peremptory challenges, discrimination can probably never be entirely eradicated from peremptory challenges or jury selection as a whole.").

ney- to judge-conducted voir dire."[122] Most federal courts, and many state courts, only provide litigants with very basic identifying information about members of the venire (race, gender, age, zipcode or employment).[123] In these information-poor courts, a cursory voir dire and limited background information force lawyers to make rough guesses about potential jurors in their cases.[124] Lacking additional personal information, lawyers rely upon observational judgments that necessarily include (implicitly or explicitly) considerations of race, gender, etc. Because of this information gap, litigants regularly exercise peremptory challenges in a discriminatory manner.[125]

Even in information-rich jurisdictions that allow lengthy individual voir dire or require juror questionnaires, information distortions arise.[126] Many jurors will not, or cannot, admit to biases under questioning. Some jurors forget, some lie, many simply remain silent when a direct response is required.[127] In addition, implicit biases of jurors may not even be recog-

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122   Hoffmeister, *supra* note 8, at 635.

123   *Id.* at 634 ("Attorneys need not offer any reason for using peremptory challenges. This, in turn, has led attorneys—who often have very little background information on jurors besides what they see and hear in the courtroom—to exercise peremptory challenges based on outdated stereotypes and hunches premised on a juror's physical appearance." (footnote omitted)).

124   Albert W. Alschuler, *The Supreme Court and the Jury: Voir Dire, Peremptory Challenges, and the Review of Jury Verdicts*, 56 U. Chi. L. Rev. 153, 170 (1989) ("Peremptory challenges ensure the selection of jurors on the basis of insulting stereotypes without substantially advancing the goal of making juries more impartial."); Marder, Batson *Revisited*, *supra* note 115, at 1595–96 ("One difficulty is that the questions, at least in federal court, tend to be quite cursory and to produce limited information. Jurors are typically asked where they reside, the nature of their work, their marital status, what their spouse does, whether they have any children, what their children do, and whether they can be impartial." (footnote omitted)); Antony Page, Batson*'s Blind-Spot: Unconscious Stereotyping and the Peremptory Challenge*, 85 B.U. L. Rev. 155, 254 (2005) ("Voir dire may be as limited as brief 'yes' or 'no' group questioning by the judge . . . .").

125   Equal Justice Initiative, Illegal Racial Discrimination in Jury Selection: A Continuing Legacy 4, 6 (2010), http://www.eji.org/files/EJI%20Race%20and%20Jury%20Report.pdf (finding "shocking evidence of [continuing] racial discrimination in jury selection in [8 Southern] state[s]" where "[h]undreds of people of color called for jury service have been illegally excluded from juries after prosecutors asserted pretextual reasons to justify their removal"); Shaila Dewan, *Blacks Still Being Blocked from Juries in the South, Study Finds*, N.Y. Times (June 1, 2010), http://www.nytimes.com/2010/06/02/us/02jury.html ("[T]he practice of excluding blacks and other minorities from Southern juries remains widespread . . . .").

126   Stephanie Clifford, *TV Habits? Medical History? Tests for Jury Duty Get Personal*, N.Y. Times (Aug. 20, 2014), http://www.nytimes.com/2014/08/21/nyregion/for-service-on-some-juries-expect-a-lengthy-written-test.html.

127   Margaret Covington, *Jury Selection: Innovative Approaches to Both Civil and Criminal Litigation*, 16 St. Mary's L.J. 575, 580 (1985) ("Jurors do lie about their attitudes and prejudices during voir dire; however, they frequently do so because they want to be selected for the jury in order to perform their civic duty." (footnote omitted)); Robert G. Loewy, Note, *When Jurors Lie: Differing Standards for New Trials*, 22 Am. J. Crim. L. 733, 739–40 (1995).

nized or targeted by voir dire questions. Thus, even in a jurisdiction with seemingly open voir dire, the process may not reveal truthful answers.

Again, similar to the design of the jury venire, the Supreme Court's decisions about peremptory strikes have high-minded aspirations, but harmful effects.[128] The limited information the court system provides about jurors contributes to the problem of juror diversity. As will be discussed in the next Section, these dim data design flaws create clear informational imbalances.

C.   The Costs of Designing Blind

As set out in the preceding Sections, in an effort to avoid the discriminatory practices of the past, current jury selection systems have been designed based on purposely limited and inexact information. Jury lists provide only very basic information about potential jurors. Random selection remains limited by random chance. Constitutional challenges focus on historic discrimination against identifiable distinctive groups. Litigants provided with limited personal information base their peremptory challenges on rough proxies because nothing else is available. In many cases, these realities were not only expected but intended as a mechanism to ensure a colorblind system of jury selection.

This Section seeks not to critique or debate the existing jury selection system, but merely to examine the costs of designing a system with inexact information in an effort to see if a smarter, big data-infused jury selection method might improve these recognized problems. Specifically, this Section looks at the practical and distributional effects of designing a jury system with limited information.

1.   Practical Effects

As an empirical matter, juries do not fully represent the population of their communities.[129] Specifically, studies show that African Americans and Latinos tend to be underrepresented, both in the venire, and in the actual jury panel.[130] Litigants continue to file lawsuits challenging the purported

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128   *See* Charles J. Ogletree, *Just Say No!: A Proposal to Eliminate Racially Discriminatory Uses of Peremptory Challenges*, 31 AM. CRIM. L. REV. 1099, 1105 (1994); Page, *supra* note 124, at 167–80; Tania Tetlow, *Why* Batson *Misses the Point*, 97 IOWA L. REV. 1713, 1714 (2012) [hereinafter Tetlow, *Misses the Point*] ("What makes this colorblind reasoning particularly jarring is that it directly contradicts the Court's own 'fair cross-section' jurisprudence, in which the Court assumed that diversity is our most important tool to work towards the goal of an impartial jury.").

129   Randall et al., *supra* note 63, at 71 ("Despite progress in bringing diversity to juries in America, there is persuasive evidence that racial and ethnic minorities are consistently underrepresented in the vast majority of both federal and state courts." (citation omitted) (internal quotation marks omitted)).

130   Nina W. Chernoff & Joseph B. Kadane, *The 16 Things Every Defense Attorney Should Know About Fair Cross-Section Challenges*, CHAMPION, Dec. 2013, at 14 ("There is a significant amount of data indicating that jury systems across the country underrepresent people of color, primarily African-Americans and Latinos."); Rose & Abramson, *supra* note 68, at 931

fair cross-section of the community.[131] Professor Nina Chernoff has written two law review articles well canvassing the failures of unrepresentative juries in America.[132]

The reasons for this reality are complex, but one identifiable problem has been the use of basic voter lists and driver's license lists as the main sources of potential jurors for the jury wheel. These lists, while objective, are incomplete and can quickly become outdated, and thus, unrepresentative of the population.[133] As long as those lists do not reflect actual demographics, or become outdated such that jury summons fail to reach their intended targets, the available information remains suboptimal. The recognized failure of *Batson*, allowing lawyers to continue to strike jurors based on impermissible racial or gender grounds compounds the problem of a lack of diversity within the venire.[134] Without sufficient information, lawyers have very little information on which to base decisions of whom to choose for their case. This can lead to still less racial and ethnic diversity on actual jury panels.

Independent of issues of race and gender, courts and litigants have no sense about the full diversity of jurors. Because the only categories studied (and litigated) involve basic identifying features (race, gender, ethnicity), researchers have not examined other distinguishing features that might identify jurors. Other types of diversity—age, religion, sexual orientation, political affiliation, economic class, etc.—might be important to consider for a more complete conception of diversity. Other types of people (self-

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("As in the Southern District of California, the Middle District of Florida uses the voter registration list as its exclusive source of names for prospective jurors."); *id.* at 945 ("Voting lists have long been criticized as unrepresentative of the population because of racial and ethnic differences in voter registration rates, as compared to non-Hispanic whites.").

131   *See* Chernoff, *supra* note 6, at 145 n.16, 199 (surveying 167 fair cross-section claims in the years 2000–2011); *see also* Hannaford-Agor, *supra* note 60, at 797 ("[T]he overwhelming majority of fair, cross section claims have failed."); *see also* Nina Chernoff, Devil in the Details: Discovering Fair Cross-Section Violations (working draft) (on file with author) (collecting cases) [hereinafter Chernoff, Devil in the Details].

132   Chernoff, *supra* note 6; *see also* Chernoff, Devil in the Details, *supra* note 131 (collecting cases).

133   King, *supra* note 13, at 714 ("When jury administrators fail to revise source lists frequently, people who move often, particularly renters, never make it into the pool of qualified jurors. Because minorities are statistically more mobile than whites, a greater percentage of minorities than whites never receive jury questionnaires mailed to outdated addresses." (footnotes omitted)).

134   Rose & Abramson, *supra* note 68, at 954 ("Currently, courts do not keep track of demographic changes in their community."); Tetlow, *Misses the Point*, *supra* note 128, at 1736 ("Very few practicing attorneys, or trial judges for that matter, believe *Batson*'s central legal fiction that race and gender cannot predict juror belief. Indeed, lawyers engaged in the rank stereotyping necessary to jury selection would struggle to put the issues of race and gender out of their heads. . . . In the context of guessing about whether a juror's occupation, neighborhood, dress, and body language indicate something about a juror's sympathies, for example, it proves very difficult to pretend that race and gender do not." (footnote omitted)).

employed men who do not vote, or women with young children) are rou-
tinely missing from the venire, but no data exists on these practices because
researchers and courts have focused exclusively on groups that have been
historically discriminated against.

In addition, because the information provided to courts for jury wheels
tends to be limited and sometimes erroneous, courts do not know which
jurors fail to appear for jury duty, nor the reasons for their failure to appear.
Jury yields have remained embarrassingly low for years.[135] These response
rates correlate with class and race.[136] Courts have identified a clear correla-
tion between poverty and jury response rates, which in certain communities
directly correlates with race.[137] While some jury no-shows involve simple
fixes in terms of updating mailing addresses, currently, courts simply do not
know enough about the jurors who fail to show up for court.[138]

2. Distributional Effect

In addition to being limiting, current jury selection systems also dispro-
portionately affect litigants with few financial resources.[139] Litigants who can
afford to seek out more personal details about potential jurors will do so. An
entire industry of jury consultants exists to fill this informational gap.[140] As

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135 *See, e.g.*, Colleen Nelson, *Texans Simply Not Showing Up for Jury Duty*, NEWSCHANNEL
10 (July 11, 2014), http://www.newschannel10.com/story/25992800/texans-simply-not-
showing-up-for-jury-duty; Joseph A. Slobodzian, *Dodging Jury Duty in Phila. Could Get People
Fined or Jailed*, PHILLY.COM (Mar. 16, 2014, 1:09 AM), http://articles.philly.com/2014-03-
17/news/48269242_1_jury-duty-scofflaw-court-jury-commissioner.

136 Rose & Abramson, *supra* note 68, at 938 ("A substantial number of mailed jury ques-
tionnaires are returned by the post office as undeliverable. Minorities and persons in pov-
erty are over-represented in this group, since they tend to move more often than other
groups. And yet, little effort is made to update addresses or to do second mailings when
possible. . . . Across all years from 2003 to 2009 in the Middle District of Florida, return
rates for African Americans ranged from 27.9% to 40.3%; for Hispanics it was 35.8% to
46.9%. By contrast, for whites the range across the same years was 58.5% to 68.4%." (foot-
notes omitted)).

137 *Id.* at 914 ("In cases where the disappearance of minorities from jury pools is due to
factors such as patterns of undeliverable mail in poor neighborhoods or high levels of
nonresponse to jury summonses among some minorities, judges tend to consider these to
be 'merely' practical problems or else unavoidable facts of life that government should not
have to correct in pursuing the goal of representative juries.").

138 *See Jury Duty in America Today*, DIANE REHM SHOW (Nov. 3, 2014), http://thediane
rehmshow.org/shows/2014-11-03/jury_duty_in_america_today (discussing jury yield
problems).

139 Raymond Rossi, *Researching Jurors Online: Voir Dire in the Digital Age*, 101 ILL. B.J. 514,
515 (2013) ("Jury consultants still play a role in high profile or moneyed cases, but counsel
may not have the resources to conduct community surveys, focus groups, or mock juries in
an effort to enhance their attempts to find the ideal juror."); Steven C. Serio, Comment, *A
Process Right Due? Examining Whether a Capital Defendant Has a Due Process Right to a Jury
Selection Expert*, 53 AM. U. L. REV. 1143, 1147 (2004) ("Many scholars believe that most
capital cases are won or lost during jury selection.").

140 *See infra* note 142 (discussing jury consultants).

one commentator bluntly stated, "[n]o self-respecting trial lawyer will go through the process of jury selection in an important case without the assistance of highly paid jury consultants."[141]

Scientific jury selection and jury trial consultants, which began in a world of limited data, have thrived in an era of big data.[142] Now, assistants or paid consultants routinely conduct online research to uncover information about jurors.[143] While new technologies have allowed less well-heeled clients to perform Internet searches, large law firms utilize the vast majority of jury consultants.[144]

This distributional effect creates a tactical advantage for wealthy litigants at the expense of poorer litigants. While much of the American legal system disadvantages low-income persons, due in part to the high cost of legal services, this particular inequity arises from the lack of information provided to the parties by the courts. As will be discussed, courts could reduce the need for costly jury consulting and level the playing field by providing more information about potential jurors to parties.[145]

In sum, significant practical and distributional effects result from a dim data system of jury selection. The cost of designing a jury system blinded to "better" information about jurors, while understandable in its historical and legal context, nevertheless has negative consequences which can be improved with better information. The next Part examines what "better" information is available.

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141   Gordon T. Walker, Editorial, *Lawyers Must Show Restraint if Our Jury System Is to Survive*, Bos. HERALD, Oct. 22, 1995, at 35.

142   *See* Shari Seidman Diamond, *Scientific Jury Selection: What Social Scientists Know and Do Not Know*, 73 JUDICATURE 178, 179 (1990); Lior Jacob Strahilevitz, *Reputation Nation: Law in an Era of Ubiquitous Personal Information*, 102 Nw. U. L. REV. 1667, 1690 (2008) [hereinafter Strahilevitz, *Reputation Nation*] ("Jury consultants increasingly run background checks on the various prospective jurors in the pool, pulling credit reports, employing search engines, looking for rap sheets, and examining property tax records. In high-stakes cases, jury consultants work with private investigators who photograph prospective jurors' homes and vehicles, searching for any pertinent information like a political yard sign or a religious bumper sticker." (footnote omitted)).

143   Shannon Awsumb, *Social Networking Sites: The Next E-Discovery Frontier*, 66 BENCH & B. OF MINN., 22, 23 (2009) ("Trial consultants regularly use [I]nternet research as a means of vetting prospective jurors and learning information jurors may not reveal on jury questionnaires or during voir dire, 'including how they vote, how they spend money[,] and if they've spoken out on controversial issues.'" (citing Carol J. Williams, *Jury Duty? May Want to Edit Online Profile*, L.A. TIMES (Sept. 29, 2008), http://articles.latimes.com/2008/sep/29/nation/na-jury29)).

144   *See* Raymond J. Broderick, *Why the Peremptory Challenge Should Be Abolished*, 65 TEMP. L. REV. 369, 416 (1992) ("Rare is the criminal defendant who can afford to retain consultants or whose case is sufficiently noteworthy to attract volunteers.").

145   Strahilevitz, *Reputation Nation*, *supra* note 142, at 1693 ("If the government . . . essentially provid[ed] dossiers on all prospective jurors, [then] one might expect to see less discrimination on the basis of race, national origin, religion, gender, and other immutable characteristics.").

II. BIG DATA AND BRIGHT DATA

In contrast to the limited personal information collected by court systems, commercial data aggregators have developed sophisticated, targeted, and individualized dossiers of personal information on most Americans.[146] Courts may know your race, age, gender, and zip code. Companies know your dress size, hobbies, anxieties, and shopping habits (and, of course, the basic identifying data the courts possess).

This Part seeks to explore the rise of "big data," or, more specifically, what I refer to as "bright data"—"bright" because it is smart, "bright" because it is illuminating, and "bright" because it involves a dazzling concentration of personal data points. Easily contrasted with dim data, purposely shaded and out of view, bright data is defined as a large volume of personally identifying information offering segmented, targeted, and predictive insights about individuals and groups. As will be discussed, bright data has the potential to remedy some of the limiting and unfair information deficits of the existing jury selection system. Much has already been written on how big data offers new ways to re-imagine the world.[147] This brief summary seeks to focus those big data/bright data changes on the problems and interests of courts and litigants seeking information about jurors.

A. What Is Big Data?

Big data has become a big news story because it offers a new way to collect and analyze the data trails that our highly networked, digitally oriented lives leave behind.[148] While numerous scholars and commentators have tried to define the term,[149] broadly speaking:

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146 JULIA ANGWIN, DRAGNET NATION: A QUEST FOR PRIVACY, SECURITY, AND FREEDOM IN A WORLD OF RELENTLESS SURVEILLANCE 3 (2014).

147 VIKTOR MAYER-SCHÖNBERGER & KENNETH CUKIER, BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK 2 (2013).

148 *See, e.g.*, Chris Anderson, *The End of Theory: The Data Deluge Makes the Scientific Method Obsolete*, WIRED (June 23, 2008), http://www.wired.com/2008/06/pb-theory/; Kenneth Cukier, *Data, Data Everywhere*, ECONOMIST (Feb. 25, 2010), http://www.economist.com/node/15557443; Steve Lohr, *How Big Data Became So Big*, N.Y. TIMES (Aug. 11, 2012), http://www.nytimes.com/2012/08/12/business/how-big-data-became-so-big-unboxed.html; Steve Lohr, *The Age of Big Data*, N.Y. TIMES (Feb. 11, 2012), http://www.nytimes.com/2012/02/12/sunday-review/big-datas-impact-in-the-world.html?pagewanted=all.

149 EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES 2 (2014), https://www.whitehouse.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf ("There are many definitions of 'big data' which may differ depending on whether you are a computer scientist, a financial analyst, or an entrepreneur pitching an idea to a venture capitalist. Most definitions reflect the growing technological ability to capture, aggregate, and process an ever-greater volume, velocity, and variety of data."); MANYIKA, ET AL., *supra* note 1, at 1 ("'Big data' refers to datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze."); Kate Crawford & Jason Schultz, *Big Data and Due Process: Toward a Framework to Redress Predictive Privacy Harms*, 55 B.C. L. REV. 93, 96 (2014) ("In practice, the term encompasses three aspects of data magnification and manipulation. First, it refers to technology

> Big Data is the shorthand label for the phenomenon, which embraces technology, decision-making[,] and public policy. . . .
>
> . . . .
>
> Big Data is a vague term, used loosely, if often, these days. But put simply, the catchall phrase means three things. First, it is a bundle of technologies. Second, it is a potential revolution in measurement. And third, it is a point of view, or philosophy, about how decisions will be—and perhaps should be—made in the future.[150]

Big data owes its value to the ability of new computer processing technologies to analyze and study vast volumes of data.[151] Government and private entities have collected this data, and placed it in centralized, searchable repositories, allowing for analysis of the past and prediction for the future.[152]

Of more relevance to this Article, big data involves a change in the collection and use of consumer data. As Professor Anita Allen summarized, "'Big Data' is a nickname for enterprises that collect, analyze, package, and

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that maximizes computational power and algorithmic accuracy. Second, it describes types of analyses that draw on a range of tools to clean and compare data. Third, it promotes the belief that large data sets generate results with greater truth, objectivity, and accuracy.").

150 Steve Lohr, *Sizing Up Big Data, Broadening Beyond the Internet*, N.Y. TIMES BITS BLOG (June 19, 2013), http://bits.blogs.nytimes.com/2013/06/19/sizing-up-big-data-broadening-beyond-the-internet/; *see also* MAYER-SCHÖNBERGER & CUKIER, *supra* note 147, at 2.

151 Christopher Slobogin, *Transactional Surveillance by the Government*, 75 MISS. L.J. 139, 145 (2005) ("[A]dvances in data warehousing and data exchange technology in the financial sector allow very easy access to a virtual cornucopia of transaction-related information that can reveal, among other things, 'what products or services you buy; what charities, political causes, or religious organizations you contribute to; . . . where, with whom, and when you travel; how you spend your leisure time; . . . whether you have unusual or dangerous hobbies; and even whether you participate in certain felonious activities.'" (citations omitted) (alterations in original)); Omer Tene & Jules Polonetsky, *Big Data for All: Privacy and User Control in the Age of Analytics*, 11 NW. J. TECH. & INTELL. PROP. 239, 240 (2013) ("Big data is upon us. Over the past few years, the volume of data collected and stored by business and government organizations has exploded. The trend is driven by reduced costs of storing information and moving it around in conjunction with increased capacity to instantly analyze heaps of unstructured data using modern experimental methods, observational and longitudinal studies, and large scale simulations." (footnotes omitted)).

152 Strahilevitz, *Reputation Nation*, *supra* note 142, at 1720 ("In many instances, the government has the best access to information that decisionmakers will want to use. Criminal records, bankruptcy records, military service records, immigration and naturalization records, academic records from public schools or state-run universities, or records regarding membership in licensed professions are obvious examples."); Candice L. Kline, Note, *Security Theater and Database-Driven Information Markets: A Case for an Omnibus U.S. Data Privacy Statute*, 39 U. TOL. L. REV. 443, 447 (2008) ("A byproduct of enhanced technological capabilities is the ease with which data can be populated, aggregated, and exchanged across an increasingly diverse set of corporate interests. These corporate interests span the economy and include retailers (Sears, Hallmark), pharmaceutical companies (Pfizer), technology firms (Microsoft, IBM), banks and financial services firms (Bank One, Bank of America), and automakers (GM, Toyota). Data brokerage companies, such as Acxiom and LexisNexis repackage, augment, and sell personal data on individuals to corporate and public sector clients." (footnotes omitted)).

sell data, even uninteresting-looking data, to reveal tastes, habits, personality, and market behavior."[153] Government agencies, companies, and ordinary citizens mine this data for information that will help them understand, predict, and perhaps profit from the patterns that arise.[154]

What this Article terms "bright data" involves a subset of this big data revolution.[155] It involves a more narrow focus on individuals and groups rather than broad searches for patterns in anonymous data. Examples of bright data collectors include behavioral marketing companies and commercial data companies that use big data technologies to segment, target, and offer predictions about individuals, families, or groups in order to sell particular goods and services.[156] The goal of such collectors is to identify the interests, personalities, attributes, and likely future actions of each particular person. Companies currently compete to collect thousands of disparate points of data on individuals.[157] While privacy concerns have largely prodded companies to collect information cognizant of the importance of de-identifying personal identifying information, the risks exist to link this information all together. As will be discussed in the next Section, the quality and quantity of data collected about individuals (or at least individuals who have embraced digital technologies) is vast and growing.[158]

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153   Anita L. Allen, *Privacy Law: Positive Theory and Normative Practice*, 126 Harv. L. Rev. Forum 241, 246 (2013); *see also* Julie E. Cohen, *What is Privacy For?*, 126 Harv. L. Rev. 1904, 1920 (2013) ("'Big Data' is shorthand for the . . . configuration of information-processing hardware capable of sifting, sorting, and interrogating vast quantities of data . . . [and for the process of] mining the data for patterns[ ] [and] distilling the patterns into predictive analytics.").

154   Jonas Lerman, *Big Data and Its Exclusions*, 66 Stan. L. Rev. Online 55, 57 (2013) ("Big data, for all its technical complexity, springs from a simple idea: gather enough details about the past, apply the right analytical tools, and you can find unexpected connections and correlations, which can help you make unusually accurate predictions about the future—how shoppers decide between products, how terrorists operate, how diseases spread."); Paul M. Schwartz & Daniel J. Solove, *The PII Problem: Privacy and a New Concept of Personally Identifiable Information*, 86 N.Y.U. L. Rev. 1814, 1852–53 (2011).

155   *See* Mayer-Schönberger & Cukier, *supra* note 147, at 2.

156   *See generally* Fed. Trade Comm'n, *supra* note 17.

157   *See* Thomas Hemnes, *The Ownership and Exploitation of Personal Identity in the New Media Age*, 12 J. Marshall Rev. Intell. Prop. L. 1, 17 (2012) ("One might think of a person's digital identity by analogy to a pointillist painting. Thousands upon thousands of tiny bits of digital information about an individual, including what we have called basic facts, sensitive facts, and transactional facts, can be assembled to form a picture of the individual: his likes, dislikes, predispositions, resources; and in fact, any facet of his personality that has had contact with the Internet."); Herb Weisbaum, *Big Data Knows You're Pregnant (and That's Not All)*, CNBC (Apr. 9, 2014), http://www.cnbc.com/id/101566276 ("The World Privacy Forum estimates that there are now more than 4,000 databases collecting and analyzing every bit of information they can gather on us.").

158   *See* Lerman, *supra* note 154, at 57.

B.   What Does Big Data Know?

What information does "big data" collect about citizens (and thus jurors) in America? The answer: just about everything. As Julia Angwin termed it, "[w]e are living in a Dragnet Nation—a world of indiscriminate tracking where institutions are stockpiling data about individuals at an unprecedented pace."[159] This surveillance dragnet sucks in all forms of data from all manner of sources.

Big data companies begin by collecting the same basic information provided to courts from voting rolls and driver's licenses databases.[160] This information usually includes name, address, and date of birth.[161] Other public information (phone numbers, email addresses) and demographic information (race, gender, age, ethnicity, religion, marital status, children, education, occupation, and political affiliation) and governmentally collected information (professional licenses, bankruptcies, criminal histories, and public records) also form the core of many data profiles.[162] Credit reporting agencies such as Acxiom have been quite forthcoming about the types of public or purchasable data that has become part of individual dos-

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159   ANGWIN, *supra* note 146, at 3.

160   *See id.* at 33–34 ("To register to vote, citizens must fill out a government form that usually requires their name, address, and in all but one state, birth date. But few voters realize that those lists are often sold to commercial data brokers. A 2011 study found that a statewide voter list sold for as little as $30 in California and as high as $6,050 in Georgia. . . . State auto vehicle records are swept into LexisNexis reports, which are enhanced with other data and sold to the Department of Homeland Security.").

161   *See id.* at 33; *see also* Kline, *supra* note 152, at 448 ("Electronically available personal data culled from public and private records forms the backbone of the multi-billion dollar database-marketing industry. Data brokers and their customers collect and trade massive amounts of digitized personal data on most Americans through database-driven information markets. For example, ChoicePoint, self-described as the nation's leading provider of identification and credential verification services, maintains '14 billion records on individuals and businesses that can be used for tasks like pre-employment screening of job candidates.'" (footnotes omitted)).

162   *See* Fred H. Cate, *Government Data Mining: The Need for a Legal Framework*, 43 HARV. C.R.-C.L. L. REV. 435, 457 (2008) ("There are information aggregation businesses in the private sector that already combine personal data from thousands of private-sector sources and public records. ChoicePoint, Acxiom, LexisNexis, the three national credit bureaus, and dozens of other companies maintain rich repositories of information about virtually every adult in the country. These records are updated daily by a steady stream of incoming data. They provide a one-stop-shop for the government when it wants access to personal data, and most of the government's data mining initiatives depend on access to those data."); Christopher Slobogin, *Government Data Mining and the Fourth Amendment*, 75 U. CHI. L. REV. 317, 320 (2008) (noting data collected includes "basic demographic information, income, net worth, real property holdings, social security number, current and previous addresses, phone numbers and fax numbers, names of neighbors, driver records, license plate and VIN numbers, bankruptcy and debtor filings, employment, business and criminal records, bank account balances and activity, stock purchases, and credit card activity").

siers created about identifiable citizens.[163] Some companies boast about having collected billions of data points on U.S. consumers.[164]

Companies supplement this basic information by collecting financial and consumer data to develop precise pictures of individual and household preferences.[165] As Shaun Spencer has written,

> Everyday transactions, both online and in real space, convey a plethora of data to third parties. Our credit and debit card activity provides "a virtual dossier of our daily activities." Merchants have access to our weekly grocery orders, medical and prescription drug purchases, the books we buy, the movies we rent, and the causes to which we contribute.[166]

Transactional data not only reveals our lifestyle preferences, but can reveal our location,[167] our health,[168] and how we think about certain issues.[169] The kind of car you drive might reveal an image you wish to project. The newspaper you read might reveal a political leaning. Your choice of television show, news channel, and home movie preference might reveal your tastes. Companies have recognized the wealth of information we provide through our purchases and have developed entire business strategies around exploiting the predictive insights behind this information.[170]

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163 *See* Shaun B. Spencer, *The Surveillance Society and the Third-Party Privacy Problem*, 65 S.C. L. Rev. 373, 390–91 (2013); Letter from Jennifer Barrett Glasgow, Global Privacy & Pub. Policy Exec., Acxiom Corp., to Rep. Edward Markey, U.S. House of Representatives (Aug. 15, 2012), http://geekslop.com/main/wp-content/uploads/2012/11/Acxiom_response_to_lawmakers.pdf.

164 *See* Fed. Trade Comm'n, *supra* note 17, at 46–47 ("Of the nine data brokers, one data broker's database has information on 1.4 billion consumer transactions and over 700 billion aggregated data elements; another data broker's database covers one trillion dollars in consumer transactions; and yet another data broker adds three billion new records each month to its databases.").

165 Strahilevitz, *Privacy Law*, *supra* note 19, at 2023 ("The genius of Big Data is that by watching individuals' purchasing, reading, and browsing habits, marketers can identify their personality traits.").

166 Spencer, *supra* note 163, at 391 (footnotes omitted) (in part quoting Stephen E. Henderson, *Learning from All Fifty States: How to Apply the Fourth Amendment and Its State Analogs to Protect Third Party Information from Unreasonable Search*, 55 Cath. U. L. Rev. 373, 390 (2006)).

167 Manyika et al., *supra* note 1, at 85 ("Globally in 2008, there were 90 billion to 100 billion such transactions off line linkable to POS ('point of sale') devices. Law enforcement investigations regularly use such data to establish physical location.").

168 Crawford & Schultz, *supra* note 149, at 97 ("[D]ata about our online behavior generally—such as buying an e-book about breast cancer survival or 'liking' a disease foundation's Facebook page—can also reveal information about our health.").

169 *See* Nicole A. Ozer, ACLU of N. Cal., Digital Books: A New Chapter for Reader Privacy 4–5 (2010); Neil M. Richards, *The Perils of Social Reading*, 101 Geo. L.J. 689, 690–93 (2013).

170 *See* Charles Duhigg, *How Companies Learn Your Secrets*, N.Y. Times Mag. (Feb. 16, 2012), http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html; Amy Lee, *What Your Personal Data Is Worth to Advertisers*, Huffington Post (May 14, 2011), http://www.huffingtonpost.com/2011/05/14/personal-dataadvertisers_n_861829.html; Natasha

Beyond purchases, our digital lives, mediated through third-party platforms, reveal our thoughts, fears, passions, and plans.[171] Your Internet searches reveal your concerns, curiosities, and hobbies.[172] Mobile phone GPS technology reveals your path in the world.[173] Social media posts, connections, and comments reveal your network of friends, contacts, opinions, and activities, through both word and image.[174] Any news stories or other reports about you will be memorialized forever on the Internet.[175]

Big data, of course, is not without errors,[176] oversimplifications,[177] and omissions (including the millions of people who are not connected to the Internet or social media).[178] Nor have these companies yet unified the personally identifiable data into one big database. But, the technology exists to target individuals at particular addresses, even though many of the tracking technologies discussed do not track by name.[179] By connecting other per-

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Singer, *You for Sale*, N.Y. Times (June 17, 2012), http://www.nytimes.com/2012/06/17/technology/acxiom-the-quiet-giant-of-consumer-database-marketing.html.

171 *See* Nicolas P. Terry, *Protecting Patient Privacy in the Age of Big Data*, 81 UMKC L. Rev. 385, 389–90 (2012) ("Increasingly and of considerable importance going forward, big data comes from less structured sources including '[w]eb-browsing data trails, social network communications, sensor data and surveillance data.' Much of it is exhaust data, or data created unintentionally as a byproduct of social networks, web searches, smartphones, and other online behaviors." (footnotes omitted) (quoting Lohr, *supra* note 1)).

172 *See* Omer Tene & Jules Polonetsky, *To Track or "Do Not Track": Advancing Transparency and Individual Control in Online Behavioral Advertising*, 13 Minn. J.L. Sci. & Tech. 281, 282 (2012) ("Every search, query, click, page view, and link are logged, retained, analyzed, and used by a host of third parties, including websites (also known as 'publishers'), advertisers, and a multitude of advertising intermediaries, including ad networks, ad exchanges, analytics providers, re-targeters, market researchers, and more.").

173 *See* Andrew William Bagley, *Don't Be Evil: The Fourth Amendment in the Age of Google, National Security and Digital Papers and Effects*, 21 Alb. L.J. Sci. & Tech. 153, 163 (2011) ("Google and similar companies boast the ability to pinpoint a user's exact location via their Internet Protocol address or through cell phone triangulation, allowing users to share this data with their friends.").

174 *See, e.g.*, Mitch Lipka, *Twitter Is Selling Your Data*, Reuters (Mar. 1, 2012, 11:35 AM), http://www.reuters.com/article/2012/03/01/twitter-data-idUSL2E8DTEK420120301 ("Twitter users are about to become major marketing fodder, as two research companies get set to release information to clients who will pay for the privilege of mining the data.").

175 Strahilevitz, *supra* note 142, at 1670 ("One of the most significant developments in the industrialized world during the last decade has been the increased availability of information about individuals. Personal information that was once obscure can be revealed almost instantaneously via a Google search.").

176 *See* Andrew Guthrie Ferguson, *Big Data and Predictive Reasonable Suspicion*, 163 U. Pa. L. Rev. 327, 350 (2015).

177 As anyone who has received targeted advertisements for products not designed for them knows, our Internet searches or purchases often do not reflect our preferences.

178 *See* Lerman, *supra* note 154, at 60.

179 *See* Elspeth A. Brotherton, Comment, *Big Brother Gets a Makeover: Behavioral Targeting and the Third-Party Doctrine*, 61 Emory L.J. 555, 562–63 (2012) ("An ad network can then take the information it gathers through both individual content providers and tracking cookies and compile everything it knows about a particular user into a personal 'profile.' These profiles are often quite comprehensive—so much so that they can personally iden-

sonal identifying information, companies can easily reassemble disparate pieces of information into one identifiable dossier. In addition, household segmentation—identifying parents, seniors, outdoors enthusiasts, book lovers, or gambling addicts—can easily be accomplished with today's technology.[180]

The future promise of big data technology involves not only sophisticated, real-time mapping of identifiable individuals (and their preferences) at particular addresses, but the ability to make predictive judgments about those people based on these preferences.[181] These predictive assessments

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tify individual Internet users. This can occur even if the ad network technically does not collect any 'personally identifiable information'—information such as a 'name, address, telephone number, email address, financial account number, [and] government-issued identifier' that can be used 'to identify, contact or precisely locate a person.'" (footnotes omitted) (quoting *Behavioral Advertising: Industry Practices and Consumers' Expectations: Joint Hearing Before the Subcomm. on Commerce, Trade and Consumer Prot. and the Subcomm. on Commc'ns, Tech., and the Internet of the H. Comm. on Energy and Commerce*, 111th Cong. 26 (2009) (statement of Edward W. Felten, Director, Center for Information Technology Policy, Princeton University)); Emily Steel, *A Web Pioneer Profiles Users by Name*, WALL ST. J. (Oct. 25, 2010, 12:01 AM), http://www.wsj.com/articles/SB10001424052702304411050457 5560243259416072; *Frequently Asked Questions*, NETWORK ADVERTISING INITIATIVE, http://www.networkadvertising.org/faq (last visited Dec. 18, 2015)).

180   *See* Maurice E. Stucke, *Money, Is That What I Want?: Competition Policy and the Role of Behavioral Economics*, 50 SANTA CLARA L. REV. 893, 952–53 (2010) ("One data collecting company, Acxiom, reportedly has consumer data on more than 195 million Americans, and employs, according to its website, 'a household-level segmentation system that clusters U.S. households into one of [seventy] segments within [twenty-one] life stage groups based on specific consumer behavior and demographic characteristics,' which includes 'access to critical information such as which competitors they shop, product usage, media preferences, attitudes toward advertising, interests and expenditures—both nationally and at a local market level.'" (quoting *Personicx Is a Consumer Segregation and Visualization System Powered by Acxioms' Exclusive InfoBase Data*, ACXIOM, http://personicx.aristotle.net/what_is/default.aspx (last visited Dec. 23, 2015); *PersonicX and Consumer Research Data Sources*, ACXIOM, http://www.personicx.com/products/research/default.aspx (last visited Dec. 23, 2015))); *see also* Brotherton, *supra* note 179, at 562 ("[O]ne of the largest ad networks, a company called RapLeaf, used segments such as 'household income range, age range, political leaning, and gender and age of children in the household, as well as interests in topics including religion, the Bible, gambling, tobacco, adult entertainment and "get rich quick" offers.' In total, RapLeaf's cookies segmented Internet users into over four hundred categories." (footnotes omitted) (quoting Steel, *supra* note 179)); PAM DIXON & ROBERT GELLMAN, WORLD PRIVACY FORUM, THE SCORING OF AMERICA: HOW SECRET CONSUMER SCORES THREATEN YOUR PRIVACY AND YOUR FUTURE 33–38 (2014), http://www.worldprivacyforum.org/wp-content/uploads/2014/04/WPF_Scoring_of_America_April2014_fs.pdf.

181   *See* PERSIS YU & JILLIAN MCLAUGHLIN, NAT'L CONSUMER LAW CTR., BIG DATA: A BIG DISAPPOINTMENT FOR SCORING CONSUMER CREDIT RISK 11 (rev. Mar. 14, 2014), http://www.nclc.org/images/pdf/pr-reports/report-big-data.pdf ("A rich portrait of individuals emerges from the ability to track their online behavior. From purchase histories to search topics, a completely unedited and unmediated version of a person emerges. This data is incredibly valuable to marketers and there are few restrictions on such data in the U.S. This data can be bought and sold at will.").

might involve static judgments about credit risk[182] or more fluid guesses about what movie you will see on Saturday night.[183] While advertising companies have been the dominant, early adopters of the technology, the data is also incredibly valuable for more civic-minded goals, such as getting out the vote.[184]

In fact, both major political parties have mapped the location and political and cultural preferences of potential voters in an effort to identify and target those sympathetic to their cause.[185] Political consultants and national political parties claim to have collected data on "every one of the 168 million or so registered voters in the country, cross-indexed with phone numbers, addresses, voting history, income range, and so on—up to as many as several hundred points of data on each voter."[186] These profiles involve demographic and personal segmentation based on predictive assessments about the individual voters.[187] The profiles are specific and current, describing individual persons, and representing voters living in a particular jurisdiction

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182   *See* Strahilevitz, *Privacy Law, supra* note 19, at 2021 ("[A] credit card issuer determined that individuals who have purchased felt pads to be placed on the bottoms of chairs to prevent the scratching of hardwood floors turn out to be excellent credit risks."); *id.* at 2023 ("The person who purchases felt pads is likely to be more conscientious and may have a lower discount rate than a nonpurchaser. It is not surprising that this set of attributes would correlate well with credit-worthiness."); Charles Duhigg, *What Does Your Credit-Card Company Know About You?*, N.Y. TIMES MAG. (May 12, 2009), http://www.nytimes.com/2009/05/17/magazine/17credit-t.html.

183   Richard Warner & Robert H. Sloan, *Behavioral Advertising: From One-Sided Chicken to Informational Norms*, 15 VAND. J. ENT. & TECH. L. 49, 52 (2012) ("Advertisers can determine where you work, how and with whom you spend your time, and '[w]ith 87% certainty . . . where you'll be next Thursday at 5:35 p.m.'" (quoting Lucas Mearian, *Big Data to Drive a Surveillance Society*, COMPUTERWORLD (Mar. 24, 2011, 2:23 PM), http://www.computerworld.com/s/article/9215033/Big_data_to_drive_a_surveillance_ society)).

184   *See* ANGWIN, *supra* note 146, at 33 ("Commercial data brokers combine the voting information with other data to create rich profiles of individuals. For instance, the data broker Aristotle Inc. markets its ability to identify 190 million voters by more than '500 consumer data points' such as their credit rating and size of their mortgage."); *see also id.* (Aristotle's data allows purchasers to know "whether they [voters] subscribe to religious magazines, or if they have a hunting license.").

185   *See, e.g.*, Sasha Issenberg, *Obama's White Whale*, SLATE (Feb. 15, 2012, 11:28 AM), http://www.slate.com/articles/news_and_politics/victory_lab/2012/02/project_narwhal_how_a_top_secret_obama_campaign_program_could_change_the_2012_race_.html; Terrence McCoy, *The Creepiness Factor: How Obama and Romney Are Getting to Know You*, ATLANTIC (Apr. 10, 2012), http://www.theatlantic.com/politics/archive/2012/04/the-creepiness-factor-how-obama-and-romney-aregetting-to-know-you/255499/.

186   Jon Gertner, *The Very, Very Personal Is the Political*, N.Y. TIMES MAG. (Feb. 15, 2004), http://www.nytimes.com/2004/02/15/magazine/the-very-very-personal-is-the-political.html.

187   *See* Michael S. Kang, *From Broadcasting to Narrowcasting: The Emerging Challenge for Campaign Finance Law*, 73 GEO. WASH. L. REV. 1070, 1079 (2005) (describing micro-targeting involving "the libertarian white male in Cobb County, Georgia, who would swing their way if approached appropriately," or "the socially conservative African American on the South Side of Chicago who might vote for a Republican"); Ira S. Rubinstein, *Voter Privacy in the Age of Big Data*, 2014 WIS. L. REV. 861, 876–83.

at a particular time. The rise of political microtargeting has demonstrated that big data can impact the outcomes of elections.[188]

Obviously, courts looking to create a data driven jury selection system would benefit from access to this same information, which likely includes most potential jurors.[189]

C.   Bright Data and Jury Selection

Like politicians who have begun to see the value in collecting voter data, courts and litigants may begin to see the potential benefit in collecting juror data now available through big data systems. This Section looks at whether the information being collected by big data companies might assist courts in assembling juries that meet constitutional and statutory requirements. Obviously, not all of the personal data collected by such companies would be shared with the courts: health information, internet search queries, private purchases, or embarrassing proclivities would naturally not be shared. Nonetheless, big data could provide a far more robust picture of jurors beyond race, gender, age, zip code, and occupation. Second, this Section looks at whether bright data would serve the interests of the litigants at trial. As may be obvious, most trial lawyers would like as much information as possible about potential jurors, leading to the conclusion that bright data is an attractive innovation for parties picking a jury.

1.   Court Systems and Bright Data

As set forth in Part I, courts have several important interests to promote in jury selection: (1) courts must ensure a fair cross-section of jurors through random selection;[190] (2) judges must prevent use of peremptory strikes based on impermissible discriminatory motives;[191] (3) court administrators must improve juror yields;[192] and (4) courts must promote a system of justice

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188 *See* Rubinstein, *supra* note 187, at 883–85 (discussing microtargeting); Michael Scherer, *Inside the Secret World of the Data Crunchers Who Helped Obama Win*, TIME (Nov. 7, 2012), http://swampland.time.com/2012/11/07/inside-the-secret-world-of-quants-and-data-crunchers-who-helped-obama-win/; Mike Allen & Kenneth P. Vogel, *Inside the Koch Data Mine*, POLITICO (Dec. 8, 2014), http://www.politico.com/story/2014/12/koch-broth-ers-rnc-113359.html#ixzz3NJNxqsHU ("The Koch brothers and their allies are pumping tens of millions of dollars into a data company that's developing detailed, state-of-the-art profiles of 250 million Americans, giving the brothers' political operation all the earmarks of a national party.").

189 *See* Charles Duhigg, *Campaigns Mine Personal Lives to Get Out Vote*, N.Y. TIMES (Oct. 13, 2012), http://www.nytimes.com/2012/10/14/us/politics/campaigns-mine-personal-lives-to-get-out-vote.html; Thomas B. Edsall, *Let the Nanotargeting Begin*, N.Y. TIMES CAM-PAIGN STOPS (Apr. 15, 2012, 10:39 PM), http://campaignstops.blogs.nytimes.com/2012/04/15/let-the-nanotargeting-begin/; Robert L. Mitchell, *Campaign 2012: Mining For Voters*, COMPUTERWORLD (Oct. 29, 2012, 7:00 AM), http://www.computerworld.com/s/article/9232567/Campaign_2012_Mining_for_voters.

190 *See* Duren v. Missouri, 439 U.S. 357, 360 (1979).

191 *See* Batson v. Kentucky, 476 U.S. 79, 79 (1986).

192 *See* Nelson, *supra* note 135 (discussing jury yields).

that minimizes disparities of wealth and ensures a fair legal process. As set forth below, bright data systems have the potential to improve each of these areas of concern. Precisely because big data technologies remedy the informational limitations of the current jury system, they offer a new and potentially better way to think about jury selection.

a. Bright Data and the Fair Cross-Section Requirement

Courts currently compile jury lists using the limited information contained in voting lists, driver's license lists, or other governmental records.[193] Jury administrators then randomly choose juror names, in an effort to maintain compliance with the Jury Selection Act, and to achieve the level of diversity needed to satisfy the fair cross-section requirement.[194] Bright data includes that basic information, but also adds additional levels of individual or segmented data, which could all be randomized to increase diversity in selection.

Putting aside the normative judgment about whether adopting a bright data jury selection system would be a good idea,[195] as a technical matter, a jury venire that matches the exact demographic patterns in a community can be created. First, an accurate demographic survey could be agreed upon as a benchmark, either from governmental census sources or big data analytics. Then, a bright data system could take all of the identifying information from voter lists, and add the other available information. From there, the court could create a jury list with almost perfect levels of representative diversity. As an initial matter, one could ensure that each jury group included equal numbers of individuals in "distinctive groups," the equivalent of current practice.[196] Bright data, however, would allow for creation of a randomized fair cross-section not only as measured by race, ethnicity, and gender, but also include age, interests, political affiliations, or net worth (or really any other criteria). Random selection could still create this different order of diversity (just within segmented groups), and could still meet the requirement of producing a fair cross-section.

Again, as a technical matter (rather than a legal or normative matter), such a process could be accomplished with existing technology. In the same way that a particular company might want to promote its new magazine to young, working-class, lesbian homeowners, a company (contracted by the courts) could send a jury summons that would ensure that the pool met personal and demographic requirements. Primarily, the task involves appropriate coding of individuals or groups (identified by mailing address) and an algorithm that can determine the appropriate percentage of the relevant group in a community.

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193   *See supra* text accompanying notes 63–67.
194   *See supra* text accompanying note 79.
195   See Part III below for a discussion of whether such bright data innovations are worth adopting.
196   *See supra* text accompanying notes 12–14 (discussing "distinctive groups").

Such a smart jury selection process might avoid future cross-section challenges because the court could assure an almost exactly demographically representative jury pool. In addition, if it could be shown that there still existed a racial or ethnic disparity because of a limited pool of available jurors, the courts could address the problem by modifying the selection algorithm. Such a change would transform the search for a fair cross-section into a proactive problem-solving exercise, rather than a defensive litigation response.

Bright data technologies could achieve a fully diverse cross-section of the population, increase diversity in the jury venire, and reduce constitutional challenges. While other practical, legal, and moral concerns might ultimately dissuade courts from adopting the practice, the technical ability to create a big data jury exists.

b.   Bright Data and Unconstitutional Peremptory Strikes

Beyond the venire, the unconstitutional use of peremptory strikes continues to undermine the promise of *Batson*. Bright data offers a potential solution. Litigants could be provided an accurate, composite picture of each juror rather than just guessing from the rough proxies of race, ethnicity, and gender. Litigants would know actual juror preferences rather than stereotypes. Litigants would evaluate the whole person, instead of relying on a rather un-illuminating stereotype. In addition, because of available information on the Internet and social media, litigants might even be clued into the potential jurors' actual views about certain matters.[197]

This increased access to information might well result in more nuanced, and less race-based or gender-based peremptory strikes.[198] Of course, litigants could still use these targeted categories as proxies. Striking a woman from the jury panel because she is a woman, and striking a woman because she reads fashion magazines leads to the same result—fewer women on the jury.[199] While real questions remain about whether more information will simply provide better excuses to strike people for the same unconstitutional reason, more information should save certain jurors from strikes, and pro-

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197   *See* Eric P. Robinson, *Virtual Voir Dire: The Law and Ethics of Investigating Jurors Online*, 36 AM. J. TRIAL ADVOC. 597, 599–600 (2013) ("Jurors' online presence—their online profiles, blog posts, Twitter messages, and online comments—as well as the other information available about jurors online can be a 'treasure trove of information about potential . . . jurors' during voir dire and trial. Now, instead of relying on stereotypes and intuition to vet jurors during voir dire, litigators may use the vast resources available online to find information about potential jurors that is unlikely to come out during the usual voir dire process." (footnotes omitted) (quoting Julie Kay, *Social Networking Sites Help Vet Jurors*, NAT'L L.J., Aug. 13, 2008, http://www.legaltechnews.com/id=1202423725315?back=law)).

198   Hoffmeister, *supra* note 8, at 613–14, 634 ("Attorneys with more information about potential jurors are less likely to strike a juror solely because of gender or race, which are both unconstitutional.").

199   *See, e.g.*, *Demographics—Audience*, ELLE MEDIA KIT http://www.ellemediakit.com/r5/showkiosk.asp?listing_id=4165173 (last visited Oct. 28, 2015) (reporting women comprise roughly 92% of Elle's readership).

vide reasons for striking others that do not involve race or gender. In addition, as race and gender identities become more complex with ethnically mixed families and fluid gender lines, this deeper information will allow for equally complex decision making.[200]

c. Bright Data and Jury Yield

Jury yields remain unacceptably low.[201] Jurors fail to respond to their summons for very basic reasons. Some never receive the summons because of outdated addresses. Some fail to understand the summons. Some have health or work conflicts. Some simply ignore it. Courts have begun tracking individuals who do not appear for jury duty, but not with the sophisticated real-time data that bright data systems can provide.[202]

Bright data can provide three improvements to the current system. First, it could correct many outdated address excuses. Courts estimate that between 6% and 15% of jury no-shows never receive the summons at the correct address.[203] As anyone who has recently moved houses knows, realtors, contractors, and others immediately begin contacting the new residents.[204] This data comes from post office change of address information, as well as publicly available real estate records.[205] If courts began relying on bright data systems, they would know of the move as soon as the change of address or new homeowners' insurance policy was signed.

Second, the real success of big data is targeted marketing. Currently, courts send jury summons in the same way to all potential jurors: a mailed card sent by the United States Postal Service.[206] Such a method may be necessary, but can certainly be supplemented. Using all of the innovations of

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200 *See* Susan Saluny, *Census Data Presents Rise in Multiracial Population of Youths*, N.Y. Times (Mar. 24, 2011), http://www.nytimes.com/2011/03/25/us/25race.html ("Among American children, the multiracial population has increased almost 50 percent, to 4.2 million, since 2000, making it the fastest growing youth group in the country.").

201 *See* Nelson, *supra* note 135.

202 *But see* Mize et al., *supra* note 42, at 22 ("With respect to undeliverable summonses, for example, many courts have borrowed techniques from commercial mail-order companies such as contracting with National-Change-of Address (NCOA) vendors to provide updated addresses for people who have moved since the master jury list was compiled.").

203 *Id.*

204 *See* Adam Tanner, *How the Post Office Sells Your Address Update to Anyone Who Pays (And the Little-Known Loophole to Opt Out)*, Forbes (July 8, 2013, 12:11 PM), http://www.forbes .com/sites/adamtanner/2013/07/08/how-the-post-office-sells-your-new-address-with-any-one-who-pays-and-the-little-known-loophole-to-opt-out/.

205 *Id.*

206 *See* Hannaford-Agor, *supra* note 60, at 782 ("Nationally, an average of 12% of jury summonses are returned by the United States Postal Service marked 'undeliverable,' which is the single biggest factor contributing to decreased jury yields. Some undeliverable summonses are due to inaccurate addresses, but the vast majority are simply out-of-date because the person has moved to a new residence. Nationally, an estimated 12% of the nation's population moved to a new address each year. Thus, even if a court could begin the year with a completely accurate master jury list, by the end of the year, one out of every eight records would be outdated." (footnotes omitted)).

targeted marketing, and all of the connected sources of information, courts using bright data could try different methods to get the same jurors to show up. Internet banner ads could be used to remind jurors about their upcoming service. Social media, email, and even texts could be used to remind jurors about jury duty. Some studies show that many juror no-shows are the result of forgetting about the summons, and these direct reminders would make it difficult to forget about the jury date.

Third, for those jurors without a mistaken address excuse, the court will now be able to determine who the scofflaws are, and maybe even look at other correlating data. For example, studies show that many lower-income, minimum wage workers fail to show up for jury duty because of the economic cost of doing so.[207] Bright data systems would be able to demonstrate whether this relationship holds, or whether there are other types of correlations that might better explain the absence. Juror no-shows could be coded, studied, and identified to attempt to discover the underlying problems.

d. Bright Data and Distributional Justice

Courts promote the concept of equal justice under law.[208] Inequality in financial resources, however, has made that promise a hollow one for many litigants. The fact that some litigants can hire jury consultants to obtain a tactical advantage over others has always been an example of a distributional inequity of the system.[209] Bright data can change that by providing court approved bright data profiles (again appropriately moderated) to all litigants. If the information is already being collected for purposes of the jury venire, then court systems can make it available for the parties in trial.

As will be discussed in the next Section, this personal information about potential jurors will be incredibly helpful for litigants trying to pick a favorable jury.

2. Litigants and Bright Data

Bright data offers great advantage to litigants for the simple reason that most lawyers would like as much information about potential jurors as possible.[210] As a tactical matter, lawyers seek any available advantage, and, some-

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207   *See* Forde-Mazrui, *supra* note 70, at 356; King, *supra* note 13, at 715.

208   The phrase is inscribed on the façade of the United States Supreme Court.

209   *See* Caren Myers Morrison, *Can the Jury Trial Survive Google?*, 25 CRIM. JUST. 4, 9 (2011) ("Background checks on jurors are becoming commonplace, particularly in high-profile or violent crime cases. . . . Some lawyers are coming to jury selection armed with a phalanx of paralegals to run each juror's name through a variety of social media searches in real time.").

210   *See* United States v. McDade, 929 F. Supp. 815, 817 (E.D. Pa. 1996) ("[W]hen it comes to prying into matters personal to a juror, the interests of counsel on either side of the aisle are not necessarily antagonistic. All the lawyers want to learn just about all they can about the prospective jurors.").

times, knowledge is power when it comes to voir dire.[211] Whether or not more data equates to better juror selection, more information about interests, inclinations, and past acts will result in more informed jury selection.

As set out above, the information held by big data companies can expose attributes about ourselves that we may not even acknowledge. While imperfect in many ways, the clues about our interests and past do hold some value in deciding how we might view a particular legal case. The data available may well be superior to traditional oral questioning in voir dire, or formal questionnaires, because it avoids embarrassing admissions or self-censorship.[212] Implicit biases and explicit biases might be revealed without having to ask a direct question.[213] Further, litigants can use the information to ask follow up questions, test veracity of answers, and sort jurors in a more efficient manner.

D.   The Availability of Bright Data

Big data information systems exist and are collecting and analyzing personal data which could be made available to courts. Big data companies already possess all the information that courts use for jury summons, as these public databases (DMV lists, voter lists) form the core of the information generated about individuals.[214] In addition, these companies already contact the same individuals for other reasons. Adding the specific task of coordinating jury summons with existing information is well within existing capabilities. Big data companies thus may see a financial incentive in partnering with court systems that could hire them to select jurors.[215]

While the cost of contracting with big data companies is unknown, courts may find the arrangement actually results in a cost saving for them. Currently, courts must hire, support, and fund entire juror offices to coordinate the thousands of citizens arriving for jury duty. Outsourcing the selection to big data firms might save both personnel costs and technology costs. Further, a more targeted system will avoid waste in terms of over-summonsing jurors because of high juror no-show rates. Courts may thus have an incentive to outsource this service to a cheaper, more efficient, and arguably more effective mechanism for summoning jurors.

If courts do adopt such a big data inspired system, they would need to answer a few practical questions. First, do courts want to address the traditional fair cross-section problem? If jury venires do not represent the existing

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211   *See, e.g.*, Barbara Allen Babcock, *Voir Dire: Preserving "Its Wonderful Power"*, 27 STAN. L. REV. 545, 553 (1975).

212   *See* Melanie D. Wilson, *Juror Privacy in the Sixth Amendment Balance*, 2012 UTAH L. REV. 2023, 2027 (noting that it is well understood that "[f]orcing jurors to respond to personal questions intensifies the pressure on jurors to lie and to withhold material facts, making it more likely that biased jurors will survive voir dire").

213   *See* Dale Larson, *A Fair and Implicitly Impartial Jury: An Argument for Administering the Implicit Association Test During Voir Dire*, 3 DEPAUL J. SOC. JUST. 139, 141 (2010).

214   *See supra* Section II.A.

215   To be clear, this financial relationship has not yet developed, but as data becomes a commodity, courts will hold significant amounts of valuable personal information.

population in terms of race or ethnicity, should courts attempt to summon a perfectly representative jury? Would doing so require altering algorithms to correct for expected juror no-shows? Would this targeting necessarily over-burden members of minority groups who might be summoned at a dispro-portionate frequency?[216]

Courts would also need to decide whether they wish to go beyond tradi-tional diversity. With big data metrics, the choices of which categories are really quite open. One could program the summons-generating algorithm to target age, income, political affiliation, sexual orientation, religion, other demographic characteristics, etc. In particularly complex or technical cases, one even could select for a certain level of technical knowledge. Individual jurisdictions would have to consider such decisions, but, as a technical mat-ter, the additional measures of diversity are nearly unlimited.

Depending on the categories chosen about jurors, courts will also need to decide what type of information they will share with the litigants. Big data dossiers include far more personal information than need to be shared with the parties. Health information, Internet search queries, reading lists, and other areas should be off-limits (or not collected by the courts). As will be discussed in Part III, real privacy issues exist and must be addressed.

In addition to *what* information, courts must determine *when* they will provide the information to parties.[217] Obviously, courts know which individ-ual jurors are scheduled to show up to court several weeks or months in the future. This timeframe provides ample opportunity to collect information on the jurors. However, in the ordinary course of trial, the court does not know which courtroom (or to which case) a juror will be assigned until the day of service.[218] As it makes little sense to reveal personal juror information to lawyers who do not need that information, courts will need to create a system to provide that information at the correct time, and to the correct courtroom. Plainly, courts already share juror lists with parties, but with big data there will be more information to share. Providing the parties with such a list with enough time to prepare might make the actual jury selection much more efficient, at least in large civil trials or death penalty cases with numer-ous summoned jurors.[219]

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216   For example, would someone of a particular minority group be summoned at a rate higher than members of a majority group in order to match the proportion of the population?

217   Providing the information too late to be useful would undermine the effectiveness of the innovation.

218   Jury pools are usually selected on the day needed, and it is difficult to predict which jurors will end up in which courtroom.

219   *See* Martha Neil, *Pretrial Searches of Jurors' Social Media Could Prevent Mistrials, Judges Suggest*, AM. BAR ASSOC. J. (July 9, 2014, 6:40 PM), http://www.abajournal.com/news/arti-cle/cut_lawyer_use_of_gotcha_card_by_requiring_online_searches_of_jurors_backgr ("Instead of waiting until after a verdict is rendered to look into the background of jurors selected to hear the case, suggests Circuit Judge Anthony Rondolino, lawyers in complex litigation could be given time at the outset and encouraged to perform social media

Finally, courts will need to make a decision of what to do with the information once the juror has been excused from service.[220] While one easy solution would be to purge the information, or anonymize it, the possibility of future study may tempt courts to keep the information. As big data companies know, data can be a valuable commodity.[221] If courts began studying juror composition, jury verdicts, and cases, very interesting (and potentially valuable) correlations could be generated.

These practical questions pale in comparison to the difficult theoretical questions that arise from big data technologies' ability to offer the tempting possibility of precision jury selection. The next Part addresses these fundamental questions about whether courts should adopt big data in their jury selection systems.

III. The Big Data Dilemma

New data technologies present a dilemma for courts. The informational gaps in jury selection are real and unsolved. Big data offers innovative solutions to improve at least some portion of these problems. Yet, as with the use of many new technologies, real risks exist. The dilemma, in fact, strikes at the very core of the jury system—why we have it, what it symbolizes, and how courts should respond to new technological advances.

This Part explores five fundamental questions that courts must answer before considering the use of bright data in jury selection. First, even if bright data could provide a perfectly representative jury venire, would searching for a diverse jury pool change the role of the jury in society? Second, how would the invasion of privacy that results from using big data technologies affect juror participation in the jury system? Third, should courts, as governmental institutions, be in the business of collecting vast troves of personal information about potential jurors, and, if so, what are the risks involved? Fourth, would access to additional personal information about potential jurors reduce unconstitutional peremptory challenges based on racial or gender stereotypes or would it create more sophisticated pretextual strikes? Finally, would the affirmative use of racial or gender considerations in selec-

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searches on jurors right then, so any objections about lack of disclosure could be raised before trial.").

220 *See* Stephen Rushin, *The Judicial Response to Mass Police Surveillance*, 2011 U. Ill. J.L. Tech. & Pol'y 281, 321 (proposing data retention policies); Christopher Soghoian, *An End to Privacy Theater: Exposing and Discouraging Corporate Disclosure of User Data to the Government*, 12 Minn. J.L. Sci. & Tech. 191, 209–10 (2011) ("[M]ost technology providers and communications carriers now have established data retention policies that govern the length of time before which they will delete customer records, communications, logs, and other data."); John A. Stratford, Comment, *Adventures on the Autobahn and Infobahn:* United States v. Jones*, Mandatory Data Retention, and a More Reasonable "Reasonable Expectation of Privacy"*, 103 J. Crim. L. & Criminology 985, 991 (2013) (discussing the lack of government data retention policies).

221 In fact, the data about jurors and their actions in jury verdicts would be quite valuable to companies regularly involved in lawsuits.

tion systems run afoul of existing equal protection rules prohibiting consideration of race or gender in selection systems?

These big questions of role, privacy, power, pretext, and discrimination involve longstanding, contested issues. Each will be addressed in turn.

A.   The Question of Jury Role

Perhaps the most fundamental question presented by the big data dilemma is what does society want the jury to be? Sorting technology might allow us to have a fully representative jury, algorithmically designed to represent not only the racial and gender makeup of a community, but proportionately represent the community's political affiliation, employment, income, and personal interests, etc. However, this algorithmic accuracy only matters if the goal of the jury venire is to create a truly *representative* cross-section as opposed to a *fair* cross-section. If the jury instead serves some other role, then this technological innovation may be unnecessary.

The question of the jury role has been well-considered and oft-contested since the Founding.[222] Depending on how one views the jury's role—as a fact finder, a check on government, a representative democratic institution, a moral conscience, or a space of civic education—the answer to whether bright data technologies assist or hinder the jury's role(s) may vary. This Section examines the competing visions of the jury as impacted by the possibility of bright data technologies. Each potential role of the jury will be briefly set forth with a broader discussion of bright data's impact to follow.

1.   Existing Tensions in the Role of the Jury

In a purely instrumental role, the jury finds facts and applies the law to facts.[223] Jury instructions articulate this role as "fact-finder."[224] Courts repeat it daily. Jurors swear an oath to abide by it. Theoretically, jurors begin impartial, detached, and neutral—a tabula rasa of unformed judgment.[225] This vision has the benefit of emphasizing the importance of

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222   *See* Ferguson, *supra* note 53, at 1115–35.

223   United States v. Gaudin, 515 U.S. 506, 514 (1995) ("[T]he jury's constitutional responsibility is not merely to determine the facts, but to apply the law to those facts and draw the ultimate conclusion of guilt or innocence."); Chris Kemmitt, *Function over Form: Reviving the Criminal Jury's Historical Role as a Sentencing Body*, 40 U. MICH. J.L. REFORM 93, 112 (2006) ("The party line typically hewn to by modern American courts is that the jury exists merely to find facts: juries make factual determinations and judges sentence, end of story.").

224   Ferguson, *supra* note 53, at 1142.

225   *See, e.g.*, Joan L. Larsen, *Ancient Juries and Modern Judges: Originalism's Uneasy Relationship with the Jury*, 71 OHIO ST. L.J. 959, 966 (2010) ("The idealized modern jury thus acts as a blank slate upon which litigants may sketch their versions of the facts. The facts are the focus because today's ideal jurors are finders of fact only."); Michael B. Mushlin, *Bound and Gagged: The Particular Predicament of Professional Jurors*, 25 YALE L. & POL'Y REV. 239, 241 (2007) ("[T]he traditional view of the juror's role throughout trial is that of an empty vessel into which information presented in the form of exhibits, testimony, argument, and

impartiality defined as being fair and open-minded.[226] Of course, such a conception of the jury may not reflect reality, as numerous studies show that jurors retain their explicit and implicit biases when they arrive for jury service.[227] Jurors are not blank slates, but fully inscribed chalkboards filled with all sorts of preconceived notions that affect their judgments about witnesses, facts, scientific evidence, and ultimately their final verdicts.[228] Yet, the court system generally ignores this reality, choosing to see jurors as neutral, passive arbiters personally removed from the case.[229] Diverse perspectives are welcomed but not required, leaving some commentators to question whether certain viewpoints ever make it to the jury room.[230] Courts seem willing to trust juries, instructed by the judge on the law, to act within a narrowly defined, functional role, deciding the facts as they come into evidence.[231]

Such a narrow, task-oriented image does not delimit the role of the jury.[232] Some commentators see the jury as part of the broader constitutional structure, checking governmental and prosecutorial power.[233] The Supreme Court has acknowledged this function.[234] As Justice Antonin Scalia stated, "[The right to a jury trial] is no mere procedural formality, but a

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judicial instructions will be poured." (quoting NANCY S. MARDER, THE JURY PROCESS 105 (2005))); Sarah N. Conde, Note, *Capote in the Jury Box: Analyzing the Ethics of Jurors Writing Books*, 19 GEO. J. LEGAL ETHICS 643, 646 (2006) ("Protected by the Sixth and Seventh Amendments, the right to trial by jury is based on an ideal of impartiality, which draws on an assumption that jurors appear with a 'blank slate, neutral, and untainted by experience or publicity.'" (quoting SAUL M. KASSIN & LAWRENCE S. WRIGHTSMAN, THE AMERICAN JURY ON TRIAL: PSYCHOLOGICAL PERSPECTIVES 6 (1988))).

226 *See* Steven I. Friedland, *The Competency and Responsibility of Jurors in Deciding Cases*, 85 NW. U. L. REV. 190, 195 (1990) ("This perception of fairness is as important to the proceedings as is actual fairness. A system perceived as inaccurate undermines the public's confidence in the jury to reach fair—and accurate—results."); Smith, *supra* note 78, at 431 ("One feature of the American jury that was deemed important was its impartiality.").

227 *E.g.*, Roberts, *supra* note 116, at 833.

228 *See* B. Michael Dann, *"Learning Lessons" and "Speaking Rights": Creating Educated and Democratic Juries*, 68 IND. L.J. 1229, 1242 (1993).

229 *See* Friedland, *supra* note 226, at 198 ("Under this dominant model of the American jury, jurors are expected to silently examine and listen carefully to all of the evidence, and then to evaluate that evidence during the deliberation phase of the trial. During the evidentiary phase of the trial, in particular, jurors are expected to be passive observers.").

230 *See* Kim Taylor-Thompson, *Empty Votes in Jury Deliberations*, 113 HARV. L. REV. 1261 (2000).

231 *See* Shannon v. United States, 512 U.S. 573, 579 (1994) ("The jury's function is to find the facts and to decide whether, on those facts, the defendant is guilty of the crime charged.").

232 *See* Ferguson, *supra* note 53, at 1116–36.

233 *See, e.g.*, Andrew E. Taslitz, *The People's Peremptory Challenge and* Batson*: Aiding the People's Voice and Vision Through the "Representative" Jury*, 97 IOWA L. REV. 1675, 1678 (2012) ("The jury acts as the People's eyes by monitoring the state and its agents. That monitoring reveals abuses of power, discourages those abuses, and humbles our leaders and their agents.").

234 *See* Duncan v. Louisiana, 391 U.S. 145, 155–56 (1968) (detailing how juries protect against arbitrary prosecutions).

fundamental reservation of power in our constitutional structure. Just as suffrage ensures the people's ultimate control in the legislative and executive branches, jury trial is meant to ensure their control in the judiciary."[235] This understanding—that the jury serves as a structural check on power—has deep roots in our constitutional history.[236]

Related to this structural role, the jury also serves as the voice of the people in administering justice.[237] This democratic vision has two components—a participatory role and a legitimizing role. First, the jury requires citizens to act as citizens.[238] Like voting and serving as a public official, jury service allows ordinary citizens to participate in the working of a democratic government.[239] As Justice Anthony Kennedy wrote in *Powers v. Ohio*, "The

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235   Blakely v. Washington, 542 U.S. 296, 305–06 (2004); *see also* Jenny E. Carroll, *Nullification as Law*, 102 GEO. L.J. 579 (2014) [hereinafter Carroll, *Nullification*]; Jenny E. Carroll, *The Jury's Second Coming*, 100 GEO. L.J. 657, 685 (2012) [hereinafter Carroll, *Second Coming*].

236   *See, e.g.*, Douglas A. Berman, *Making the Framers' Case, and a Modern Case, for Jury Involvement in Habeas Adjudication*, 71 OHIO ST. L.J. 887, 892 (2010) ("The Framers regarded jury rights as a critical component of the Constitution's checks-and-balances protection of individual freedom against potential excesses of other governmental actors: on both federal and state levels, the jury was to ensure that legislatures, prosecutors, and judges could not conspire to convict and harshly punish politically unpopular defendants."); Kemmitt, *supra* note 223, at 105 ("John Taylor of Caroline, a leading constitutional theorist of the early Republic, likened the jury to the 'lower judicial bench' in a bicameral judiciary. The Maryland Farmer echoed Taylor, describing the jury as 'the democratic branch of the judiciary power,' and the anti-Federalist John Hampden extended the metaphor, explaining that trial by jury was 'the democratical balance in the Judicary power.'" (footnotes omitted)).

237   *See* Taslitz, *supra* note 233, at 1677 ("[T]he jury 'represents' the People by acting for the good of the People as a whole in performing tasks that all the members of the People could not themselves collectively perform. It is not the content of any particular jury verdict—guilty or not guilty—that matters but the very process of jury observation and deliberation that itself brings about political benefits on behalf of all the People.").

238   *See* Amar, *supra* note 56, at 218 ("Jury service was understood at the time of the founding by leaders on all sides of the ratification debate as one of the fundamental prerequisites to majoritarian self-government."); Berman, *supra* note 236, at 891 ("Indeed, the criminal jury process was seen by the Framers as a community responsibility as much as a right: through jury service, citizens would have not just an opportunity, but an obligation, to participate directly in the actual administration of government.").

239   Powers v. Ohio, 499 U.S. 400, 407 (1991) ("Jury service preserves the democratic element of the law, as it guards the rights of the parties and ensures continued acceptance of the laws by all of the people. It 'affords ordinary citizens a valuable opportunity to participate in a process of government, an experience fostering, one hopes, a respect for law.' Indeed, with the exception of voting, for most citizens the honor and privilege of jury duty is their most significant opportunity to participate in the democratic process." (internal citations and quotations omitted)); Amar, *supra* note 56, at 206 ("The argument of this Article is that the link between jury service and other rights of political participation such as voting is an important part of our overall constitutional structure, spanning three centuries and eight amendments: the Fifth, Sixth, Seventh, Fourteenth, Fifteenth, Nineteenth, Twenty-Fourth, and Twenty-Sixth. As we shall see, the voting-jury service linkage was recognized by the Framers in the 1780s, by those responsible for drafting the reconstruction

opportunity for ordinary citizens to participate in the administration of justice has long been recognized as one of the principal justifications for retaining the jury system."[240] "We the people" must participate in our own legal system.[241]

The democratic nature of jury service also legitimizes jury verdicts.[242] A judgment of a jury of one's peers carries more authority than the conclusion of a single judge.[243] If the jury is seen to fairly represent community interests and sentiments, this verdict not only reaffirms the legal system, but the larger democratic system.[244] People perceive diverse juries as being more legitimate.[245]

Jury verdicts possess not only legal legitimacy but moral legitimacy.[246] While jurors no longer decide the law, as they once did at the time of the nation's Founding,[247] jurors do still reflect the community conscience, pro-

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amendments and implementing legislation, and still later by authors of twentieth century amendments that protect various groups against discrimination in voting. Moreover, each of the groups the Supreme Court has already determined should be protected against discrimination in jury service is also protected by one of the voting discrimination amendments.").

240   *Powers*, 499 U.S. at 406; *see also id.* at 402 ("Jury service is an exercise of responsible citizenship by all members of the community, including those who otherwise might not have the opportunity to contribute to our civic life.").

241   *See* ANDREW GUTHRIE FERGUSON, WHY JURY DUTY MATTERS: A CITIZEN'S GUIDE TO CONSTITUTIONAL ACTION (2013); Robert Mark Savage, Where Subjects Were Citizens: The Emergence of a Republican Language and Polity in Colonial American Law Court Culture, 1750–1776 4 (2011) (unpublished Ph.D thesis, Columbia University), http://academic-commons.columbia.edu/catalog/ac:131400 ("Americans believed their juries to possess, inherently, a *republican* character. Juries continued to embody the voices of 'the people,' broadly speaking, within the machinery of the state. This republican character of the American jury held such attraction that, by the 1830s, the power of the jury had already become enshrined in national memory as both a political weapon and as a means of community coherence, as well as a potent symbol of liberty itself.").

242   *See, e.g.*, Jenia Iontcheva, *Jury Sentencing as Democratic Practice*, 89 VA. L. REV. 311, 346–49 (2003).

243   *See* Harris v. Alabama, 513 U.S. 504, 518–19 (1995) (Stevens, J., dissenting) ("A jury verdict expresses a collective judgment that we may fairly presume to reflect the considered view of the community.").

244   Joe S. Cecil et al., *Citizen Comprehension of Difficult Issues: Lessons from Civil Jury Trials*, 40 AM. U. L. REV. 727, 728 (1991) ("Lay participation in debates concerning public policies is a touchstone of a democracy. The Constitution enshrines this value not only by providing for a system of elected representatives, but also by recognizing the right to trial by jury.").

245   *See, e.g.*, Ellis & Diamond, *supra* note 36, at 1033; King, *supra* note 36, at 1182–86.

246   *See* Carroll, *Nullification*, *supra* note 235; Carroll, *Second Coming*, *supra* note 235, at 685–87.

247   Tabatha Abu El-Haj, *Changing the People: Legal Regulation and American Democracy*, 86 N.Y.U. L. REV. 1, 57 (2011) ("During the first decades of the nineteenth century, the jury maintained its right to decide questions of law."); Robert P. Burns, *The Dignity, Rights, and Responsibilities of the Jury: On the Structure of Normative Argument*, 43 ARIZ. ST. L.J. 1147, 1154 (2011) ("During the founding period, the jury was widely understood to embody the popular sovereignty that was distinctive to American political theory. It was understood as well

viding accountable, public, and occasionally merciful judgments in particular cases.[248] By nature of how they are constituted, juries reflect local viewpoints.[249] Some communities view certain crimes differently than others, and reflect those values through criminal acquittals or large civil jury verdicts.[250]

Finally, as I have written elsewhere, the jury has long been a place of civic education.[251] Jury service necessitates exposure to substantive legal concepts, practical observation of the court system, and practice of the skills nec-

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to be the sole institution in which the people's sovereignty survived the enactment of the written constitution. Many authors and lawyers in the founding period insisted that the jury was thus to be the judge 'both of fact and law.' The view was that the jury's responsibility to render a just verdict in a particular case both expressed its unique *dignity* and implied that it must, as a reflection of its *responsibility*, pass judgment on the morality of the written law.").

248   Nancy S. Marder, *Deliberations and Disclosures: A Study of Post-Verdict Interviews of Jurors*, 82 IOWA L. REV. 465, 472 (1997) ("The view of the jury as a single entity that speaks through its verdict has symbolic value because the jury speaks not only for itself, but also for the community. The community has assigned the jury the task of reaching a judgment on its behalf. The jury, then, serves an important function in our public rituals. The community, faced with disputes that are extremely difficult to resolve, has decided that it will give such decisions to a jury drawn from the community.").

249   AKHIL REED AMAR, THE BILL OF RIGHTS 106 (1998) (The "jury trial was not simply and always an individual right but also an institution of localism and popular sovereignty."); Rachel E. Barkow, *Recharging the Jury: The Criminal Jury's Constitutional Role in an Era of Mandatory Sentencing*, 152 U. PA. L. REV. 33, 59 (2003) ("The purpose of the jury was to inject the common-sense views of the community into a criminal proceeding to ensure that an individual would not lose her liberty if it would be contrary to the community's sense of fundamental law and equity."); Kory A. Langhofer, Comment, *Unaccountable at the Founding: The Originalist Case for Anonymous Juries*, 115 YALE L.J. 1823, 1825 (2006) ("First, venirepersons in the Founding era were local, drawn from relatively intimate communities."); *see id.* at 1829 ("Local juries 'were supposed to have . . . a prior and a perfect knowledge . . . of the characters of the parties themselves, as of the witnesses.'" (quoting MATTHEW HALE, THE HISTORY OF THE COMMON LAW OF ENGLAND AND AN ANALYSIS OF THE CIVIL PART OF THE LAW 338 (6th ed. 1820))).

250   One can view famous examples of northern antislavery abolitionists refusing to convict antislavery advocates under the Fugitive Slave Laws, and more recent examples of drug prosecution failures in urban areas as examples of local justice rebalancing the criminal justice system. *See* United States v. Dougherty, 473 F.2d 1113, 1142 (1972) (Bazelon, C.J., concurring in part and dissenting in part) ("The very essence of the jury's function is its role as a spokesman for the community conscience in determining whether or not blame can be imposed."); Barkow, *supra* note 249, at 58–59; *see also* William G. Young, *Vanishing Trials, Vanishing Juries, Vanishing Constitution*, 40 SUFFOLK U. L. REV. 67, 69–70 (2006) ("The jury system proves the wisdom of the Founders in their utilization of direct democracy to temper the potential excesses of the only unelected branch of government. . . . Through the jury, we place the decisions of justice where they rightly belong in a democratic society: in the hands of the governed.").

251   Andrew Guthrie Ferguson, *Jury Instructions as Constitutional Education*, 84 U. COLO. L. REV. 233, 233 (2013) (discussing juries as spaces of constitutional education).

essary for a working democracy.[252] Jury duty furthers citizenship by offering a space for citizens to practice citizenship.[253] The jury exists, and has always existed, as an institution designed to train and educate citizens.[254]

In general, these differing roles of the jury coexist without great conflict. In fact, the jury's long survival may be attributable, at least in part, to its ability to be all things to all people. Precisely because the jury resists a singular definition, it can appeal to different groups (courts, citizens, litigants) in different ways. The rise of bright data adds complexity to this protean definition, because new data sources emphasize certain aspects of the jury role over others. Big data may end up defining the jury in ways that not everyone would support. This new reality is the subject of the next subsection.

2. The Tensions of Big Data and the Jury's Role

Theoretically, bright data can create a perfectly representative jury based on demographics, affinities, or really whatever attributes are plugged into the algorithm. Intentionally creating a representative jury, however, is itself a value-laden decision. This subsection addresses the positives and negatives of a big data infused jury venire.

First, the creation of a technologically precise representative jury implies that the traditional group of randomly selected jurors is not representative. While frequently true as a demographic fact, this assertion strikes at the heart of the image of the jury. The goal of representativeness cuts against the idea (or ideal) that a randomized, color-blind jury system treats all citizens equally.[255] One of the strongest arguments for keeping juries has been that jury service serves a leveling function, where only citizenship matters and identifying features do not.[256] However, in a bright data world, if summoned

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252 *See* Valerie P. Hans & Neil Vidmar, *The Verdict on Juries*, 91 JUDICATURE 226, 230 (2008) ("Jury service itself educates the public about the law and the legal system and produces more positive views of the courts."); Joanna L. Grossman, Note, *Women's Jury Service: Right of Citizenship or Privilege of Difference*, 46 STAN. L. REV. 1115, 1122 (1994) ("Jury service thus educates citizens about politics, law, and civic institutions.").

253 Suzanna Sherry, *Responsible Republicanism: Educating for Citizenship*, 62 U. CHI. L. REV. 131, 132 (1995) ("The core of the claim that education is necessary to citizenship must instead be that education is necessary to the thoughtful or responsible exercise of citizenship rights.").

254 *See* Akhil Reed Amar, *The Bill of Rights as a Constitution*, 100 YALE L.J. 1131, 1186 (1991) ("Like the church and the militia, the jury was in part an intermediate association designed to educate and socialize its members into virtuous thinking and conduct."); Paul J. Garotto, Speech, Jury Service—A Citizen's Duty, 13 NEB. ST. B.J. 111, 113 (1964) ("What else do we have that can teach, exercise and strengthen so much political, social, moral and religious virtue as does serving on a jury?"); Savage, *supra* note 241, at 46 ("Colonial law court culture was about teaching colonists how to participate in the construction, legitimization and use of power. The lessons learned in that 'school'—in that law court culture—could transform the people involved. In particular, colonial court culture offered an opportunity for subjects to act as citizens.").

255 *See* FERGUSON, *supra* note 241 (discussing the leveling effect of jury service).

256 *See id.*

not because of citizenship alone, but because of citizenship plus segmentation, this ideal gets blurred. You begin to represent something other than a citizen.

Such a process also redefines the "community" in the community conscience. Because the juror is chosen to represent some other attribute or affinity, the juror no longer simply represents the local community around the courthouse. Again, localism plus segmentation differs from simply representing the local community. Scholars have thoroughly addressed the problems with the idea that an individual stands in for the views of some class, race, or gender.[257] While diversity matters, being picked as "the woman" to ensure gender diversity might well skew the process. A juror should not represent a group and bring that loyalty to court.[258] Instead, society expects jurors to act as citizens loyal only to their oath of objectivity and fairness.

Similarly, in selecting jurors for diversity's sake, the idea of randomness becomes distorted. Again, the conception that modern juries derive fairness from their random selection represents one of the principal arguments in favor of modern juries.[259] The addition of an element of purposeful, precise selection could affect this perception of fairness. For example, in a case involving the prosecution of a politician from one political party, a fear of skewing the jury pool to include members of an opposing political party might undermine the legitimacy of the verdict.

At the same time, ensuring a precisely diverse jury pool will provide some advantages. The loss of randomness could even enhance the legitimacy of jury verdicts. As argued earlier, perceived bias in the venire selection underlies many fair cross-section challenges. With a statistically balanced jury venire, such fairness challenges will not succeed.

In addition, assuming that a diverse jury venire will lead to a more diverse jury panel, jury deliberations may improve. Numerous studies show that diverse juries are better fact finders[260] because different viewpoints and perspectives provide for deeper and longer deliberation.[261] Thus, a bright

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257 *See, e.g.*, Forde-Mazrui, *supra* note 70, at 395 ("[T]here may be harmful effects on juror self-perceptions when such diversity is achieved *intentionally*. Such a procedure may encourage jurors to think of themselves as advocates for their communities, potentially compromising the impartiality of jury deliberations. The analogy to legislative districting may be particularly troublesome along these lines.").

258 *Id.*

259 John H. Mansfield, *Peremptory Challenges to Jurors Based upon or Affecting Religion*, 34 SETON HALL L. REV. 435, 438 (2004) (discussing alternative theories of jury selection including how randomness equals impartiality).

260 *See, e.g.*, Hans & Vidmar, *supra* note 252, at 227 ("One of the most dramatic and important changes over the last half century is the increasing diversity of the American jury. Heterogeneous juries have an edge in fact finding, especially when the matters at issue incorporate social norms and judgments, as jury trials often do.").

261 *See, e.g.*, NEIL VIDMAR & VALERIE P. HANS, AMERICAN JURIES: THE VERDICT 74–76 (2007).

data jury might well determine facts in a more complete and thorough manner.

Finally, bright data jury selection will likely have little effect on the structural or educational functions of the jury. The Supreme Court has stated that as long as a duly constituted body of citizens is interposed between the prosecution and the defendant, issues of size, unanimity, and jury design may not matter. Thus, the Court would likely uphold a bright-data-inspired jury, as long as it served its role as a structural check on the prosecution in a criminal case or between the parties in a civil case. No matter how jurors were chosen, they would also learn the civic lessons built into the process.

3. Evaluating the Tensions

Courts seeking to evaluate the impact of bright data technologies on jury selection will face a difficult task. As set forth above, the arguments may collide, depending on the perceived role of the jury. While a bright data selected jury will still provide structural protection, it may end up undermining the democratic and leveling roles of the jury. Court administrators will need to consider the impact of this change cautiously.

More interestingly, courts may need to conceptualize a more modern theory of jury diversity. Traditionally, courts have looked at diversity from a broad categorical perspective, looking at who was excluded, not who was to be included. By not asking whether other types of people in the cross-section of the community should be included, courts have never had to embrace the harder question of who else should be included. Perhaps certain age groups (retirees, college students), statuses (professionals, mothers), ethnicities, or religions should be targeted in mapping a more representative measure of the community. Such decisions would be fraught with difficult choices and necessarily localized, but could offer a different vision of diversity for juries.

B. The Question of Privacy

Bright data's impact on jury selection presents another dilemma for courts in terms of juror privacy. Jurors summoned to serve in the venire or questioned for the jury panel do not expect that jury selection will involve use of the full range of available consumer data. Jurors generally expect to be anonymous, more a juror number than a name.[262] Jurors expect to arrive as citizens, do their job, and then disappear back into society as faceless, nameless members of a jury.[263]

Bright data changes these expectations. The transparent use of bright data techniques would be evident in voir dire and, if publicized, would also impact the perception of who was selected for the venire, and why. Privacy concerns would pervade jurors' thoughts in the courthouse. Both the generalized sense of an invasion of privacy, and the actual awareness of highly per-

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262 In court, jurors are referred to by a number rather than a name.
263 *See* United States *ex rel.* McCann v. Adams, 126 F.2d 774, 775–76 (2d Cir. 1942).

sonal matters might cause resentment, distrust, and could delegitimize the jury system.

This Section sets out the tensions brought on by bright data and juror privacy. In many ways, bright data is simply the latest source of conflict in a long history pitting litigants', courts', and jurors' interests against one another. In addition, regardless of whether courts use the information, the personal data already exists in easily accessible form for some litigants. Thus, any anger over privacy invasions directed at courts, while real, may be misdirected. Of course, as will be discussed in this Section and the next Section, there also may be something especially threatening with having the court system (as opposed to private entities) possess this information.

1. Existing Tensions of Juror Privacy

Juror privacy has long been a contested issue.[264] In criminal cases, the juror's privacy rights run directly into the defendant's Sixth Amendment right to a fair trial.[265] While one's health, sexual experiences, or prior criminal history may be of no concern to others in the ordinary course of life, such matters may be of interest to the court in a criminal case involving a related issue.[266] Voir dire, as a general matter, can be quite invasive.[267] Courts in both civil and criminal matters routinely find it necessary to inquire about personal and embarrassing matters during rather lengthy questioning.[268] As Melanie Wilson has commented:

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264 *See* Wilson, *supra* note 212, at 2030–33 (detailing the history of juror privacy in voir dire).

265 *Compare* United States v. McDade, 929 F. Supp. 815, 817 (E.D. Pa. 1996) (noting that voir dire inquiries into personal health information may conflict with "privacy rights . . . 'to be let alone'" (quoting Olmstead v. United States, 277 U.S. 438, 478 (Brandeis, J., dissenting))), *with* Ackley v. Goodman, 516 N.Y.S.2d 667, 670 (N.Y. App. Div. 1987) (juror rights outweighed by court rights); *see also* Wilson, *supra* note 212, at 2035–36 ("Outside of the voir dire process, jurors' privacy is protected by various statutes and by the Constitution. But once part of the jury pool, citizens are treated as though their rights evaporate." (footnotes omitted)).

266 *See* David Weinstein, *Protecting a Juror's Right to Privacy: Constitutional Constraints and Policy Options*, 70 TEMP. L. REV. 1, 9 (1997) ("A . . . defendant's right to a fair trial ranks higher than any other entitlement within our constitutional structure. Subsumed within this general right is the specific requirement that the trial jury be impartial, and that potential jurors be questioned to determine if they possess 'actual bias' against the defendant.").

267 *See* Alschuler, *supra* note 124, at 155 ("[W]e subject jurors to lengthy, privacy-invading voir dire examinations, requiring them to answer questions that would be considered inappropriate and demeaning in other contexts."); Wilson, *supra* note 212, at 2025 ("Because jurors play this critical role of deciding guilt and protecting the accused from government overreaching, during the voir dire stage of the case, potential jurors are asked to share information about their lives, quirks, proclivities and beliefs, and sometimes insights into the lives of their friends, relatives, and loved ones who influence them.").

268 *See* Babcock, *supra* note 211, at 549 ("[W]ithout a reasonable amount of information about the prospective jurors, the litigant cannot realize his right to 'select' the jury by challenges for cause and by peremptory strikes."); Mary R. Rose, *A Dutiful Voice: Justice in the Distribution of Jury Service*, 39 LAW & SOC'Y REV. 601, 611 (2005) ("[J]ury selection can

> Litigants regularly ask questions to determine the influence of jurors' relations with friends and loved ones, as well as the jurors' experiences and personal habits. Prospective jurors have been asked to reveal information about their victimization, their health and use of legal and illegal medications, their families and income levels, whether they have filed for bankruptcy, their religious and political beliefs, their intimate sexual relationships, their television habits, and many other potentially sensitive topics.[269]

These colloquies take place in a quasi-public space, subject to potentially public revelation through appellate transcripts, and can feel quite coercive.[270]

In response, courts have recognized some limited privacy rights for citizens called as jurors.[271] The Supreme Court has called juror privacy a "compelling interest" when balancing privacy rights with the First Amendment right of the press to know about public jury trials.[272] Of course, mixing First Amendment freedoms with the Sixth Amendment rights has only heightened the tension around juror privacy.[273] As evidenced by recent media-driven scandal trials, the need to protect ordinary jurors from becoming national targets of public criticism has intensified.[274]

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and does pose inquiries into matters that some may see as uncomfortable and overly intrusive. People must disclose in public experiences they may have kept even from close friends (e.g., that they committed a crime or a have been a crime victim."); *see also id.* ("[E]ven if disclosures are not particularly intimate or emotionally arousing, voir dire may also invade privacy if authorities ask 'too much' by posing questions regarded as unnecessary for or unrelated to determining juror impartiality.").

269 Wilson, *supra* note 212, at 2033.

270 *See* Joseph A. Colquitt, *Using Jury Questionnaires; (Ab)using Jurors*, 40 Conn. L. Rev. 1, 25 (2007) ("Jurors are not volunteers. They come to court under summons and answer questionnaires under court order. The sharing of private information is compelled under threat of contempt of court. Therefore, it can be expected that jurors may be reluctant participants in unveiling their personal data.").

271 *See* Lauren A. Rousseau, *Privacy and Jury Selection: Does the Constitution Protect Prospective Jurors from Personally Intrusive Voir Dire Questions?*, 3 Rutgers J.L. & Urb. Pol'y 287, 304–06 (2006).

272 Press-Enterprise Co. v. Superior Court of Cal., 464 U.S. 501, 511 (1984) ("The jury selection process may, in some circumstances, give rise to a compelling interest of a prospective juror when interrogation touches on deeply personal matters that person has legitimate reasons for keeping out of the public domain.").

273 *See* Marc O. Litt, *"Citizen Soldiers" or Anonymous Justice: Reconciling the Sixth Amendment Right of the Accused, the First Amendment Right of the Media and the Privacy Right of Jurors*, 25 Colum. J.L. & Soc. Probs. 371, 371 (1992) ("Over the past twenty-five years, the Sixth Amendment right of an accused to a fair criminal trial, the First Amendment right of the media to gather and publish news and the privacy right of jurors have come into increasing conflict."); Scott Sholder, *"What's in a Name?": A Paradigm Shift from* Press-Enterprise *to Time, Place, and Manner Restrictions When Considering the Release of Juror-Identifying Information in Criminal Trials*, 36 Am. J. Crim. L. 97, 99 (2009) ("Courts weigh and balance the First Amendment rights of the press, the Sixth Amendment rights of the defendant, the privacy concerns of the jurors, and numerous policy considerations.").

274 *See, e.g.*, John C. Meringolo, *The Media, the Jury, and the High-Profile Defendant: A Defense Perspective on the Media Circus*, 55 N.Y. L. Sch. L. Rev. 981, 982 (2011) ("Over the last

Juror privacy also remains at risk outside the voir dire process.[275] Since the time of the Founding, those litigants given access to lists of potential jurors took the opportunity to investigate them.[276] Since that time, investigation has become a regular occurrence in jurisdictions that provide this information.[277] Defense lawyers hire private investigators.[278] Government lawyers use existing government resources.[279] While courts have maintained certain limitations in order to prevent interference with jurors,[280] external

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seventy-five years in particular, media coverage of trials has steadily increased as a result of rapid advancements in technology. The increase in media coverage has led to the use of the term 'high-profile' to define cases and defendants subjected to heightened media scrutiny."); John Cloud, *How the Casey Anthony Murder Case Became the Social-Media Trial of the Century*, TIME (June 16, 2011), http://content.time.com/time/nation/article/0,8599,2077969-2,00.html.

275   *See* Laura Cooper, Note, *Voir Dire in Federal Criminal Trials: Protecting the Defendant's Right to an Impartial Jury*, 48 IND. L.J. 269, 276–77 (1973) ("Outside investigations of prospective jurors may seriously compromise the judicial system's ability to give criminal defendants a fair trial. When jurors are aware that they have been investigated their fear or resentment of the investigating party may influence their verdict. If the inadequacies of court-conducted voir dire result in outside investigations, the court may be permitting and even encouraging undue invasions of the privacy of prospective jurors. When there is public knowledge of the prevalence of pre-trial investigations, citizens may become even more determined to avoid jury service, further limiting the representativeness of the pool from which trial jurors may be drawn.").

276   *See* Hoffmeister, *supra* note 8, at 616 ("In 1790, Congress passed the Public Acts of the First Congress, which included provisions that gave defendants facing capital or treason charges the right to access and investigate the jury venire list at least three days before trial."); *see also id.* ("The purpose of the statute was twofold. First, it 'put the defendant on an even plane with the government in preparing for his defense by giving him the names of the attending jurors.' Second, the statute provided the defendant the opportunity to discover information about potential jurors." (quoting Stewart v. United States, 211 F. 41, 46 (9th Cir. 1914))).

277   *See* State v. Knerr, 426 N.W.2d 654, 656 (Iowa Ct. App. 1988) ("It is a recognized practice for an attorney to make investigations of prospective jurors so that challenges can be utilized intelligently."); State v. Harbison, 238 S.E.2d 449, 453 (N.C. 1977) (stating that juror lists were released fifty-five days prior to the start of trial); Robinson, *supra* note 197, at 606 ("[T]he availability of juror lists prior to in-court voir dire allowed litigants enough resources to undertake pretrial investigation of potential jurors using investigators and other techniques.").

278   *See* Hoffmeister, *supra* note 8, at 617 ("The Philadelphia City Solicitor and District Attorney relied on the local police, while private litigants turned to detectives and companies that specialized in juror-investigation services. For a fee, these companies provided attorneys with background information on prospective jurors.").

279   *See* Robinson, *supra* note 197, at 607 ("Government attorneys, meanwhile, 'make use of the investigatory services of the Federal Bureau of Investigation, the Internal Revenue Service and local police departments' to research jurors. In addition to FBI and IRS investigations of potential jurors, government attorneys have also investigated venieremen through use of postal information and compilations of notes of their activities on prior juries." (quoting Cooper, *supra* note 275, at 276)).

280   *See* Sinclair v. United States, 279 U.S. 749, 765 (1929) ("The mere suspicion that [the juror], his family, and friends are being subjected to surveillance by such persons is

investigation became rather commonplace. As Judge Raymond Rossi has written:

> Investigation of potential jurors is not a new practice. In criminal cases, prosecutors acquired information through law enforcement agencies, while defense attorneys obtained the background of potential jurors through private detectives. As ethical rules advanced to prohibit direct contact with jurors before and during trial, law enforcement officials and private investigators plied their craft by interviewing acquaintances of the jurors, reviewing newspapers, conducting drive-bys of juror residences, and speaking with jurors' neighbors.[281]

While these techniques spurred vigorous debate,[282] such privacy invasions also engendered predictably negative views of jury service. In fact, studies show that one reason why people resent jury service so much is this perceived threat to privacy.[283] Jurors feel unsettled that their personal lives might be exposed,[284] uncomfortable about answering personal questions,[285] and concerned for their safety in certain criminal or otherwise high profile cases.[286] Clearly, all of these issues negatively impact jury yield rates and citizen engagement with jury service.[287]

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enough to destroy the equilibrium of the average juror and render impossible the exercise of calm judgment upon patient consideration.").

281 Rossi, *supra* note 139, at 515.

282 *Compare* Michael R. Glover, Comment, *The Right to Privacy of Prospective Jurors During Voir Dire*, 70 CALIF. L. REV. 708, 711 (1982) ("*Whalen* and *Nixon* thus establish that an individual has a constitutional right to privacy that protects him from the compelled disclosure of personal matters with respect to which he has a reasonable expectation of privacy."), *with* Karen Monsen, *Privacy for Prospective Jurors at What Price? Distinguishing Privacy Rights from Privacy Interests; Rethinking Procedures to Protect Privacy in Civil and Criminal Cases*, 21 REV. LITIG. 285, 288–95 (2002) (critiquing Glover's argument).

283 *See* Paula L. Hannaford, *Safeguarding Juror Privacy: A New Framework for Court Policies and Procedures*, 85 JUDICATURE 18, 18 (2001) ("Numerous studies document that perceived insensitivity to the privacy concerns of prospective jurors is one cause of dissatisfaction with jury service.").

284 *See* Strahilevitz, *Reputation Nation*, *supra* note 142, at 1694 ("Jury duty is already viewed as an unappetizing prospect for many Americans, and the loss of privacy associated with comprehensive government background checks could prompt stiff resistance and exacerbate juror absenteeism.").

285 *See* United States v. Blagojevich, 614 F.3d 287, 293 (7th Cir. 2010) ("Most people dread jury duty—partly because of privacy concerns.").

286 *See* Nancy J. King, *Nameless Justice: The Case for the Routine Use of Anonymous Juries in Criminal Trials*, 49 VAND. L. REV. 123, 126 (1996) ("Juror apprehension about safety and privacy may be at an all-time high.").

287 *See* John E. Nowak, *Jury Trials and First Amendment Values in "Cyber World"*, 34 U. RICH. L. REV. 1213, 1247 (2001) ("[T]he thought that one's entire life will be open to the government and public through jury service certainly may well deter most people from wanting to serve on a jury.").

2.   Additional Tensions in Juror Privacy with Bright Data

Jury selection using bright data potentially exacerbates many of these traditional privacy concerns because bright data relies on invasive, comprehensive, personal data from commercial sources,[288] Internet sources,[289] and social media sources[290] with the ability to reveal an even greater level of detail about citizens.[291] If known to jurors beforehand, or revealed through voir dire questions, this type of invasion could make citizens even less willing to participate in jury service.[292]

Exposure alone might reveal embarrassing information in a public (or at least publicly accessible) manner. It is one thing to answer in response to direct questions by the judge, but another experience entirely to face questions based on information revealed about your personal life through out-of-court sources. In fact, if handled inappropriately, such a potential revelation might well delegitimize the jury system completely.[293]

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288   *See, e.g.*, Chris Jay Hoofnagle, *Big Brother's Little Helpers: How ChoicePoint and Other Commercial Data Brokers Collect and Package Your Data for Law Enforcement*, 29 N.C. J. INT'L L. & COM. REG. 595 (2004); Slobogin, *supra* note 151, at 190–91; Daniel J. Solove, *Access and Aggregation: Public Records, Privacy and the Constitution*, 86 MINN. L. REV. 1137 (2002); Daniel J. Steinbock, *Designating the Dangerous: From Blacklists to Watch Lists*, 30 SEATTLE U. L. REV. 65, 69–83 (2006); Tene & Polonetsky, *supra* note 151, at 251; Matthew Tokson, *Automation and the Fourth Amendment*, 96 IOWA L. REV. 581, 638 (2011).

289   *See* Morrison, *supra* note 72, at 1606 ("Ever more intrusive searches are recommended as an enhancement to jury selection, including searching the county sheriff's online arrest records, 'obtaining the exact dollar amounts and dates of a juror's recent contributions to political campaigns,' and using Google Street View to see jurors' front yards." (quoting Christopher B. Hopkins, *Internet Social Networking Sites for Lawyers*, 28 TRIAL ADVOC. Q. 12, 13 (2009))).

290   *See* Kathryn Kinnison Van Namen, Comment, *Facebook Facts and Twitter Tips—Prosecutors and Social Media: An Analysis of the Implications Associated with the Use of Social Media in the Prosecution Function*, 81 MISS. L.J. 549, 551, 555–59 (2012).

291   *See* Allen, *supra* note 153, at 246–47 (2013) ("Private sector surveillance is rampant, introducing research about personality assessment and classification into the legal literature. Increasingly, the personality and psychology of individual consumers are probed without their knowledge or consent."); Tene & Polonetsky, *supra* note 151, at 251 ("Big data poses big privacy risks. The harvesting of large sets of personal data and the use of state of the art analytics implicate growing privacy concerns.").

292   *See* Morrison, *supra* note 72, at 1607 ("If jurors begin to realize that jury duty entails not only the inconvenience of taking time off of work and other obligations but also involves wholesale intrusion into their online lives, it might do 'great damage to the willingness of most citizens to participate in jury duty.'" (quoting Anne Constable, *Background Checks of Jurors Routine*, NEW MEXICAN, Sept. 24, 2009, at A4, NewsRoom, 2009 WLNR 18866409)).

293   *See* Wilson, *supra* note 212, at 2044 ("Jurors who experience negative feelings about jury service may not appear the next time they are summonsed, and given the large number of jurors called for duty each year, society may lose confidence that the system is fair and workable."). Of course, as discussed previously, if courts chose to implement bright data procedures, they could and should screen and block out certain irrelevant and revealing personal information.

At the same time, additional data about jurors might obviate the need for direct, embarrassing questions in court. Litigants receiving a dossier filled with personal information about a juror could dismiss or avoid even asking questions to certain people who might otherwise be required to give embarrassing answers. One might not need to ask about personal bankruptcy or financial difficulties if this information was already provided to the parties. Indirect knowledge of an embarrassing fact might equally invade a juror's privacy (in both cases the bankruptcy is known), but be less uncomfortable than facing direct questions about the subject.[294]

The impact of bright data information on voir dire may turn on local practice. In information-rich voir dire jurisdictions (where lawyers can ask detailed questions over lengthy periods, or where questionnaires are extensively employed) the addition of bright data will add a level of depth to the questioning and speed things along. In information-poor voir dire jurisdictions (including federal courts), this information will significantly expand the amount of information available about potential jurors. In both cases, it will provide better information, and hopefully allow for better selection decisions.

Finally, if the court and the parties remain concerned about getting truthful and fair jurors who can impartially decide the facts, better information will root out intentional and unintentional falsehoods. Sometimes, jurors are unaware of their own biases.[295] Additional information about the jurors may help lawyers identify when the juror has failed to recognize a potential bias. For example, in a shooting case, a juror who forgets to reveal substantial donations to anti-gun advocacy organizations might be asked some follow-up questions. Sometimes jurors shade the truth because of the questions.[296] Sometimes jurors just lie. Either way, bright data will help expose implicit and explicit biases.[297]

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294 *See* MARDER, *supra* note 225, at 82–83 ("For example, lawyers have sometimes wanted to ask prospective jurors about their religion or sexual orientation during *voir dire*, but judges have usually denied such inquiries on the ground that it is an intrusion into the juror's privacy and not necessary for the parties to know.").

295 *See* McDonough Power Equip., Inc. v. Greenwood, 464 U.S. 548, 558 (1984) (Brennan, J., concurring in judgment) ("[T]he bias of a juror will rarely be admitted by the juror himself, 'partly because the juror may have an interest in concealing his own bias and partly because the juror may be unaware of it.'" (quoting Smith v. Phillips, 455 U.S. 209, 221–22 (1982) (O'Connor, J., concurring))).

296 Wilson, *supra* note 212, at 2037 ("Nevertheless, when a judge permits the litigants to ask potential jurors questions that require embarrassing answers, the voir dire process may backfire and result in less, and inaccurate, information about juror biases.").

297 *See* Commercial Printing Co. v. Lee, 553 S.W.2d 270, 273 (Ark. 1977) (en banc) ("Cases have been reversed . . . because of answers given by prospective jurors on *voir dire* which subsequent investigation established were false, or at least incorrect, and which might have well disqualified the prospective juror."); Roberts, *supra* note 116, at 851–52; Elliott Wilcox, *Are Jurors Lying to You During the Jury Selection Process?*, TRIALTHEATER, http://www.trialtheater.com/jury-selection/jury-selection-jurors-who-lie.htm (last visited Dec. 19, 2015).

3.   Evaluating the Tensions

Courts facing the bright data dilemma might choose to embrace new technologies, if only because the technologies will impinge on juror privacy regardless of their decision. Litigants in an adversarial system will likely continue to use any available means to gain tactical advantages for their clients. This will mean continued use of big data information systems, especially for those with the financial means to do so.[298] Real-time online and social media investigation of jurors will become the new normal,[299] especially in high profile cases,[300] high monetary value cases, or other cases in which juror insights can provide tactical advantages.[301]

Currently, few rules prevent lawyers from performing such investigation, and courts may be powerless to stop such practices because of ethical responsibilities and First Amendment considerations.[302] The American Bar Association has recently issued an ethics opinion allowing such Internet and social media investigation into jurors.[303] Some commentators have even argued that such investigation might be ethically *required* of counsel.[304]

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298   *See* Redgrave & Stover, *supra* note 44, at 211–12.

299   *See* Brian Grow, *Internet v. Courts: Googling for the Perfect Juror*, REUTERS (Feb. 17, 2011, 2:49   PM),   http://www.reuters.com/article/2011/02/17/us-courts-voirdire-idUS-TRE71G4VW20110217 ("[L]awyers conduct extensive online searches about dozens of members of a prospective pool and compile them into elaborate spreadsheets. Some of this plays out in courtrooms in real time, as lawyers and jury consultants, armed with laptops and smart-phones, seek clues about whether a would-be juror would side with a homeowner in a product-liability case, say, or with a cop in a police-brutality suit.").

300   *See* Morrison, *supra* note 209, at 9.

301   *See* Hoffmeister, *supra* note 8, at 614 ("Some attorneys use the practice in an effort to create a bond with the jurors. For instance, an attorney who discovers through her online investigation that a juror closely follows sports might incorporate athletic references or metaphors in the courtroom to better connect with that juror.").

302   *See* Ana Campoy & Ashby Jones, *Searching for Details Online, Lawyers Facebook the Jury*, WALL ST. J. (Feb. 22, 2011), http://www.wsj.com/articles/SB100014240527487035616045761 50841297191886 ("Some appellate courts have upheld lawyers' rights to research jurors online, including one in New Jersey that ruled last year that a lower-court judge erred by prohibiting a plaintiffs' attorney from using the Internet in the courtroom. The court wrote: The fact that the plaintiffs' lawyer 'had the foresight to bring his laptop computer to court and defense counsel did not, simply cannot serve as a basis for judicial intervention in the name of 'fairness' or maintaining a 'level playing field.'").

303   ABA Comm. on Ethics & Prof'l Responsibility, Formal Op. 466 (2014), http://www .americanbar.org/content/dam/aba/administrative/professional_responsibility/formal_ opinion_466_final_04_23_14.authcheckdam.pdf (discussing the use of jurors' Internet presence); Terry Carter, *Lawyers Can Look Up Jurors on Social Media but Can't Connect with Them, ABA Ethics Opinion Says*, ABA J. (Apr. 24, 2014, 2:00 PM), http://www.abajournal .com/news/article/jurors_electronic_social_media_ethics_opinion.

304   *See, e.g.*, Hoffmeister, *supra* note 8, at 627–29; Michael Whiteman, *The Impact of the Internet and Other Electronic Sources on an Attorney's Duty of Competence Under the Rules of Professional Conduct*, 11 ALB. L.J. SCI. & TECH. 89, 95–102 (2000).

Extrajudicial efforts to regulate such practices may prove equally unhelpful as big data remains an underregulated area of law.[305] For those reasons, courts might choose to utilize bright data, if only to shape and control its impact on voir dire. With court oversight, judges could permit use of certain information available from bright data. Courts could forbid discussion of, or questions about, other data. Courts shaping the message—even an uncomfortable message—might find that they are, institutionally, in a better position to have a real effect.[306] Explaining that this information is already available to the parties,[307] and is being used to make the process easier, quicker, and less embarrassing might go a long way toward easing the sense of privacy invasion.[308] Revelation of the information might seem less invasive to jurors if originating from a transparent and public process controlled by the court, rather than from independent discovery by the par-

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305 *See* Crawford & Schultz, *supra* note 149, at 106 (discussing the lack of traditional privacy protections when it comes to predictive big data); *see also id.* at 109 ("[T]he power of Big Data analyses to evade or marginalize traditional privacy protections and frameworks, its drive to bring visibility to the invisible, and its dynamic and unpredictable nature all present challenges to thinking about how privacy and Big Data can coexist."); Sarah Ludington, *Reining in the Data Traders: A Tort for the Misuse of Personal Information*, 66 MD. L. REV. 140, 142–43 (2006) ("[M]ost types of personal information—including names, birthdates, addresses, telephone numbers, clickstream data, travel details (flights, car rentals, hotels, train tickets) and transactional data (who bought what from whom, when, where, and how)—are unregulated, unless the data trader violates its own privacy policy, in which case the Federal Trade Commission (FTC) can hold the company accountable for unfair trade practices. Thus it is currently legal—in the sense that there is no penalty—for data traders to sell personal information without the consent of the subject, to deny individuals information about the quantity or categories of lists that contain their information, and to deny any requests to remove personal information from these lists." (footnotes omitted)).

306 Cohen, *supra* note 153, at 1912 ("Citizenship is more than a status. It is also a set of practices—voting, public debate, and so on—and so the scope for the practice of citizenship will be defined in part by the practices that existing institutions encourage, permit, or foreclose. Less often acknowledged is that institutions configure citizens, inculcating habits of mind and behavior that lend themselves more readily to certain types of practices than to others. Institutions shape not only the scope but also the capacity for citizenship.").

307 Eileen E. Rosen & Catherine M. Barber, *Criminal Background Checks of Prospective Jurors: Uncovering Unacceptable Juror Bias and Preventing Unnecessary Post-Verdict Litigation*, 60 FED. LAW. 54, 56 (2013) ("While it seems natural to consider possible invasion of privacy whenever the government inquires about someone's background for something they are required to do, in reality, such an 'invasion' of jurors' privacy is no more intrusive than if the parties simply asked questions about their criminal background during *voir dire*."); *see also* Matt O'Connor, *Jury Pools Can Face Probes in Sensitive Trials*, CHI. TRIB. (Dec. 11, 2006), articles.chicagotribune.com/2006-12-11/news/0612110203_1_background-checks-jurors-high-profile-trials (stating that some courts allow criminal background checks of jurors).

308 Rossi, *supra* note 139, at 516 ("Privacy worries from online investigation of jurors may be lessened if jurors are advised why the research is helpful to impaneling a jury. Jurors should also be reminded that any information uncovered is publicly available.").

ties.[309] Studies have shown that perceptions of privacy harm can depend on how the disclosure is framed.[310]

Finally, issues of distributional justice would be marginally improved. Adopting a bright data system overseen by the courts would equalize the informational playing field for all lawyers.[311] Money and outside jury consultants will not be replaced, but the cost of obtaining information about the jurors will be reduced. Certainly, the largest of informational imbalances would be corrected to allow for a more equitable system.

C.   The Question of Power

In addition to concerns about juror privacy, the issue of governmental power arises. Providing courts with vast amounts of personal data about jurors impacts the current power balance between the court and citizens.[312] As privacy scholars have articulated, governmental collection of information can have discriminatory, exclusionary, and chilling effects on subject citizens.[313] Government aggregation of data can have negative outcomes, par-

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309 Omer Tene & Jules Polonetsky, *A Theory of Creepy: Technology, Privacy and Shifting Social Norms*, 16 YALE J.L. & TECH. 59, 79–80 (2013) ("[I]ndividuals' appetites for data sharing are fickle. For example, researchers at Carnegie Mellon University have shown that survey respondents are more willing to divulge sensitive information after being told that previous respondents made similarly sensitive disclosures." (citing Alessandro Acquisti et al., *The Impact of Relative Standards on the Propensity to Disclose*, 49 J. MARKETING RES. 160, 162 (2012))).

310 Strahilevitz, *Privacy Law, supra* note 19, at 2022 ("[T]he use of Big Data may entail privacy costs for consumers who do not want people or even machines to have access to information that those consumers regard as personal. Consumers will be highly heterogeneous in the way they experience these consequences: some will experience significant harm, and others will not feel harmed in any way.").

311 Joseph W. Jerome, *Buying and Selling Privacy: Big Data's Different Burdens and Benefits*, 66 STAN. L. REV. ONLINE 47, 51 (2013) ("Big data could effectuate a democratization of information but, generally, information is a more potent tool in the hands of the powerful.").

312 Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1953 (2013) ("[T]he gathering of information affects the power dynamic between the watcher and the watched, giving the watcher greater power to influence or direct the subject of surveillance. It might sound trite to say that 'information is power,' but the power of personal information lies at the heart of surveillance. The power effects of surveillance illustrate three additional dangers of surveillance: blackmail, discrimination, and persuasion." (footnote omitted)).

313 *See, e.g.*, Kenneth A. Bamberger & Deirdre K. Mulligan, *Privacy on the Books and on the Ground*, 63 STAN. L. REV. 247, 308–09 (2011); Julie E. Cohen, *Examined Lives: Informational Privacy and the Subject as Object*, 52 STAN. L. REV. 1373, 1424–25 (2000); Viktor Mayer-Schönberger, *Beyond Privacy, Beyond Rights—Toward a "Systems" Theory of Information Governance*, 98 CALIF. L. REV. 1853, 1859–61 (2010); Jon D. Michaels, *All the President's Spies: Private-Public Intelligence Partnerships in the War on Terror*, 96 CALIF. L. REV. 901, 938 (2008); Scott R. Peppet, *Unraveling Privacy: The Personal Prospectus and the Threat of a Full-Disclosure Future*, 105 NW. U. L. REV. 1153, 1156 (2011); Richards, *supra* note 312, at 1956 ("The bottom line about surveillance and persuasion is that surveillance gives the watcher information about the watched. That information gives the watcher increased power over the

ticularly in the context of political and civil rights.[314] Collection of information about citizens undermines core constitutional values of free association, political dissent, and free expression.[315] This Section looks specifically at how possession and use of this juror data by courts might affect this court-citizen power relationship. Courts play a special role in the constitutional structure which both exacerbates and moderates the potential of big data becoming perceived as "Big Brother" during jury selection.

1. A Potential Power Imbalance

The traditional concern about governmental collection of information involves its impact on personal freedom, autonomy, and expression.[316] As scholars have noted, awareness of governmental surveillance itself affects behavior.[317] In a big data world, courts would know more about potential jurors. Some of this knowledge might lead to positive outcomes like better jury yields, and a better utilization rate for responding jurors. On the other hand, some knowledge could be quite Orwellian in nature.[318] After all, citi-

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watched that can be used to persuade, influence, or otherwise control them, even if they do not know they are being watched or persuaded.").

314 Richard Sobel, *The Degradation of Political Identity Under a National Identification System*, 8 B.U. J. Sci. & Tech. L. 37, 48 (2002) ("Identity systems and documents have a long history of uses and abuses for social control and discrimination.").

315 McIntyre v. Ohio Elections Comm'n, 514 U.S. 334, 357 (1995) ("Anonymity is a shield from the tyranny of the majority . . . . It thus exemplifies the purpose behind the Bill of Rights, and of the First Amendment in particular: to protect unpopular individuals from retaliation—and their ideas from suppression—at the hand of an intolerant society." (citation omitted)); Solove, *Access and Aggregation, supra* note 288, at 1193 ("In addition to facilitating the monitoring and control of individuals, such a dossier may make a person a 'prisoner of his recorded past.' Records of personal information can easily be used by government leaders and officials for improper monitoring of individuals. Indeed, such data can be used for whatever task is at hand—a tool available to anyone in power in government for use to further the current passion or whim of the day." (quoting U.S. Dep't of Health, Educ. & Welfare, Records, Computers, and the Rights of Citizens 112 (1973), http://www.justice.gov/opcl/docs/rec-com-rights.pdf)).

316 Richards, *supra* note 312, at 1954 ("The risk of the improper use of surveillance records persists over time. Most of the former communist states in Eastern Europe have passed laws strictly regulating access to the surveillance files of the communist secret police. The primary purpose of such laws is to prevent the blackmail of political candidates who may have been surveilled under the former regime.").

317 *See, e.g.*, Grayson Barber, *Personal Information in Government Records: Protecting the Public Interest in Privacy*, 25 St. Louis U. Pub. L. Rev. 63, 102 (2006) ("The loss of anonymity can easily be exploited to burden the First Amendment right to free association and other liberty interests."); Daniel J. Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 Stan. L. Rev. 1393, 1417 (2001) ("Dataveillance is thus a new form of surveillance, a method of watching not through the eye or the camera, but by collecting facts and data.").

318 *See generally* George Orwell, Nineteen Eighty-Four (1949).

zens may freely ignore even the most targeted and perceptive marketing pitch, but cannot ignore a jury summons.[319]

The court's unique role in society also adds complexity to the analysis. On the one hand, courts are incredibly powerful institutions, so giving them additional power might intimidate citizens. Providing courts with personal information about jurors could undermine jurors' willingness to stand up to courts, minimizing the jury's role as a check on the power of courts and judges. This is no small matter, as the jury has structurally been designed to counter the power of the courts. It is easier to challenge power anonymously, and concerns about blackmail or retaliation by judges or litigants who know juror secrets (while perhaps unfounded) could affect jury verdicts.

On the other hand, court systems can also be viewed as public, neutral institutions, less threatening as a surveillance entity than law enforcement, the Internal Revenue Service, or other data-rich governmental organizations.[320] Court systems have the ability to control which people arrive as jurors, but less ability to investigate wrongdoing or exercise other executive powers.[321] With the exception of creating lists for grand jurors, entities that at least theoretically have that type of investigatory power, courts may collect the data, but have little ability to use it for purposes other than jury selection. In addition, as discussed previously, while citizens might perceive a problem in courts holding vast stores of information about them, the real point of tension is with the private collection of data, not with courts utilization of such already-collected data.

A less traditional concern arises directly from the unique ability of big data to segment groups.[322] In much the same way that courts and legislatures historically excluded certain groups from jury service through the use of discriminatory processes (based on race and gender), big data could be used to sort out or exclude certain groups from jury service.[323] A sorting algorithm can sort out non-citizens or individuals with felony convictions, consistent with current permissible exclusions. The sorting algorithm could, however, just as easily exclude college students, social advocates, or Tea Party members, raising a host of fairness concerns. Privacy advocates might be especially concerned if exclusions were based on political advocacy, court

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319 Most jurisdictions provide for a civil penalty or contempt sanction for intentionally failing to appear for jury duty.

320 *See* Steven A. Bercu, *Toward Universal Surveillance in an Information Age Economy: Can We Handle Treasury's New Police Technology?*, 34 JURIMETRICS J. 383, 440 (1994).

321 Of course, courts have the contempt power which provides some limited investigative authority, but, in comparison to the executive branch authorities, the judiciary has the least amount of investigatory power.

322 Richards, *supra* note 312, at 1957 ("The power of sorting can bleed imperceptibly into the power of discrimination.").

323 Lerman, *supra* note 154, at 60 ("[B]ig data threatens more than just privacy. It could also jeopardize political and social equality by relegating vulnerable people to an inferior status.").

criticism, or even prior jury service.[324] Worse still, if the algorithms could be manipulated, attributes such as being prosecution-oriented or plaintiff-friendly could also be used to exclude or include jurors to the detriment of the fairness of the jury system.[325] As a big picture issue, then, big data creates concerns about the danger of purposeful exclusions.[326]

The questions get even more difficult as one thinks through how a fair cross-section would be designed. Including certain groups in the jury pool means excluding other individuals from other groups.[327] An algorithm randomly picking a proportionate grouping by race, gender, age, income, ethnicity, sexual orientation, religion, geography, and other available attributes, will leave out certain other individuals. One might imagine that the court would repeatedly summon individuals identifying with several of the categories (a poor, white, Jewish lesbian) in order to satisfy multiple variables through one juror. Others might never be summoned. Such an imbalance would reflect poorly on the goal of a randomly distributed civic obligation giving more power to the selectors and less to the citizens.[328]

Big data collection also misses those not in the datasets. Commercial big data collection might overlook certain individuals and groups because they do not offer attractive consumer targets.[329] If big data systems remain tied to commercial and marketing interests, incentives to collect information about everyone (such as in a government census) would need to be created.[330] Potential gaps in data collection merely represent inefficiencies for data companies, but those same gaps represent fundamental failures for court systems trying to include everyone in jury service. Omitting certain segments from

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324 Ira P. Robbins, *"Bad Juror" Lists and the Prosecutor's Duty to Disclose*, 22 CORNELL J.L. & PUB. POL'Y 1, 3 (2012).

325 One might imagine that certain personal characteristics might correlate with being prosecution-oriented or defense-oriented, and that use of these characteristics could be used to sway the jury pool.

326 Richards, *supra* note 312, at 1956 ("Many kinds of surveillance are routinely used to sort people into categories. Some of these forms of sorting are insidious. Consider, for example, the use of census records by the American, Canadian, and German governments during the Second World War to identify citizens to relocate to the Japanese internment camps in North America and the concentration camps in Europe.").

327 *Id.* at 1957 ("The power of sorting can bleed imperceptibly into the power of discrimination.").

328 Lerman, *supra* note 154, at 59 ("[P]oliticians and governments may come to rely on big data to such a degree that exclusion from data flows leads to exclusion from civic and political life—a barrier to full citizenship.").

329 *Id.*

330 *Id.* ("In a future where big data, and the predictions it makes possible, will fundamentally reorder government and the marketplace, the exclusion of poor and otherwise marginalized people from datasets has troubling implications for economic opportunity, social mobility, and democratic participation. These technologies may create a new kind of voicelessness, where certain groups' preferences and behaviors receive little or no consideration when powerful actors decide how to distribute goods and services and how to reform public and private institutions.").

the potential jury pool would further distort the power balance, again giving far more power to the selecting entities rather than the citizens.[331]

2.   Other Balancing Issues

Bright data has other less obvious power balancing effects. More information about jurors gives lawyers more power in the voir dire process. The traditional jury selection system in low-information jurisdictions (federal court, etc.) puts great emphasis on the role of the judge to moderate the information discussed in jury selection. Judges limit the content and quantity of questions.[332] However, bright data returns that power to the hands of the litigants. Further, the court's provision of the information to the parties would democratize the process, providing both rich and poor litigants with an equal informational starting point.[333]

In addition, a transparent voir dire system that revealed how the jury venire was selected, would educate jurors about the selection system.[334] Currently, a jury summons arrives out of the blue, with a sense of randomness that can be disconcerting since most selection systems are not public or well understood. Adding a level of transparency about how the algorithms were designed, and the sources of information utilized in the selection process would also add some accountability into the jury selection process.[335] While jurors would not be told why they were chosen as part of the group, they might get a sense that the choice was purposeful, not purely random.

At the same time, issues of court integrity could arise if citizens viewed the system as beholden to commercial interests. A court system's independence could be questioned by the influence of big data companies. First, courts' use of private data would blur the public-private divide.[336] Second,

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331   *Id.* at 60 ("Just as U.S. election districts—and thus U.S. democracy—depend on the accuracy of census data, so too will policymaking increasingly depend on the accuracy of big data and advanced analytics. Exclusion or underrepresentation in government datasets, then, could mean losing out on important government services and public goods. The big data revolution may create new forms of inequality and subordination, and thus raises broad democracy concerns.").

332   Lisa A. Blue & Robert B. Hirschhorn, *Goals and Practical Tips for Voir Dire*, 26 AM. J. TRIAL ADVOC. 233, 261 (2002) ("Federal judges tend to severely limit the lawyer's ability to ask questions during voir dire.").

333   Hoffmeister, *supra* note 8, at 630 ("[T]he average criminal defendant could rarely afford the costs associated with investigating a jury.").

334   The information could be made available on public court websites or provided with the initial summons.

335   *See generally* Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149 (2008) (discussing the importance of transparency and accountability in designing search algorithms); Frank Pasquale, *Beyond Innovation and Competition: The Need for Qualified Transparency in Internet Intermediaries*, 104 NW. U. L. REV. 105 (2010).

336   Solove, *Access and Aggregation*, *supra* note 288, at 1193 ("Not only are public records altering the power that the government can exercise over people's lives, but they are also contributing to the growing power of private sector entities.").

courts would have a financial interest in the data, which could pose a problem when the data companies themselves are litigants.[337] Further, as commercial enterprises, these data companies would have an incentive to provide similar information to those institutions that could pay for it. Thus, private litigants in a high stakes trial might wish to buy direct access to the court information by purchasing it directly from the big data companies. The incentives of these litigants could distort (or be perceived to distort) an otherwise fair selection system.

Finally, as the system progresses, the court itself would be sitting on valuable data. Being able to track who gets selected as a juror, and connecting this information to trial outcomes, judgments, etc. would add yet another very valuable dataset to the world of big data. Companies would have every incentive to pay handsomely for access, leaving courts in a difficult financial dilemma about whether to allow this collection. Courts might be faced with very attractive financial incentives to allow this type of data tracking, leading to additional questions about the integrity and fairness of the legal system.

3. Evaluating the Power Balance Question

While governmental collection of personal information raises a host of issues, they are not new issues. Governmental agencies collect and retain a tremendous amount of private details about our lives, from the information in our tax returns, to government-organized health care, to census information, and other public benefits data.[338] We currently live with the knowledge that the government possesses this information without great concern. Our confidence rests with measures taken to protect that sensitive information.

Furthermore, we assume courts are public institutions entrusted to handle public disputes in a public manner.[339] The transparency involved in publicly sharing court records with court reporters and through court transcripts is supposed to be a positive thing in a democracy, not a negative one.[340] The public trust comes because courts are publicly open. As long as data collection policies remain transparent, courts may benefit from this prior good will as an institution of public justice.

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337 One can imagine that if the vendor for the court system were itself a party to a lawsuit, real questions about the fairness of the jury impaneled would need to be answered.

338 Barber, *supra* note 317, at 64 ("In order to receive government services, in order to do business with the government, and in order to be a law-abiding citizen, one must provide one's home address, telephone number (listed or unlisted), and much more to the government. The government, therefore, must protect the public interest by maintaining the privacy of personal information in government files.").

339 *Id.* at 92 ("Court records have long been presumed open to the public, and the tradition of public access to court case files is rooted in constitutional principles.").

340 Amanda Conley et al., *Sustaining Privacy and Open Justice in the Transition to Online Court Records: A Multidisciplinary Inquiry*, 71 Md. L. Rev. 772, 774 (2012) ("Because records provide an essential window into the functioning of one of the three pillars of government—the courts—citizens are presumed to have a right to inspect them to ensure that courts are exercising their powers not only competently and fairly but also within the limits of their mandate.").

Establishing data protections to limit access to juror data, such as use restrictions, access restrictions, and regular purging of information, represents the key to remedying any perceived power imbalance. Courts, because of the powerful status they hold in society, will need to be perceived as affirmatively protecting personal data.[341] A strong, data-protective system will reduce concerns about a power imbalance, and ease fears about the abusive use of that data. Finally, all financial incentives must be removed so that money does not tempt the court to profit from its collection and use of personal data.

D.   The Question of Pretext

As discussed, litigants who seek to obtain tactical advantages in trial might have a strong interest in big data. This reality does little to address the continued discriminatory use of peremptory challenges.[342] In fact, under current practice, bright data simply gives litigants a wider array of identifiable facts to justify a strike. The problem of pretext exists in current *Batson* practice and only increases with access to more personal information.[343] With big data, litigants can now provide numerous race- or gender-related, but not unconstitutional, reasons for a strike. In essence, this new personal information presents a large scale *Batson* workaround.

This problem has no easily identifiable solution. An overtly racist lawyer will be able to craft a far more defensible race-neutral justification based on personal data unrelated to race. In addition, lawyers unaware of biases will

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341 Barber, *supra* note 317, at 63 ("Governmental agencies, including the courts, have a special obligation to protect the public's interest in individual privacy. Government records and court records are being harvested for personal information about individuals, contributing to a surge in identity theft, consumer profiling, and the development of a stratified society where individuals are pigeonholed according to the electronic trail they leave of transactions that disclose personal details about them.").

342 EQUAL JUSTICE INITIATIVE, *supra* note 125, at 4 ("[P]erhaps no arena of public life or governmental administration where racial discrimination is more widespread, apparent, and seemingly tolerated than in the selection of juries."); Catherine M. Grosso & Barbara O'Brien, *A Stubborn Legacy: The Overwhelming Importance of Race in Jury Selection in 173 Post-Batson North Carolina Capital Trials*, 97 IOWA L. REV. 1531, 1533 (2012) ("Over the twenty-year period we examined, prosecutors struck eligible black venire members at about 2.5 times the rate they struck eligible venire members who were not black."); Strahilevitz, *Reputation Nation*, *supra* note 142, at 1689 ("[T]he relevant decisionmakers [lawyers] appear to rely heavily on characteristics that they can discern at a relatively low cost—race, gender, age, and national origin.").

343 Bruce Hamilton, Note, *Bias,* Batson, *and "Backstrikes":* Snyder v. Louisiana *Through a Glass, Starkly*, 70 LA. L. REV. 963, 979 (2010) ("Because voir dire offers lawyers little opportunity to gather information about prospective jurors, they are likely to rely on group affiliations. One study of 191 claims of juror discrimination found that fifty-two percent of the reasons for rejection involved group stereotypes." (footnote omitted)); *see* Miller-El v. Dretke, 545 U.S. 231, 270 (2005) (Breyer, J., concurring) ("[T]he use of race- and gender-based stereotypes in the jury-selection process seems better organized and more systematized than ever before.").

rely on other proxies to justify their implicitly discriminatory strikes.[344] More and better data makes this practice more likely, and harder to identify or correct. Under the existing *Batson* standard, appellate courts will not reverse convictions if sufficient details justify the strike. Thus, courts deciding whether to adopt bright data jury selection methods will need to recognize that the already porous protections of *Batson* could become all but nonexistent.

At the same time, the centrality of race, gender, and ethnicity may prove secondary to other considerations. With more detailed personal information, broad-brush stereotypes become less helpful.[345] At the end of the day, lawyers want to win cases, and individual characteristics, rather than stereotypes, will be far more important.[346] For defense lawyers in a federal drug prosecution, who might ordinarily strike white wealthy men on the assumption that they would be less sympathetic with their clients, knowledge that a potential white wealthy man donated regularly to libertarian causes and needle exchanges, or subscribed to anti-government magazines might change the calculus. The focus would not be on race or gender, but the sympathies identified by those individual data points.[347]

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344   *See, e.g.*, Deana Kim El-Mallawany, Comment, Johnson v. California *and the Initial Assessment of* Batson *Claims*, 74 FORDHAM L. REV. 3333, 3353–54 (2006) (recognizing that "[p]roof of intent to discriminate is particularly elusive because, as Justice Marshall warned, racism may be conscious or unconscious in the minds of striking parties and judges presiding over voir dire" (footnote omitted)).

345   RANDOLPH N. JONAKAIT, THE AMERICAN JURY SYSTEM 165 (2003) ("[T]he less information attorneys have about potential jurors, the more attorneys have to rely on gross stereotypes in the exercise of their peremptories, and the likelihood increases that jurors will be excused on what are in reality race-based and gender-motivated challenges. . . . [M]ore information about the jurors helps satisfy the goals of *Batson* . . . ."); Robinson, *supra* note 197, at 599–600 ("Jurors' online presence—their online profiles, blog posts, Twitter messages, and online comments—as well as the other information available about jurors online can be a 'treasure trove of information about potential . . . jurors' during voir dire and trial. Now, instead of relying on stereotypes and intuition to vet jurors during voir dire, litigators may use the vast resources available online to find information about potential jurors that is unlikely to come out during the usual voir dire process." (footnotes omitted) (quoting Julie Kay, *Social Networking Sites Help Vet Jurors*, NAT'L L.J. (Aug. 13, 2008), http://www.legaltechnews.com/id=1202423725315?back=law)).

346   Tania Tetlow, *How* Batson *Spawned* Shaw—*Requiring the Government to Treat Citizens as Individuals When It Cannot*, 49 LOY. L. REV. 133, 165 (2003) ("[L]awyers are less likely to rely on racial stereotypes when they have more information about jurors. Expanded voir dire is essential, because 'the more that is known about each individual juror, the less important imputed group characteristics become in an attorney's determination of how that individual is likely to react to the evidence and arguments at issue." (quoting Ogletree, *supra* note 128, at 1126)).

347   Strahilevitz, *Reputation Nation*, *supra* note 142, at 1693 ("[T]he law might address the problem of racially exclusionary uses of peremptory strikes by providing more information, not less. . . . The government could report to the parties jurors' credit scores, military service records, bankruptcy filings, and involvement in prior litigation. It could review mental health records in the state's possession to screen out those who might be unfit for service. It could scour public records and conduct LexisNexis searches to provide the

Arguably, discrimination based on other attributes rather than imper-missible attributes signals an improvement toward a color-blind society. Yet, if the result—an un-diverse jury—is the same, perhaps it offers little to celebrate.

E.   The Question of Constitutionality

Any jury selection system that explicitly considers race or gender raises potential constitutional concerns. For this reason, many court systems have not even suggested altering the dim data approach to jury selection. At the same time, other courts, and some scholars, have offered race conscious jury selection alternatives.[348] This Section examines the potential equal protec-tion concerns with using race and gender as explicit factors among other big data attributes.[349]

1.   Equal Protection Concerns

In a series of cases involving schooling, hiring, and voting, the Supreme Court has rejected the use of race to remedy past or existing discrimina-tion.[350] As the Court stated, "Government action that classifies individuals on the basis of race is inherently suspect and carries the danger of perpetuat-ing the very racial divisions the polity seeks to transcend."[351] Any such racial classification must survive "strict scrutiny" review, which means that racial "classifications are constitutional only if they are narrowly tailored to further compelling governmental interests."[352] This standard applies even if the race conscious policies purport to benefit minorities or increase diversity.[353]

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parties with any relevant information."); *id.* ("If the government did all these things, essen-tially providing dossiers on all prospective jurors, one might expect to see less discrimina-tion on the basis of race, national origin, religion, gender, and other immutable characteristics. Indeed, a regime of full and symmetrical disclosure of juror profile infor-mation to the litigants conceivably could do more to combat the improper use of race as a proxy than *Batson* ever has.").

348   Morrison, *supra* note 33, at 23 (describing the different proposals offered by schol-ars over the years).

349   It must be made clear that the value added by big data extends well beyond the broad categories of race and gender. One does not need big data technologies to select a jury venire based on race and gender, since that information is already observable without big data.

350   *Fisher v. Univ. of Tex.,* 133 S. Ct. 2411 (2013) (recognizing that consideration of race in admissions is permissible, provided that certain conditions are met); Parents Involved in Cmty. Schs. v. Seattle Sch. Dist. No. 1, 551 U.S. 701 (2007); *Grutter v. Bollinger,* 539 U.S. 306, 343 (2003) (allowing a law school admission plan's more limited use of race-based prefer-ences); Gratz v. Bollinger, 539 U.S. 244, 270 (2003) (invalidating an undergraduate plan as a violation of the Equal Protection Clause).

351   Schuette v. Coal. to Defend Affirmative Action, Integration and Immigrant Rights and Fight for Equal. by Any Means Necessary (BAMN), 134 S. Ct. 1623, 1634–35 (2014).

352   *Fisher,* 133 S. Ct. at 2419 (quoting *Grutter,* 539 U.S. at 326).

353   *Parents Involved,* 551 U.S. at 732 ("Racial balancing is not transformed from 'patently unconstitutional' to a compelling state interest simply by relabeling it 'racial

A similar prohibition applies to gender-based policies, albeit with a different constitutional test.[354]

Courts evaluating a jury system influenced by big data will thus have to consider these equal protection concerns. Three arguments respond to these constitutional issues. First, the Court could treat juries differently because the Sixth Amendment mandates "a fair cross-section" requirement, which implies a level of race and gender consciousness. Second, a big data jury system might be the rare race conscious policy to survive strict scrutiny because of the compelling governmental interest in representative juries. Third, and perhaps somewhat controversially, big data can avoid the use of explicit race or gender-based criteria by offering proxy categories to select a representative cross-section of the community. In the same way that courts currently use geography as a proxy to ensure a racial balance in some cities (knowing that certain neighborhoods correlate with race), big data can offer other non-racial proxies to gain similar diversity without explicitly relying on race. Each argument will be discussed in turn.

a.   Juries Are Different

For several decades now, scholars have argued that juries differ from other institutions with respect to racial and gender considerations.[355] This argument rests on both constitutional and historical grounds.

First, the Sixth Amendment mandates that the jury come "from a representative cross-section of the community."[356] This constitutional mandate implies a desire for relative diversity within the jury venire. Early equal protection cases concerning juries extolled the importance of racial equality in the jury process.[357] Such diversity has long been understood to enhance the legitimacy of the jury verdict,[358] facilitate greater discussion in the jury room,[359] broaden political participation,[360] and improve the democratic ele-

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diversity.'"); Shaw v. Reno, 509 U.S. 630, 651 (1993) ("[R]acial classifications receive close scrutiny even when they may be said to burden or benefit the races equally.").

354   *See* United States v. Virginia, 518 U.S. 515, 532–34 (1996); Frontiero v. Richardson, 411 U.S. 677, 684 (1973); Reed v. Reed, 404 U.S. 71, 76 (1971); *see also* Jason M. Skaggs, *Justifying Gender -Based Affirmative Action Under* United States v. Virginia*'s "Exceedingly Persuasive Justification" Standard*, 86 Calif. L. Rev. 1169, 1172–73 (1998).

355   Albert W. Alschuler, *Racial Quotas and the Jury*, 44 Duke L.J. 704, 729 (1995); Forde-Mazrui, *supra* note 70, at 374–75; King, *Racial Jurymandering*, *supra* note 13, at 766.

356   Taylor v. Louisiana, 419 U.S. 522, 528 (1975).

357   Strauder v. West Virginia, 100 U.S. 303, 308 (1879).

358   *See* Johnson v. California, 545 U.S. 162, 172 (2005) ("[T]he 'harm from discriminatory jury selection extends beyond that inflicted on the defendant and the excluded juror to touch the entire community. Selection procedures that purposefully exclude black persons from juries undermine public confidence in the fairness of our system of justice.'" (quoting Batson v. Kentucky, 476 U.S. 79, 87 (1986))).

359   Erin York Cornwell & Valerie P. Hans, *Representation Through Participation: A Multilevel Analysis of Jury Deliberations*, 45 Law & Soc'y Rev. 667, 668 (2011) ("High levels of participation may be especially beneficial for jury fact-finding when jurors are drawn from all segments of the community.").

ment of the law.[361] Further, the negative consequences of racial prefer-
ences—harm and stigma—do not apply in jury selection in the same way as
they might in employment contexts or college admissions.[362]

History also supports the use of affirmatively mixed juries. At the time of
the Founding, the English practice of using a *jury de medietate linguae* was well
known.[363] This "jury composed half of Englishmen and half of the country-
men of an alien party"[364] had been adopted by the colonists and used in
several disputes with Native Americans.[365] Similarly, at the time of the
Reconstruction Amendments, when the drafters of the Equal Protection
Clause were at work, racially mixed juries had been designed to handle high
profile cases such as the treason trial of Jefferson Davis.[366] After studying the
era, Professor Albert Alschuler concluded, "Statesmen of the generation that
wrote and ratified the Fourteenth Amendment apparently did not consider
racially balanced juries discriminatory."[367]

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360   Alschuler, *supra* note 355, at 729 ("The case for employing color-conscious mea-
sures to promote the expression of diverse perspectives in the jury room seems at least as
compelling as the case for employing color-conscious measures in the allocation of broad-
cast licenses."); *id.* (comparing juries to other race-conscious decisions such as that in
Metro Broad., Inc. v. FCC, 497 U.S. 547 (1990)).

361   Powers v. Ohio, 499 U.S. 400, 407 (1991) ("Jury service preserves the democratic
element of the law, as it guards the rights of the parties and ensures continued acceptance
of the laws by all of the people.").

362   Alschuler, *supra* note 355, at 718 ("Juries are distinctive both because affirmative
action in jury selection has special virtues and because it is likely to prove less costly to
individuals and society than affirmative action in other contexts.").

363   *See, e.g.*, Deborah A. Ramirez, *A Brief Historical Overview of the Use of the Mixed Jury*, 31
AM. CRIM. L. REV. 1213, 1214 (1994).

364   Alschuler, *supra* note 355, at 713–14 ("Before the end of the twelfth century,
English charters promised Jews that disputes between Jews and English subjects would be
resolved by juries composed half of Jews and half of Englishmen. These charters
originated the English jury *de medietate linguae*—a jury composed half of Englishmen and
half of the countrymen of an alien party. The use of mixed juries in cases involving aliens
remained a feature of English law for 700 years." (footnotes omitted)).

365   Deborah A. Ramirez, *The Mixed Jury and the Ancient Custom of Trial by Jury* De Medie-
tate Linguae*: A History and a Proposal for Change*, 74 B.U. L. REV. 777, 790 (1994) ("Records
of the Plymouth Colony indicate that its courts used mixed juries composed of Native
Americans and colonists as early as 1674.").

366   Alschuler, *supra* note 355, at 714–15 ("When Reconstruction governments ended
the exclusion of African-Americans in the South, they sometimes mandated racial quotas
as well. The first African-Americans selected for jury service in the South were the six
impaneled along with six whites to try Jefferson Davis for treason. Although this racially
balanced jury was discharged when the government elected not to prosecute, in at least a
few southern jurisdictions, judges and other officials ensured that the earliest integrated
juries were composed half of blacks and half of whites." (footnote omitted)).

367   *Id.* at 715 (citing Eric Schnapper, *Affirmative Action and the Legislative History of the
Fourteenth Amendment,* 71 VA. L. REV. 753, 754 (1985) ("[R]ace conscious Reconstruction
programs were enacted concurrently with the fourteenth amendment and were supported
by the same legislators who favored the constitutional guarantee of equal protection. This
history strongly suggests that the framers of the amendment could not have intended it

In truth, however, neither constitutional law nor history controls the answer, and unquestionably there exists a tension between the fair cross-section requirement and the Equal Protection Clause.[368] This tension has contributed to some experiments of affirmative juror selection, which arguably implicate the Equal Protection Clause, but largely remained unchallenged.[369] This tension has also generated some creative scholarly suggestions to improve diversity in jury selection.[370] The tension, however, remains unresolved.

Even if juries do not differ sufficiently so as to avoid a traditional equal protection analysis, their unique role in the constitutional system and their specific history may impact the application of the strict scrutiny test.[371] As will be discussed next, the special, constitutional role of juries may affect the government's compelling interest in designing a representative jury.

b.   Surviving Strict Scrutiny

Strict scrutiny is a demanding test, requiring the government to prove that the race-conscious policy was narrowly tailored and reasonably necessary

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generally to prohibit affirmative action for blacks or other disadvantaged groups.")); *see also* ANDREW KULL, THE COLOR-BLIND CONSTITUTION 67 (1992).

368   Forde-Mazrui, *supra* note 70, at 368 ("Race-conscious selection procedures designed to create representative juries implicate two constitutional provisions: the Sixth Amendment and the Equal Protection Clause. Some of the cases decided under these provisions provide support for affirmative selection procedures, while others provide a more ambiguous, even contradictory, message about the permissibility of representativeness-by-design."); King, *Racial Jurymandering, supra* note 13, at 766 ("Read as a whole, the jury decisions from the past two decades demonstrate that the Court is acutely aware of the inherent conflict between the two values or norms that dominate these cases: the importance of recognizing that racial composition affects fairness, or at least its appearance, and the imperative to avoid treating potential jurors differently because of their race or endorsing the legitimacy of racial discrimination.").

369   Alschuler, *supra* note 355, at 711 ("In Arizona, a bar committee has proposed dividing jury lists into subsets by race and drawing jurors from each subset. Some Arizona judges currently strike trial juries that, in their view, do not include adequate numbers of minority jurors. In DeKalb County, Georgia, jury commissioners divide jury lists into thirty-six demographic groups (for example, black females aged 35 to 44); they then use a computer to ensure the proportional representation of every group on every venire." (footnotes omitted)); King, *Racial Jurymandering, supra* note 13, at 722 ("Some courts take an active role in ensuring that qualified lists or venires reflect the racial composition of the adult population.").

370   Forde-Mazrui, *supra* note 70, at 358; John J. Francis, *Peremptory Challenges,* Grutter*, and Critical Mass: A Means of Reclaiming the Promise of* Batson, 29 VT. L. REV. 297, 298 (2005).

371   Forde-Mazrui, *supra* note 70, at 358 ("Recent Supreme Court cases interpreting the Equal Protection Clause in the contexts of jury selection and affirmative action programs suggest that most race-conscious jury selection procedures would be subjected to the most rigorous scrutiny. These cases seem to indicate that the Court would hold most race-conscious jury selection procedures unconstitutional." (footnote omitted)).

to advance a compelling governmental interest.[372] While not always "fatal in fact,"[373] strict scrutiny remains a difficult hurdle to overcome.[374]

Creating a big data-infused jury system which explicitly takes into account race, gender, and other factors in an attempt to create a fair cross-section of the community, however, could be considered a sufficiently compelling governmental interest. As stated, not only does the Sixth Amendment mandate this ideal, the Supreme Court has stated this principle of inclusion as a goal in a series of court opinions.[375] Further, at least in some jurisdictions, because of the long history of jury inequality, one could argue that the justification for the change was to remedy the effects of past intentional racial discrimination by the discriminating entity: the court.[376] In addition, courts could borrow from the reasoning used in some educational diversity cases to make the argument that diverse juries help develop "cross-racial understanding" and "break down racial stereotypes."[377] Or as Professor Nancy King argued,

> [E]ven if strict scrutiny is the appropriate method for evaluating these policies, courts that apply such scrutiny should recognize (1) that maximizing the appearance of fairness of criminal jury proceedings is a compelling governmental interest, (2) that fair racial representation on juries is vital to the appearance of fairness in criminal jury proceedings, and (3) that in some circumstances race-conscious selection practices may improve, not impair, this appearance.[378]

All of these aspects of jury selection support the argument that improving jury selection—even with some explicit consideration of race or gender in the big data algorithm—represents a governmental interest so compelling that it survives strict scrutiny.

Whether such a big data jury selection process (which includes race as a factor) is narrowly tailored to further this interest presents a more difficult

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372   Shaw v. Reno, 509 U.S. 630, 643 (1993).

373   Gerald Gunther, *The Supreme Court, 1971 Term: Foreword: In Search of Evolving Doctrine on a Changing Court: A Model for a Newer Equal Protection*, 86 Harv. L. Rev. 1, 8 (1972). *But see* Sheri Lynn Johnson, *Black Innocence and the White Jury*, 83 Mich. L. Rev. 1611, 1701 (1985) ("Race conscious remedies do not always violate equal protection; the Court has upheld such remedies in the busing cases and the redistricting cases." (citing Swann v. Charlotte-Mecklenburg Bd. of Educ., 402 U.S. 1 (1971); United Jewish Orgs. v. Carey, 430 U.S. 144, 165 (1977))).

374   *See, e.g.*, Adam Winkler, *Fatal in Theory and Strict in Fact: An Empirical Analysis of Strict Scrutiny in the Federal Courts*, 59 Vand. L. Rev. 793, 870 (2006).

375   *See supra* Part I.

376   Certainly in some jurisdictions, the long history of racial discrimination in jury selection should inform the analysis. *See* Jeffrey Abramson, We, the Jury: The Jury System and the Ideal of Democracy 99–100 (Harvard Univ. Press 2001) (1994) (describing the history of racial discrimination in American juries).

377   Francis, *supra* note 370, at 298 ("*Grutter* specifically recognized a compelling state interest in obtaining a 'critical mass' of diversity in an academic environment to develop 'cross-racial understanding' and 'break down racial stereotypes.'" (quoting Grutter v. Bollinger, 509 U.S. 306, 330 (2003))); Re, *supra* note 28, at 1575.

378   King, *Racial Jurymandering, supra* note 13, at 762 (footnote omitted).

question. Here the Supreme Court has generally looked to see whether less restrictive, race-neutral alternatives exist.[379] Of course, such alternatives do exist even if none have actually solved the problem of unrepresentative juries.[380] The current system was purposely designed to avoid equal protection problems and, while obviously imperfect, represents a race-neutral alternative. Thus, in order survive the narrowly tailored prong, any racial aspect must be extremely limited or, as will be discussed in the next subsection, masked so as to not rely upon race per se. While some scholars have argued that a carefully crafted racially conscious jury selection system would survive strict scrutiny,[381] most have instead proposed workaround solutions that achieve the same end without a direct conflict with the Equal Protection Clause. Bright data also offers this possibility.

c.   Proxy Solutions

For all of the concern about equal protection, current jury selection is not completely race blind, even if not explicitly race-guided. For example, in a random selection system, courts do not send summons to one neighborhood, and then sequentially to another, and then another. Instead courts scatter summons among different neighborhoods in an attempt to maximize the chances of not only geographic diversity, but also racial and class-based diversity. Courts sometimes even target certain areas more than others in order to obtain racial diversity through a racially neutral selection system.[382]

Big data offers the same advantages of utilizing proxy measures but with even more sophisticated information. Just as consumer marketing companies target categories of people with terms "such as 'Urban Scramble' or 'Mobile Mixers,' both of which include a high concentration of Latinos and African Americans," or non-urban consumers with names like "'Rural Everlasting,' which includes single men and women over the age of 66 with 'low educational attainment and low net worths,'"[383] so too could jury selection systems. Just as the use of big data information can circumvent *Batson* by proxy, the use of big data information can side-step the equal protection challenge by finding more sophisticated proxies to replace the forbidden categories of race or gender.

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379   *Id.* at 752–53 ("[T]he Court will insist on the prior consideration of race-neutral alternatives, and will be unlikely to accept a jurisdiction's claim that there are no such options available to accomplish its aims. . . . If a state's goal is to prevent future intentional discrimination in jury selection, the state could simply deprive jury selectors of the opportunity to discriminate by requiring mechanical or random selection, or by removing access to information about the race of potential jurors.").

380   *See supra* Part I.

381   *See generally* Forde-Mazrui, *supra* note 70; King, *Racial Jurymandering, supra* note 13.

382   Forde-Mazrui, *supra* note 70, at 367 ("[A]reas populated predominantly by members of minority groups could be sent additional jury summonses to increase the number of minorities that appear for jury service.").

383   FED. TRADE COMM'N, *supra* note 17, at 47.

Again, to be clear, the fact that this workaround method exists does not mean a court considering the use of big data should feel comfortable with this solution. Trying to circumvent equal protection restrictions using proxy categories to represent race (without explicitly using race) is problematic. Yet, oddly, under current equal protection law, this approach might survive constitutional scrutiny.

d.   Evaluating the Equal Protection Concerns

Whether or not a big data jury selection system can survive an equal protection challenge remains an open question. Importantly, however, court systems wary of inviting a challenge may hesitate even to take the risk. Defendants would have every incentive to challenge the jury selection system on equal protection grounds, and constitutional challenges would be expensive and difficult to litigate. As a general matter, this litigation reality provides a disincentive for many jury innovations as most new processes are subject to challenge.

CONCLUSION

This Article has attempted to think through the challenges big data poses to existing jury selection processes. The current jury selection system, while theoretically fair and impartial, produces suboptimal results in practice. Big data offers a technologically feasible solution to create a truly representative jury. However, the solution also presents real risks to the jury as an institution. Courts considering adoption of new technologies will need to weigh these factors carefully as any change to existing policies may have unintended consequences.

Courts will soon be confronted with a hard choice about whether big data could benefit their jury selection system. At a minimum, the rise of big data may cause courts to rethink the existing selection practices and evaluate why certain information is collected and other information is ignored. A debate over different conceptions of jury diversity might recharge a discussion about the role of the jury in America.

In addition, in terms of picking the actual jury, big data might cause a lawyer to rethink his or her own implicit or explicit biases in jury selection. The broad categories of race, gender, and employment have always been unsophisticated and inexact predictors for any particular case. Replacing those categories with more and better information may encourage more accurate, and less discriminatory, use of peremptory challenges. More nuanced information may provide reasons for keeping a particular juror that a party would otherwise have struck on impermissible grounds.

Finally, embracing big data may also spur new innovations in how courts and litigants conduct voir dire. Most jury selection processes still involve rather rudimentary technology, usually incorporating a pencil, note cards, raised hands, or conversation. Bright data information could be incorporated into electronic juror surveys located on electronic tablets and could

make the entire jury selection process more efficient. And, of course, courts could choose to adopt a modified bright data system for venire creation and not provide that personal data to litigants for the actual jury selection. The two innovations do not need to be adopted together. However, as data becomes more available, and as the costs of using the systems become more affordable, the ease of using the information throughout the jury selection process will increase.

These questions—large and small—will require answers in the near future. As big data systems grow in sophistication, the temptation for courts to utilize this information will increase. This Article raises and addresses the biggest concerns as society prepares for the big data jury.