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## A Letter from the Section Chair: Journals and Publishing On (And In) Law and Courts

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In the last issue of this *Newsletter*, Chair-Elect Wendy Martinek described the results of a recent (July/August 2011) survey of more than 250 members of the APSA's Law and Courts section. That survey asked questions about a number of potentially interesting aspects of our section and our subfield. Following up on my announcement in the previous issue of the *Newsletter* regarding the creation of the *Journal of Law and Courts*, I thought I'd take this opportunity to unpack the data around one of those: publishing.

The question of publishing on law and courts raises two competing narratives. On the one hand, my sense is that scholars of law and courts generally resemble the larger discipline: There are "article people" and "book people" (as well as "article departments" and "book departments"), with the difference being more a matter of degree than kind; the former are more likely to be empirical in their outlook and quantitative in their approach, while the latter will consist of larger numbers of normative and critical scholars, and/or individuals engaged in qualitative or mixed-method research; and there is at least a minimal consensus about what constitute the "top" journals and presses. In other words, law and courts "looks like" political science.

On the other hand, I (and I suspect many of you reading this) also have a strong sense that law and courts scholars are, as a rule, more likely to engage in research of a cross- or interdisciplinary nature than are many of our political science colleagues. The reasons for this vary, and might include the nature of the subject matter we study; the incentives to write for an interdisciplinary audience created by (e.g.) the NSF's Law and Social Science program, the Law and Society Association,

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# Some (Potential) Applications of Computer Content Analysis to the Study of Law and Courts

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Over the last decade, a number of technological innovations have allowed scholars of judicial politics to examine topics heretofore unstudied. For example, recent advances in network analysis opened a path for scholars to analyze the growth of Supreme Court precedent over time as well as how those precedents connect with one another (Fowler et al. 2007). Improvements in plagiarism software provided opportunities to determine whether Supreme Court opinions "borrow" language from briefs (Black and Owens forthcoming; Corley 2008) and from lower court opinions (Corley, Collins, and Calvin 2011). And, advances in computational power unblocked avenues to estimate the latent preferences of justices (Bailey 2007; Martin and Quinn 2002). Our goal here is not to analyze all of these important endeavors, though an analysis of them would be useful. Rather, our goal is more modest. We aim to highlight a few important points about an innovation that judicial scholars have recently begun to employ—computer text analysis.

## What is Computer Text Analysis and Why Employ it to Examine Legal Text?

To explain what computer text analysis is—and why scholars should consider using it—we begin with its precursor, manual content analysis. Broadly speaking, content analysis is "a research technique for making replicable and valid inferences from texts (or other meaningful matter)" (Krippendorf 2004, 18). The basic starting assumption with manual content analysis is that words used in texts are written with a purpose and meaning, and that we can learn something valuable by extracting the meaning of the rich text by turning it into data. The process of analyzing the content - called "coding" - is carried out by humans, who read the text and translate it using some systemic coding scheme.

Text analysis allows judicial scholars to generate interesting answers to substantively important questions. Many of the questions social scientists address involve large amounts of texts. For example, Court majorities must justify their decisions in writing. As such, nearly everything the Court does—or at least says it does—can be examined using text analysis. Indeed, language modification is precisely the type of nuanced behavior that justices might use to circumvent institutional constraints. Thus, justices' opinions offer unique insight into whether they use language to protect their policies from institutional scrutiny. Other text-based analyses might focus on the behavior of lawyers, who are taught to use language to frame cases and influence judicial outcomes (Wedeking 2010). Text analysis offers a way to examine these and other interesting topics.

But why employ computer text analysis rather than manual analysis? There are at least three reasons. First, manual content analysis is costly and time consuming, as it can analyze but a limited amount of text. Indeed, Wahlbeck, Spriggs, and Sigelman (2002) contrast the difference between humans and computers nicely: "in fractions of seconds [the computer program] performed calculations that otherwise would have taken thousands of hours" (176). Second, computational approaches provide measures that can be easily and efficiently replicated. One of the hallmarks of social science is the ability to replicate one's findings. Manual methods generally require analyzing a large sample to test for reliability (intercoder reliability), and typically have agreement scores less than 100 percent. Third, computational analyses are objective to the extent that they rely on steadfast rules. Human-

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-conducted content analysis, on the other hand, requires elaborate coding procedures and fidelity to the codebook to avoid subjective biases. When possible, then, computer-based approaches offer a promising path forward.[1]

## What Computational Programs Are Available?

Judicial scholars can choose from a wide variety of programs and approaches that perform diverse tasks, ranging from simple approaches that can be done by copying and pasting text into a website, to dictionary-based approaches, to more complicated programs that perform dimensional scaling (i.e., estimating ideal points). We begin with a brief discussion of some simpler approaches, and then move to the more technically complex programs.

### *Readability Measures*

Among the simplest and most user friendly text analysis programs are so-called "readability measures." In general, these measures examine the level of education one needs to understand a text. Readability scores discriminate among texts to determine what makes some easier to read and interpret than others (DuBay 2004). They offer "quantitative, objective estimates of the difficulty of reading selected prose" (Coleman 2001, 489). The two most common indicators across readability formulas include some measure of word difficulty and a measure of sentence difficulty. The assumption is that texts with more unique or longer words will be harder to read than texts with common or shorter words, and that longer and more complex sentences are generally harder to comprehend than shorter, simpler sentences.

Readability indexes were originally developed by those in the education field to define the appropriate reading level for school text books but, since then, have expanded to examine a host of important legal topics. Coleman and Phung (2010), for example, examine the readability of over 9,000 party briefs spanning over three decades of U.S. Supreme Court decisions and find a "gradual historical trend towards plainer legal writing" (103). Similarly, Coleman (2001, 491) uses readability measures to compare the writings of Justice Cardozo and Lord Denning with their contemporaries, finding "strong empirical support for the widely-held claim that Cardozo and Denning's judicial opinions are written in a style that is comparatively plain and clear."

There are a host of readability measures that scholars can employ to determine the readability of text. One of the most frequently employed is the Flesch-Kincaid score, which measures the level of education one would need to understand text, as well as the "reading ease" of the text. Law and Zaring (2010) use the Flesch-Kincaid approach to measure the complexity of federal statutes, in an effort to determine whether the United States Supreme Court is more likely to refer to legislative history when interpreting complex laws.

The Coleman-Liau readability index is an alternative measure. It is a composite score of the length of words contained within a text, measured by the number of characters and the number of sentences within that text. Owens, Wedeking and Wohlfarth (2012) employ the Coleman-Liau index to determine whether the Court authors less readable opinions when facing a hostile Congress. Similarly, Owens and Wohlfarth (2012) use the measure to examine whether lower federal courts treat clear Supreme Court precedent more positively than unclear precedent. A simple online search for "readability measures" will generate a number of additional measures that one can employ toward similar ends.

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[1] This is not to say that manual text analysis should be done away with. On the contrary, depending on the type of research question, manual text analysis is still beneficial. For example, Farganis and Wedeking (2011) use manual content analysis to examine the behavior of Supreme Court nominees who testify before the Senate Judiciary Committee. In many cases, computational text analysis begins with supervision from humans via manual text analysis.

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*Dictionary-Based Programs*

Dictionary-based approaches operate on the assumption that words have specific meanings and belong together in a "dictionary category" that represents their concepts. This grouping process is generally known as lemmatization, which is similar to word stemming. Dictionaries can be built either *a priori* based on a researcher's theory or through text mining. Ideally, the dictionary contains all of the words associated with the concept, as well as *only* the relevant words.

A popular dictionary-based program, Linguistic Inquiry and Word Count (LIWC) contains over 70 pre-defined categories that scholars can use to examine text. For example, the category labeled "Sad" contains over 100 words such as: agoniz*, alone, cried, depress, depriv*, griev*, isolate*, and many more.[2] LIWC grew its roots in psychological scholarship. It is not surprising, then, that scholars have employed it to examine texts for psychological concepts like cognitive complexity—i.e., how simple or complex people view the world. For example, Pennebaker and Lay (2002) analyzed whether Rudy Giuliani's governing style and personality changed over the course of his tenure as mayor of New York, by examining the words he used throughout his press conferences. Pennebaker, Slachter and Chung (2005) examined the words spoken by presidential candidates John Kerry, John Edwards, and Al Gore. As for judicial scholarship, Owens and Wedeking (2011) applied LIWC to examine the words justices use in their opinions, in an effort to generate a measure of the "cognitive complexity" (i.e., clarity) of Supreme Court opinions. The measures suggest, in part, that Justices Scalia and Breyer write the clearest majority opinions, that criminal law opinions tend to be the clearest, and that dissents are always clearer than majority opinions. Similarly, Owens and Wedeking (forthcoming) use LIWC to examine the words spoken and written by Supreme Court nominees to predict whether they will drift ideologically once on the Court. They find that nominees with a high degree of cognitive inconsistency prior to their nominations are more likely to drift ideologically on the Court.

LIWC is one of many dictionary-based programs. An alternative, employed by Black, Treul, Johnson, and Goldman (2011) is the *Dictionary of Affect in Language*, which consists of several categories of words. Black et al. (2011) used that dictionary to gauge the emotional content of justice's words at oral argument so as to predict their votes.

*Dimensional Scaling*

Moving to the more complex (but still user friendly) side of things, judicial scholars can take advantage of recent innovations in "Wordscore" and "Wordfish" software to estimate, via text analysis (rather than votes), the ideological preferences of justices and other political actors.

A "Wordscore" approach allows researchers to collect a corpus of texts and compare the words within those texts (Laver, Benoit, and Garry 2003; Benoit and Laver 2003). More specifically, Wordscore is based on the premise that some grouping of texts will use words that are similar to one another while another grouping of texts will use a different set of words. Moreover, the differences between the texts define them, and tell us something important about the authors.

Executing Wordscore is intuitive. Among all the texts, the researcher selects at least two that s/he believes to be the poles (or at least close to the poles). These define the extremes of the policy space and are referred to as reference (i.e., training) texts. The software then examines the words used within those texts as well as the number of

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[2] The asterisk indicates the dictionary will count all variations of the word stem (e.g., "agoniz*" will count: agonize, agonizingly, agonized, and any other variation.)

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times individual words are used in each of the texts (Evans et al. 2007). Once this initial examination is finished, the researcher then analyzes the "virgin texts." That is, based on the frequency of word usage in the virgin texts, the software will determine the degree to which that virgin text is liberal or conservative, relative to the reference texts and other texts under consideration. The program's output requires no further interpretation by human coders. McGuire and Vanberg (2005) offer a nice explanation and example of the Wordscore approach and use it to examine the ideological location of First and Fourth Amendment cases on the Supreme Court. Evans et al. (2007) employ Wordscores to classify the ideological direction of legal briefs in *Bakke* (1978) and *Bollinger* (2003) and identify individual words that are the most discriminative of conservative and liberal positions.

While Wordscore offers a number of advantages, it does come with some challenges (Martin and Vanberg 2008*a*, 2008*b*; Benoit and Laver 2008; Lowe 2008). For example, by forcing the researcher to select reference texts, the approach assumes the researcher has ex ante substantive knowledge about the general ideological placement of the documents. In many instances, this is not (and should not) be a problem. Yet, one can imagine research questions in which a scholar lacks instincts about which texts are more (or less) conservative than others. And if one chooses poorly, the generated results are dubious. A similar problem, but one that also plagues the Wordfish approach, is that language and the meaning of specific words change over time. Thus, if a researcher seeks to examine temporal ideological trends via word usage, the results might be limited.

Given these shortcomings, a second text-based approach to measuring ideology arose in recent years—the Wordfish approach. Wordfish treats ideology as a latent variable, and assumes that a speaker's ideological position can be discovered via her word choice (Proksch and Slapin 2009). As Proksch, Slapin, and Thies (2010) explain: "The systematic component of this process contains four parameters: document [speaker] positions, document [speaker] fixed effects, word weights (discriminating parameters), and word fixed effects" (6). To paraphrase an example from Proksch and Slapin (2009), this means that if one nominee uses the word "freedom" more frequently than "equality" in a document while another nominee uses the word "equality" more than "freedom" in a similar document, these two words provide information about their ideology on that dimension and discriminate between the nominees.

One advantage of Wordfish is that researchers do not need to define, a priori, the ideological space with reference texts. In this sense it is an exploratory program. It assumes the word frequencies are generated by a Poisson distribution. As such, the single dimension extracted, generally assumed to be the primary dimension, is open to interpretation (e.g., to use an analogy, the meaning of the dimension is open to interpretation similar to the meaning of an extracted factor in factor analysis). Thus, the biggest challenge is interpreting the dimension that Wordfish returns. Unfortunately, using Wordfish to examine words over an extended period of time can be problematic for the same reasons as discussed above. To counteract this, Proksch and Slapin (2009) suggest excluding rare words and using only words common to the early and later time periods. Thus far, Wordfish has successfully been used to estimate policy positions of German political parties (Proksch and Slapin 2009), position taking in European Parliamentary speeches (Proksch and Slapin 2010), and Japanese party positions (Proksch, Slapin, and Thies 2010). And as for judicial scholarship, Owens, Tahk, and Wedeking (2012) recently collected the text of speeches, writings, and separate opinions of 43 nominees to the U.S. Supreme Court and employed Wordfish to estimate the ideological preferences of nominees to the Court.

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Our goal here was to highlight the reasons why scholars in the Law and Courts field might consider employing computational text analysis, as well as a number of programs that are available, should they opt for that route. Of course, our article barely gets beneath the surface of possibilities. We have largely ignored topic classification programs (with supervised and unsupervised learning) like the one developed by Quinn et al. (2010) to classify legislative speeches by topic, or Hopkins and King's (2010) supervised learning program that provides estimates of the

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proportion of all texts within a topic category. One program that shows promise is RTextTools, which bundles nine algorithms that "learn" about data to classify text into discrete categories (Jurka et al. 2012). Any of these programs could be applied to the issue topics of Supreme Court opinions. Still, other approaches are computationally intensive and rely heavily on real computer programming language. For example, Bommarito and Katz (2010) analyze the text of the *United States Code* to reveal that it "has grown in its amount of structure, interdependence, and language" (2010, 4195). And Rosenthal and Yoon (2011) cull text from webpages to examine function words used by justices in opinions to look for clerk influence. Put plainly, there are multiple approaches and programs that scholars can employ to examine substantively interesting questions.

The next frontier of judicial scholarship promises to examine the words legal actors use—words in opinions, briefs, speeches, oral arguments, confirmation hearings, and elsewhere. Judicial scholars are blessed with an abundance of textual data. Thankfully, there are a number of tools at our disposal to tap into these data sources. And for those of us interested in quantifying text, or treating "text as data," these approaches offer considerable excitement.

## References

Bailey, Michael A. 2007. "Comparable Preference Estimates Across Time and Institutions for the Court, Congress, and Presidency." *American Journal of Political Science* 51(3):433-448.

Benoit, Kenneth and Michael Laver. 2003. "Estimating Irish Part Positions Using Computer Wordscoring: The 2002 Elections." *Irish Political Studies* 17:97-107.

Benoit, Kenneth and Michael Laver. 2008. "Compared to What? A Comment on "A Robust Transformation Procedure for Interpreting Political Text" by Martin and Vanberg." *Political Analysis* 16(1) 101-111.

Black, Ryan C. and Ryan J. Owens. 2012. *The Solicitor General and the United States Supreme Court: Executive Influence and Judicial Decisions*. New York: Cambridge University Press.

Black, Ryan C., Sarah A. Truel, Timothy R. Johnson, and Jerry Goldman. 2011. "Emotions, Oral Arguments, and Supreme Court Decision Making." *Journal of Politics* 73(2): 572-581.

Bommarito, Michael and Daniel Katz. 2010. "A Mathematical Approach to the Study of the United States Code" *Physica A* 389(19): 4195-4200.

Coleman, Brady. 2001. "Lord Denning and Justice Cardozo: The Judge as Poet-Philosopher." *Rutgers Law Journal* 32: 485-518.

Coleman, Brady and Quy Phung. 2010. "The Language of Supreme Court Briefs: A Large-Scale Quantitative Investigation." *Journal of Appellate Practice & Process* 11: 75-103

Corley, Pamela C. 2008. "The Supreme Court and Opinion Content: The Influence of Parties' Briefs." *Political Research Quarterly* 61 (3): 468–78.

Corley, Pamela C., Paul M. Collins, Jr., and Bryan Calvin. 2011. "Lower Court Influence on U.S. Supreme Court Opinion Content." *Journal of Politics* 73 (1): 31–44.

DuBay, William H. 2004. *The Principles of Readability*. Impact Information.

Evans, Michael, Wayne McIntosh, Jimmy Lin and Cynthia Cates. 2007. "Recounting the Courts? Applying Automated Content Analysis to Enhance Empirical Research." *Journal of Empirical Legal Studies* 4(4):1007-1039.

Farganis, Dion and Justin Wedeking. 2011. "'No Hints, No Forecasts, No Previews': An Empirical Analysis of Supreme Court Nominee Candor From Harlan to Kagan." *Law & Society Review* 45(3): 525-595.

Fowler, James H., Timothy R. Johnson, James F. Spriggs II, Sangick Jeon, and Paul J. Wahlbeck. 2007. "Network Analysis and the Law: Measuring the Legal Importance of Supreme Court Precedents." *Political Analysis* 15 (3): 324–46.

Hopkins, Daniel J. and Gary King 2010. "A Method of Automated Nonparametric Content Analysis for Social Science." *American Journal of Political Science* 54(1): 229-247.

Jurka, Timothy P., Loren Collingwood, Amber Boydstun, Emiliana Grossman, and Wouter van Atteveldt. 2012. RTextTools: Automatic Text Classification via Supervised Learning. R Package version 1.3.6. http://CRAN.R-project.org/package=RTextTools

Krippendorf, Klaus. 2004. *Content Analysis: An Introduction to its Methodology*. Thousand Oaks, CA: Sage Publishing.

Laver, Michael, Kenneth Benoit and John Garry. 2003. "Extracting Policy Positions from Political Texts: Using Words as Data." *American Political Science Review* 97(2):311-332.

Law, David S. and David Zaring. 2010. "Law Versus Ideology: The Supreme Court and the Use of Legislative History." *William and Mary Law Review* 51(5):1-62.

Lowe, Will. 2008. "Understanding Wordscores" *Political Analysis* 16(4): 356-371.

Martin, Andrew D., and Kevin M. Quinn. 2002. "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–99." *Political Analysis* 10 (2): 134–53.

Martin, Lanny W. and Georg Vanberg. 2008a. "A Robust Transformation Procedure for Interpreting Political Text." *Political Analysis* 16(1):93-100.

Martin, Lanny W. and Georg Vanberg. 2008b. "Reply to Benoit and Laver." *Political Analysis* 16(1): 112-114.

McGuire, Kevin T. and Georg Vanberg. 2005. "Mapping the Policies of the U.S. Supreme Court: Data, Opinions, and Constitutional Law." Paper presented at the annual meeting of the American Political Science Association, Washington, DC, Sept. 1-5.

Owens, Ryan J. and Justin Wedeking. 2011. Justices and Legal Clarity: Analyzing the Complexity of Supreme Court Opinions." *Law & Society Review* 45(4): 1027-1061.

Owens, Ryan J. and Justin Wedeking. Forthcoming. "Predicting Drift on Politically Insulated Institutions: A Study of Ideological Drift on the United States Supreme Court." *Journal of Politics*.

*(Continued on next page)*

Owens, Ryan J. and Patrick C. Wohlfarth. 2012. "Compliance Through Clarity: Examining the Effects of Legal Clarity on Lower Court Compliance with Supreme Court Decisions." Paper presented at the 2012 annual meeting of the Southern Political Science Association (Jan. 12-14, New Orleans, LA).

Owens, Ryan J., Alexander M. Tahk, and Justin Wedeking. 2012. "Using Nominees' Words to Determine Their Ideologies." Paper presented at the 2012 annual meeting of the Southern Political Science Association (Jan. 12-14, New Orleans, LA).

Owens, Ryan J., Justin Wedeking, and Patrick C. Wohlfarth. 2012. "Evading Supervisory Review in the Separation of Powers: The U.S. Supreme Court and Strategic Use of Judicial Language." Unpublished Manuscript.

Pennebaker, James W. and Thomas C. Lay. 2002. "Language Use and Personality During Crises: Analyses of Mayor Rudy Giuliani's Press Conferences." *Journal of Research in Personality* 36(3): 271-282.

Pennebaker, James W., Richard B. Slatcher, and Cindy K. Chung. 2005. "Linguistic Markers of Psychological State through Media Interviews: John Kerry and John Edwards in 2004, Al Gore in 2000." *Analyses of Social Issues and Public Policy* 5(1): 197-204.

Proksch, Sven-Oliver and Jonathan B. Slapin. 2009. "How to Avoid Pitfalls in Statistical Analysis of Political Texts: the Case of Germany." *German Politics* 18(3):322-343.

Proksch, Sven-Oliver and Jonathan B. Slapin. 2010. "Position Taking in European Parliament Speeches." *British Journal of Political Science* 40: 587-611.

Proksch, Sven-Oliver, Jonathan B. Slapin and Michael F. Thies. 2010. "Part System Dynamics in Post-War Japan: A Quantitative Content Analysis of Electoral Pledges." *Electoral Studies* 30(1):114-124.

Quinn, Kevin M., Burt L. Monroe, Michael Colaresi, Michael H. Crespin, and Dragomir R. Radev 2010. "How to Analyze Political Attention with Minimal Assumptions and Costs." *American Journal of Political Science* 54(1): 209-228.

Rosenthal, Jeffrey S., and Albert H. Yoon 2011. "Judicial Ghostwriting: Authorship on the Supreme Court." *Cornell Law Review* 96:1307-1344.

Wahlbeck, Paul, James F. Spriggs, II, and Lee Sigelman. 2002. "Ghostwriters on the Court? A Stylistic Analysis of U.S. Supreme Court Opinion Drafts." *American Politics Research*. 30(2): 166-192.

Wedeking, Justin. 2010. "Supreme Court Litigants and Strategic Framing." *American Journal of Political Science* 54(3): 617-631.