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in the Twenty-First Century**

Ellie Margolis

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I. Introduction

The dramatic changes that technology has brought to the world of legal research and writing are well documented.¹ From the digitization of information² to the sophistication of word processing and electronic delivery of information,³ almost everything lawyers do is infused with a new level of technology. The changes to both writing and reading brought on by computer technology have been rapid and comprehensive.⁴ Lawyers operate in an increasingly, and almost exclusively, digital world. Yet, despite widespread recognition that technology has changed the way that lawyers work, little scholarly attention has been given to whether these

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¹ Kristin J. Hazelwood, *Technology and Client Communications: Preparing Law Students and New Lawyers to Make Choices that Comply with the Ethical Duties of Confidentiality, Competence, and Communication*, 83 *MISS. L.J.* 245, 246 (2014) (noting that it is “beyond dispute” that technology has radically changed the legal profession).

² E.g., Ellie Margolis, *Surfin’ Safari: Why Competent Lawyers Should Research on the Web*, 10 *YALE J.L. & TECH.* 82 (2007); Ellie Margolis & Kristen Murray, *Say Goodbye to the Books: Information Literacy as the New Legal Research Paradigm*, 38 *U. DAYTON L. REV.* 117 (2012); Susan C. Wawrose, *What Do Legal Employers Want to See in New Graduates?: Using Focus Groups to Find Out*, 39 *OHIO N.U. L. REV.* 505 (2013).

³ E.g., Kristen K. Tiscione, *The Rhetoric of E-mail in Law Practice*, 526–28 (2013); Joe Dysart, *Catch Up with Tech or Lose Your Career, Judges Warn Lawyers*, *ABA J.* (Apr. 1, 2014), http://www.abajournal.com/mobile/mag_article/catch_up_with_tech_or_lose_your_career_judges_warn_lawyers; Deborah J. Merritt, *Why Has Law Practice Changed?*, *LAW SCH. CAFE* (Dec. 8, 2013), <http://www.lawschoolcafe.org/thread/why-has-law-practice-changed/>; Daniel Sockwell, *Writing A Brief for the iPad Judge*, *COLUM. BUS. L. REV.* (Jan. 14, 2014), <http://cblr.columbia.edu/archives/12940>.

⁴ See generally DENNIS BARON, *A BETTER PENCIL: READERS, WRITERS, AND THE DIGITAL REVOLUTION* ix (2009). See also Kirsten K. Davis, “*The Reports of My Death Are Greatly Exaggerated*”: *Reading and Writing Objective Legal Memoranda in A Mobile Computing Age*, 92 *OR. L. REV.* 471, 479–80 (2013) (noting that lawyers are reading and writing in ways not contemplated twenty years ago); K.K. DuVivier, *E-Filing: Entering the Electronic Age—Part I*, 32 *COLO. LAW.*, Sept. 2003, at 69 (noting that the transformation from paper to electronic format will change the way lawyers and judges read and write legal documents).

changes have affected the form and substance of legal analysis. It is time to be more deliberate in assessing how all of these technologies have and will continue to change the fundamental nature of legal analysis and communication.

The digital revolution is not limited to law, so it is no surprise that the legal profession's reaction to change has mirrored the reaction of society at large. Change is hard, and with every new technology, there has been resistance. The historic response to changes in writing technology has been distrust.⁵ Plato was worried that relying on writing, rather than speech, would weaken human memory, and that the written word could not be trusted as authentic.⁶ Each new writing technology—the printing press, the typewriter, the computer—brought new concerns about the value and credibility of texts they produced.⁷ Each new development raised concerns about whether writers would make more errors, and lose clarity, precision, and rigorousness.⁸ Yet as each new technology took over and became the norm, people learned to trust and depend on them until they became so integrated into our daily lives; it is difficult to imagine writing without them.

The legal profession has followed this pattern. With every change in technology, there has been resistance—concern for what will be lost when lawyers stop researching in books,⁹ concern that new writing technology will harm the process of legal reasoning,¹⁰ concern for the loss of rigor if we change the structured form of formal legal analysis.¹¹ These concerns mirror the concerns raised by the development of new writing technologies generally.

As a result, the changes in legal research and writing have been slow.¹² In the early phases of the digital revolution, technology was used to transfer the print legal world to an online environment. Early electronic legal research platforms, greeted with a high degree of distrust, mimicked the legal organization found in the print world.¹³ Legal documents produced with word-processing programs, when printed or saved electronically, looked identical to those produced by older technologies.¹⁴

5 BARON, *supra* note 4, at 5.

6 *Id.* at 3.

7 *Id.* at 5–14.

8 Lindsey P. Gustafson, *Texting and the Friction of Writing*, 19 LEGAL WRITING 161, 164 (2015).

9 Margolis & Murray, *supra* note 2, at 118–19.

10 See generally Molly Warner Lien, *Technocentrism and the Soul of the Common Law Lawyer*, 48 AM. U. L. REV. 85 (1998).

11 Davis, *supra* note 4, at 487.

12 See Nicole Black, *Lawyers, Technology and a Light at the End of the Tunnel*, THE DAILY RECORD (Nov. 6, 2013), <http://nylawblog.typepad.com/suigeneris/2013/11/lawyers-technology-and-a-light-at-the-end-of-the-tunnel-.html> (lamenting the slow adoption of technology and asserting that many lawyers still practice law “as if it were still 1999”).

13 Margolis & Murray, *supra* note 2, at 123.

Technology was used primarily to create documents more easily, rather than to re-envision the forms those documents could take.¹⁵ As digital technologies improved and proliferated, lawyers have moved farther away from those traditional forms, developing new approaches to research and writing. Most notably, email has become the predominant means of communicating legal analysis, replacing the traditional office memorandum.¹⁶ But this movement has been slow and there is a long way to go.

The trajectory in law schools has been similar. In the academic community of legal research and writing professors, the primary response to technological developments over the last twenty years has been focused on understanding the technologies and bringing them into our teaching within the existing framework of LRW pedagogy.¹⁷ We have thought about how to integrate electronic research into our understanding of research,¹⁸ how to make use of digital technology to enhance the professional appearance of standard documents such as memos and briefs,¹⁹ and how to teach professionalism in electronic communication.²⁰

For the most part, however, law-school legal research and writing courses look very much today like they did twenty years ago. The primary vehicles for teaching analytical and writing skills are the predictive, interoffice memo and the trial or appellate brief.²¹ Other than some cosmetic changes, brought about by the availability of more-sophisticated word-processing, these documents have remained relatively static in their

14 BARON, *supra* note 4, at xiii (noting that computers achieved the initial impact by allowing writers to produce familiar documents).

15 Elizabeth G. Porter, *Taking Images Seriously*, 114 COLUM. L. REV. 1687, 1700 (2014) (indicating that technology has been used to reinforce text-centered legal discourse, rather than to revolutionize legal communication).

16 Kendra Huard Fershee, *The New Legal Writing: The Importance of Teaching Students How to Use E-mail Professionally*, 71 MD. L. REV. ENDNOTES 1 (2011); Kristen Konrad Robbins-Tiscione, *From Snail Mail to E-Mail: The Traditional Legal Memorandum in the Twenty-First Century*, 58 J. LEGAL EDUC. 32, 32–33 (2008) (discussing her survey of practicing attorneys, which showed that the traditional format and substance of the legal memorandum has become nearly obsolete, in favor of substantive email as the preferred method for communicating with clients).

17 See Maria Perez Crist, *Technology in the LRW Curriculum—High Tech, Low Tech, or No Tech*, 5 LEGAL WRITING 93 (1999); Margolis & Murray, *supra* note 2, at 122.

18 See AMY E. SLOAN, BASIC LEGAL RESEARCH 271–79 (5th ed. 2012) (explaining the basics behind electronic research); AMY E. SLOAN, RESEARCHING THE LAW 1–107 (2014) (describing the step-by-step process for effective legal

research); DAVID I. C. THOMSON, LAW SCHOOL 2.0 47–50 (2009) (explaining the basics behind electronic research); see also Margolis & Murray, *supra* note 2 at 101–07 (describing the Temple University, Beasley School of Law's LRW program, which incorporates electronic research).

19 Ruth Anne Robbins, *Painting with Print: Incorporating Concepts of Typographic and Layout Design into the Text of Legal Writing Documents*, 2 J. ALWD 108, 131–34 (2004); Gail S. Stephenson, *Book Review: Typography for Lawyers: Essential Tools for Polished & Persuasive Documents by Matthew Butterick*, 60 LA. B.J. 124, 125 (Aug./Sept. 2012).

20 ELIZABETH FAJANS, MARY R. FALK & HELENE S. SHAPO, WRITING FOR LAW PRACTICE 239, 259–61 (2d ed. 2010); RICHARD K. NEUMANN, JR. & SHEILA SIMON, LEGAL WRITING 193–96 (2d ed. 2011); Charles Calleros, *Traditional Office Memoranda and E-mail Memos, in Practice and in the First Semester*, 21 PERSPS. 105 (2013).

21 See Ass'n. Legal Writing Dirs. (ALWD) & Legal Writing Inst. (LWI), *Report of the Annual Legal Writing Survey 13* (2014), available at <http://lwionline.org/uploads/FileUpload/2014SurveyReportFinal.pdf> (showing that 174 schools assign the office memo, 125 assign the appellate brief, and 168 assign either the pre-trial or trial brief).

content and organization.²² The objective memorandum of law, since its entrenchment in the twentieth century,²³ has contained the same component parts and highly structured organization.²⁴ Briefs, the component parts and format of which are typically dictated by local court rules,²⁵ have likewise been taught the same way in law school.²⁶ IRAC, or some other iteration with a different acronym, has remained the dominant paradigm for organizing legal analysis.²⁷ It is time to question whether teaching traditional memos and briefs is the best way to prepare students for law practice.

While it is possible that these traditional forms for writing and analysis are still the best forms, and that technology has not changed the fundamental nature of legal analysis and writing, this is not an assumption that should go untested. We should not assume that what has worked for decades in print documents works as well in an electronic environment. What is the ideal way to communicate organization in an e-document? Should the writer use a different voice when communicating analysis in an email as opposed to a traditional memo? To what degree should we take advantage of multidimensionality (through hyperlinks and embedded files) when making a legal argument to a court? These are all questions that have been largely unanswered.

It is time for lawyers, judges, and the academic legal writing community to be more proactive in understanding the changes technology has wrought in legal writing, and to consider how the technological revolution has and should continue to change the fundamental nature of legal analysis and communication. Technology has created the possibility of new forms of writing and communication. There is no question that changes are taking place in law practice, driven largely by vendors and the products they have created, but the legal writing community is still playing catch-up. Very little scholarly attention has been given to how technology has changed and should change writing.²⁸

22 Fershee, *supra* note 16, at 8 (noting that the ways in which lawyers communicate to each other, courts, and clients has changed very little).

23 Davis, *supra* note 4, at 498.

24 *Id.* at 523 (suggesting that while the medium for reading legal memos may have changed, the core functions and components remain the same); see also LINDA H. EDWARDS, LEGAL WRITING AND ANALYSIS 129–45 (3d ed. 2011) (explaining the purpose and structure of the office memorandum); FAJANS, FALK & SHAPO, *supra* note 20, at 271–311 (explaining how to write the traditional office memorandum).

25 See, e.g., FED. R. APP. P. 28; OR. R. APP. P. 5; TENN. 3D JUDICIAL DIST. LOCAL R. 18.03; U.S. DIST. CT. D. ALASKA LOCAL R. 39.2.

26 See EDWARDS, *supra* note 24, at 161–243 (explaining how to write in an advocacy context); FAJANS, FALK & SHAPO, *supra* note 20, at 313–54 (explaining the basics behind writing trial and appellate briefs).

27 See EDWARDS, *supra* note 24, at 195–97 (discussing the CREXAC organization method for legal writing); NEUMANN & SIMON, *supra* note 20, at 117–47 (explaining the CREAC formula for structuring a legal memorandum).

This article suggests that, because legal research and writing scholars are in a unique position, as experts in the field, to assess the impact of technology on writing, we should embrace the task, and take a leading role in identifying the promise and pitfalls of technology for new forms of legal analysis. Section I addresses why the move to a digital medium should cause us to consider changes in traditional approaches and to identify the changes in both writing and reading electronic texts that create the possibility of change. Section II identifies some of the changes that the digital medium calls for, explores the potential for additional changes, and calls on legal writers to continue the difficult work of innovating to identify the most effective means of legal communication for the twenty-first century.

II. The Medium is the Message.²⁹ Or is it?

It has long been accepted that the medium of communication a writer uses alters the formation and content of the ideas themselves.³⁰ Virtually every article exploring the effects of technology on legal research and writing refers to Marshall McLuhan's famous quote, "the medium is the message."³¹ The idea behind this famous catchphrase is that the means through which an idea is communicated influences our perception and understanding of that idea. According to McLuhan, new technologies have "psychic and social consequences" that go beyond the content being delivered, affecting our relation to others and the world in general.³² McLuhan wrote this in the context of the typewriter and the telephone, but the phrase is even more apt when applied to the internet and digital reading and writing technologies.

Whether for good or for ill, experts agree that the internet and digital technology generally have changed the way that we read and process information.³³ This is especially true for digital natives, those individuals who have never lived in a world without digital technology.³⁴ One of the

²⁸ For some recent examples, see Mary Beth Beazley, *Writing (and Reading) Appellate Briefs in the Digital Age*, 15 J. APP. PRAC. & PROCESS 47 (2014); Davis, *supra* note 4; Porter, *supra* note 15; and Robbins-Tiscione, *supra* note 16.

²⁹ Marshall McLuhan, a Canadian philosopher of communication theory, coined this phrase, stating, "in operational and practical fact, the medium is the message." MARSHALL MCLUHAN, *UNDERSTANDING MEDIA: THE EXTENSIONS OF MAN* 7 (1964).

³⁰ Gustafson, *supra* note 8.

³¹ See, e.g., BARON, *supra* note 4, at 15; Davis, *supra* note 4, at 476; Kirk W. Junker, *What is Reading in the Practices of Law*, 9 J.L. SOC'Y 111, 116 n.18 (2008); Katrina Fischer Kuh,

Electronically Manufactured Law, 22 HARV. J.L. & TECH. 223, 229 n.22 (2008) (citing F. Allan Hanson, *From Key Numbers to Keywords: How Automation has Transformed the Law*, 94 LAW LIBR. J. 563, 570 (2002)); Alicia D. Sklan, *@Socialmedia: Speech With the Click of a Button? #Socialsharingbuttons*, 32 CARDOZO ARTS & ENT. L.J. 377, 400 (2013); Tiscione, *supra* note 3, at 526; Mark Yates, *Text is Still a Noun: Preserving Linear Text-Based Literacy in an E-Literate World*, 18 LEGAL WRITING 119, 119 (2010).

³² MCLUHAN, *supra* note 29, at 8.

³³ See Yates, *supra* note 31, at 122–37 (reviewing the literature on neuroscientific assessment of how digital technologies have affected thinking, reading, and processing information).

most significant ways the medium has changed the way we interact with text is with the linear nature of reading and writing. Because of the capabilities of digital media, both reading and writing have become multidimensional—a reader can dig deeper through embedded files, and branch outward through hyperlinks, jump from platform to platform, and read on multiple devices.³⁵

While it is clear that the medium has changed, as has our interaction with text, is it really true that this makes the message different? Regardless of the medium, there always has to be some underlying substance to the message. Perhaps it is true that, regardless of the technology used, ultimately, “the content . . . will have to make it on its own.”³⁶ Kirsten Davis has suggested this recently, cautioning that “it is important not to conflate the medium for reading legal memos with the essential nature of the message.”³⁷ Yet though it is true that the fundamental task of legal analysis, the message, still involves the rigorous analysis of law and application of that law to facts, it does not necessarily follow that the communication of that analysis does not change through its interaction with the technology that delivers it.

Current research suggests that technological changes have caused digital natives to process information differently than those who developed literacy in a pre-digital world.³⁸ As these digital natives continue to enter the practicing bar and judiciary, this will inevitably lead to changes in the content of legal analysis that reflect a more multidimensional view of communication. At a minimum, digital technologies create the potential for new forms of legal analysis. Given the dramatic changes in both the creation of documents (writing) and the review of documents (reading), we should not expect that the form of those documents should remain static. A review of the way that both writing and reading have changed as a result of technology will lay the groundwork for the kinds of changes we should be thinking about.

A. How Writing Has Changed

Writing has changed more, and more quickly, in recent decades than any time in the previous few centuries.³⁹ We can produce and deliver documents more quickly and easily than ever before in history. Gone are

34 *Id.* at 142 n.171.

35 *Id.* at 119–20.

36 BARON, *supra* note 4, at 15.

37 Davis, *supra* note 4, at 523.

38 Kari Mercer Dalton, *Bridging the Digital Divide and Guiding the Millennial Generation's Research and Analysis*, 18 BARRY L. REV. 167, 176–77 (2012); Yates, *supra* note 31, at 136 (noting that whether they see it as a positive or negative, those who study the effect of technology on literacy agree that digital technology has changed the way we think and interact with information).

the days of writing out analysis in longhand followed by painstaking transfer to print via typewriter. Gone are the days of cumbersome word-processing programs and slow printers. Today's technology allows us to open a window, or an app, create a document on-screen, and instantly deliver it. Digital technology creates an entirely different writing experience than the experience of legal writers during the time that written forms of legal analysis were first developed.⁴⁰

Before the invention of current digital technologies, the typewriter had the most significant impact on the process of writing.⁴¹ Throughout the nineteenth century, legal documents were handwritten, drafted by lawyers and meticulously copied by scribes.⁴² The typewriter, developed with the support of lawyers in the late nineteenth and early twentieth century, allowed for faster and more professional creation of legal documents.⁴³ Even with the typewriter, however, legal analysis was still handwritten, and then transferred to type by third parties, most often secretaries.⁴⁴ It was during this time that the formats for the office memo and legal brief were entrenched, and they have not changed substantially since.⁴⁵

The transition to digital technology meant that legal writers were creating text and typing simultaneously, rather than developing content (the message) and transferring it to typed text (the medium). The process of constructing meaning through writing⁴⁶ is more immediate when there is no barrier between the writer and the text, which looks like a final document as it unspools on a screen. This shorter "distance" from thought to text changes the writer's relationship with the subject. As Nietzsche is widely credited with saying, "our writing equipment takes part in the forming of our thoughts."⁴⁷

With less intervention between thought and result, it is easier to write more quickly, continually revising and editing. The writer has more freedom to write longer texts and less fear of making mistakes that cannot be corrected, reducing writer's block.⁴⁸ The ability to write more quickly and easily allows the writer to quickly capture complex thoughts and write

39 STEVEN STARK, *WRITING TO WIN: THE LEGAL WRITER*, xiv–xv (1999).

40 See generally M.H. Hoeflich, *From Scrivener to Typewriters*, 16 GREEN BAG 2D 395 (2013).

41 Tiscione, *supra* note 3, at 527.

42 Hoeflich, *supra* note 40, at 397.

43 *Id.* at 402–03.

44 *Id.* at 406.

45 Davis, *supra* note 4, at 498–99.

46 New Rhetoric theory posits that the process of research, reading, and writing construct knowledge. For a fuller expla-

nation, see Linda Berger, *Applying New Rhetoric to Legal Discourse: The Ebb and Flow of Reader and Writer, Text and Context*, 49 J. LEGAL EDUC. 55 (1999); Ellie Margolis & Susan DeJarnatt, *Moving Beyond Product to Process: Building a Better LRW Program*, 46 SANTA CLARA L. REV. 93, 99 (2005) (discussing the influence of rhetoric and composition theory on legal writing pedagogy focusing on the writing process).

47 Nicholas Carr, *Is Google Making Us Stupid?* THE ATLANTIC (July 1, 2008), <http://www.theatlantic.com/magazine/archive/2008/07/is-google-making-us-stupid/306868/2/>.

48 Tiscione, *supra* note 3, at 527.

longer, more complex sentences.⁴⁹ Seeing the text “on screen,” helps the writer to distance herself and read with a more critical eye.⁵⁰ This, coupled with the ease of deleting and moving text, makes it more likely that the writer will make instantaneous changes.⁵¹ With less at stake, it is at least possible that the writer will not think through the analysis as thoroughly as she might have when making corrections was more cumbersome. Thus, the writing technology itself may have an impact on legal analysis.

Although digital technology and sophisticated word-processing programs have made it easier to produce longer, more-complex documents, the onset of mobile technologies has led to a growth of shorter, more-informal writing.⁵² Using mobile devices to “write” through dictation technology such as Siri or Dragon also probably contributes to shorter and more-informal types of writing. Increasingly over the last twenty years, lawyers have shifted to communicating through email and other mobile platforms.⁵³ Lawyers are taking advantage of mobile technology applications for legal research, writing, and document review.⁵⁴ Writing on mobile devices, combined with the increased use of email, has led lawyers to communicate in shorter formats, again creating the potential to change legal analysis.

Outside of the legal context, electronic writing and communication has tended to be more informal than traditional legal writing. This is driven largely by the use of digital writing technology by digital natives.⁵⁵ While older generations are also increasing their use of informal writing, digital natives are doing so at a much faster rate.⁵⁶ This generation has grown up writing digital text in a variety of media. They have spent their lives emailing, texting, tweeting—in other words, writing in short formats.⁵⁷ Research shows that teenagers “write more than any generation has since the days when telephone calls were rare and the mailman

49 *Id.* (citing Luuk Van Waes & Peter Jan Schellens, *Writing Profiles: The Effect of the Writing Mode on Pausing and Revision Patterns of Experienced Writers*, 35 J. PRAGMATICS 829, 833 (2003)).

50 *Id.*

51 *Id.*

52 Gustafson, *supra* note 8.

53 Fershee, *supra* note 16, at 2 (asserting that “the most common mode of written communication used in law offices today is email”); Robert B. Dubose, *Legal Writing for the Re-wired Brain: How to Communicate in a Paperless World 2* (2010), available at http://www.texasbar.com/flashdrive/materials/managing_your_law_practice/Special_ManagingYourLawPractice_CLE_LegalWritingRewiredBrain_Dubose_FinalArticle.pdf.

54 Davis, *supra* note 4, at 480–81; see also Ashley Hallene, *Top iPad Apps for Lawyers*, GPSOLO (Mar./Apr. 2013), http://www.americanbar.org/publications/gp_solo/2013/march_april/top_ipad_apps_for_lawyers.html; Brennan Sharp and Steve Ravenscroft, *11 Must-Have Apps for Lawyers*, ABA J., <http://www.abajournal.com/gallery/mobilelawyerapps/790> (last visited Feb. 13, 2015).

55 See Yates, *supra* note 31, at 142 n.171, 143 (stating that the term “Digital Natives” refer to people born after the 1980s or, in other words, “people who have never known a nondigital world”).

56 Gustafson, *supra* note 8, at 167.

rounded more than once a day.”⁵⁸ While legal educators struggle to figure out how to help these writers make the transition to more-formal, structured legal writing,⁵⁹ it is clear that the trends towards more informal and shorter writing will increasingly permeate the legal profession as this generation moves deeper into the legal field.

In addition to the changes wrought on writing in general, the move to digital law practice has led to a new form of legal writing—the email memo.⁶⁰ The key feature of the email memo is that the lawyer sends legal analysis directly in the body of the email, rather than attaching a separate legal document. While some scholars have raised concerns about the rigor of analysis in the shorter, more-informal email memo,⁶¹ the inescapable fact is that email memos have become the predominant means of communicating analysis between lawyers.⁶²

The email memo creates a different rhetorical situation for the reader than the traditional legal memo, which makes a different writing experience.⁶³ As Kristen Tiscione has noted, while traditional memos are written to an “invoked” audience,⁶⁴ email memos are written to a specific, known person or group, addressed directly in the email.⁶⁵ Often, the email is part of a larger, ongoing conversation and in response to a direct question. The writer’s relationship to the recipient is much more present in the context of email, leading to differences in tone, structure, and length that are different from the traditional office memo.⁶⁶

In addition, Tiscione identifies a difference in the analytical process when writing email⁶⁷ that is consistent with the research on the ways in which digital technology changes our thinking.⁶⁸ In the case of the email memo, the difference in the rhetorical situation, along with changes in analytical thinking and the relative ease of drafting created by digital technologies, has changed not only the writing experience, but the actual form of legal writing.

57 *Id.* at 3.

58 *Id.* at 8 (quoting Rosalind. S. Helderman, *Click by Click, Teens Polish Writing: Instant Messaging Teaches More than TTYL and ROFL*, WASH. POST, May 20, 2003, at B1).

59 *Id.* at 10–12.

60 See Calleros, *supra* note 20; Davis, *supra* note 4; Robbins-Tiscione, *supra* note 16; Tiscione, *supra* note 3.

61 Davis, *supra* note 4, at 486–89.

62 Robbins-Tiscione, *supra* note 16, at 36.

63 Tiscione, *supra* note 3, at 529–30.

64 An “invoked” audience is an audience the writer must imagine, adapting a writing style that could work with multiple individuals. *Id.* at 530 (citing Lisa Ede & Andrea

Lunsford, *Audience Addressed/Audience Invoked: The Role of Audience in Composition Theory and Pedagogy*, 35 C. COMPOSITION & COMM. 155 (1984)). See also Barbara Blumenfeld, *Rhetoric, Referential Communication, and the Novice Writers*, 9 LEGAL. COMM. & RHETORIC: JALWD 207 (2012) (discussing the relationship of rhetoric, legal writing, and audience awareness).

65 *Id.*

66 *Id.* at 531.

67 *Id.*

68 Kari Mercer Dalton, *Their Brains on Google: How Digital Technologies are Altering the Millennial Generation’s Brain and Impacting Legal Education*, 16 SMU SCI. & TECH. L. REV. 409, 424 (2013); Yates, *supra* note 31, at 124–27.

The combination of all of these factors—the ease of creating professional-looking documents, the simultaneous ability to write more-complex thoughts more quickly and rise of multiple forms of informal writing, the different sense of audience, and the facility with writing on the go, will only increase as digital natives move into higher ranks of law practice. Legal writing will continue to change, driving the need to rethink what constitutes legal writing best practices for the twenty-first century.

B. How Reading Has Changed

As much as digital technology has changed the nature of writing, the shift to reading electronically has created even more-dramatic changes. Over the last twenty years, we have seen a transition from the world of printed text to the world of electronic text (hypertext).⁶⁹ The shift began with personal computers and has accelerated with the advent of smart phones, tablets, and e-readers.⁷⁰ As the medium of reading has changed, much has changed about not only what we read, but how we read it. The medium has indeed changed the message, and it is time for the legal profession to adapt.

As with all new technologies, digital reading is most prevalent among digital natives, but reading via electronic means has taken hold generally across the population.⁷¹ A survey taken in January of 2014 shows that the use of devices for e-reading is spreading throughout the country.⁷² Overall, 50% of Americans have a dedicated hand-held device such as a tablet or e-reader for reading e-content.⁷³ Over 40% own some kind of tablet, and 32% own an e-reader such as a Nook or Kindle.⁷⁴ In addition, a large number of people read e-content on smartphones and computers.⁷⁵ Thus, while people are still reading plenty of print books, the amount of content read electronically has grown exponentially over the last several years.

⁶⁹ Rogelio Lasso, *From the Paper Chase to the Digital Chase: Technology and the Challenge of Teaching 21st Century Law Students*, 43 SANTA CLARA L. REV. 1, 6 (2002).

⁷⁰ See Press Release, *Gartner Says Worldwide PC, Tablet and Mobile Phone Combined Shipments to Reach 2.4 Billion Units in 2013*, GARTNER, INC. (Apr. 4, 2013), <http://www.gartner.com/newsroom/id/2408515> (explaining that consumers have already begun to “shift their time away from their [personal computer] to tablets and smartphones”); see also Movable Ink, *US Consumer Device Preference Report 1* (2013), available at <http://s3.amazonaws.com/movableink-marketing/Movable+Ink+US+Consumer+Device+Preference+Report+Q4+2013.pdf> (indicating that 65% of emails are opened on mobile devices and that reading emails is shifting away from desktops and towards mobile devices).

⁷¹ See Larry Shannon-Missal, *Power(ed) Readers: Americans Who Read More Electronically Read More*, *Period*, HARRIS POLLS (Apr. 17, 2014), <http://www.harrisinteractive.com/newsroom/harrispolls/tabid/447/ctl/readcastom%20default/mid/1508/articleid/1415/default.aspx> (stating that while two-thirds of Millennials (66%) currently read e-books, the total majority of Americans (54%) also read e-books).

⁷² Kathryn Zickhur & Lee Rainie, *E-Reading Rises as Device Ownership Jumps*, PEWRESEARCH INTERNET PROJECT (Jan. 16, 2014), <http://www.pewinternet.org/2014/01/16/e-reading-rises-as-device-ownership-jumps/>.

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.*

Like the general public, lawyers' use of digital technology to read electronically has also risen dramatically in the last two decades. While it is safe to assume that lawyers have been writing on electronic devices for years, there is now little doubt that they are doing much of their reading electronically as well.⁷⁶ The heavy use of email by lawyers shows that they have been reading on screens at least in their offices for quite some time.⁷⁷ Lawyers have also adopted mobile technology. The annual ABA Legal Technology Survey shows that in 2013, most lawyers make use of mobile devices to work outside of the office.⁷⁸ A full 89% of lawyers responding use mobile devices to check their email.⁷⁹ In combination with the increased use of email as a means of communicating legal analysis,⁸⁰ this suggests that lawyers are reading substantive law, and doing it on small screens.

In addition, the use of tablets, primarily the iPad, is rising.⁸¹ The ABA Technology survey reports that the number of lawyers using tablets tripled between 2011 and 2013, up to 48%.⁸² That number will only continue to grow. Lawyers are using tablets for accessing the internet and reading email, doing legal research, creating and reviewing documents.⁸³ All of these activities involve reading, which suggests that lawyers are spending a significant amount of their work time reading electronic texts.

Perhaps most significantly, there is growing evidence that judges are increasingly reading cases and briefs on screens. The advent of e-filing paved the way for judges to read briefs and other court documents on screens.⁸⁴ Initially, these were most likely desktop computer monitors and laptop screens, but as other devices, such as e-readers and other handheld devices became more popular, judges began to use those as well. While computers have been used generally in law practice for decades, federal judges are currently ahead of practitioners in using electronic

⁷⁶ Davis, *supra* note 4, at 507 (asserting that “[w]ithout a doubt, lawyers read on a screen”).

⁷⁷ See Robbins-Tiscione, *supra* note 16, at 32–33 (discussing the high rate at which surveyed attorneys use and communicate with email).

⁷⁸ Tom Mighell, *Going Mobile*, AMERICAN BAR ASSOCIATION TECHREPORT (2013), http://www.americanbar.org/publications/techreport/2013/going_mobile.html (showing that 85% of respondents use laptops and 91% use smartphones).

⁷⁹ *Id.*

⁸⁰ See Robbins-Tiscione, *supra* note 16, at 32–33 (discussing the high rate at which surveyed attorneys use and communicate with email).

⁸¹ Mighell, *supra* note 78 (noting that, of respondents indicating use of a tablet, 90% use the iPad).

⁸² *Id.*

⁸³ *Id.*

⁸⁴ See, e.g., DuVivier, *supra* note 4, at 69; Dan Hinde, *Use of iPads by Judges—Guest Post by Texas Judge Dan Hinde*, IPHONE J.D. (June 14, 2011), http://www.iphonejd.com/iphone_jd/2011/06/use-of-ipads-by-judges-guest-post-by-texas-judge-dan-hinde.html.

⁸⁵ Laurin H. Mills, *Temptations*, 40 LITIG. 22, 25, (2014); Dan Bushell, *Legal Writing in the Age of iPads*, FLORIDA APPELLATE REVIEW (Apr. 16, 2013) <http://floridaappellatereview.mt4temp.lexblognetwork.com/probate-litigation/appellate-briefs-in-the-age-of-ipads/>; Toby Brown, *Judges + iPads = Perfect Fit*, 3 GEEKS AND A LAW BLOG (June 12, 2012), <http://www.geeklawblog.com/2012/06/judges-ipads-perfect-fit.html> (explaining the high rate at which federal judges use the iPad for their work).

devices to read and review documents,⁸⁵ and state judges are likely not far behind.

While there have been no comprehensive studies, evidence is mounting that judges' device of choice for reading briefs is the iPad. For example, judges from the Second, Third, Fifth and Ninth Circuit Courts of Appeal report that they primarily use iPads for reading briefs.⁸⁶ According to one study, in 2012, 58% of federal judges were using iPads for their work.⁸⁷ State court judges, who tend to be slower to adopt new technology than the federal courts, are also using iPads and other e-readers.⁸⁸ These numbers are only going to continue to grow.

In addition, some courts have developed software designed to convert legal citations in briefs to hyperlinks.⁸⁹ Courts are also working on creating electronic records, so that record citations can also be hyperlinked.⁹⁰ Now that this software has been developed, it is only a matter of time before it is adopted throughout the state and federal court systems, leading to even more judges reading documents electronically. Turning the traditional, linear, text-based brief into a multidimensional e-document is a key example of how the medium changes the message and suggests that it is time to rethink that classic legal document.

There are numerous differences between reading the printed page and reading on a screen. For decades, studies have shown that reading comprehension and speed are different when reading on screens than on

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86 See Black, *supra* note 12 (indicating that Second Circuit judges are reading on iPads and using them on the bench); Rebecca A. Copeland, *Ninth Circuit Judge Richard Clifton's Practice Pointers and Other Tips on Brief Writing and Oral Arguments*, REC. ON APP. (Apr. 19, 2013), <http://www.recordonappeal.com/record-on-appeal/2013/04/ninth-circuit-judge-richard-cliftons-practice-pointers-and-other-tips-on-brief-writing-and-oral-argu.html> (quoting Judge Richard Clifton of the United States Court of Appeals for the Ninth Circuit, who stated that most judges are reading briefs on iPads); Sockwell, *supra* note 3 (explaining that the Third Circuit is "not as iPad heavy as some circuits," implying that although use is minimal, Third Circuit judges are still using iPads); Raymond P. Ward, *How U.S. 5th Circuit Judges Read Briefs*, LOUISIANA CIVIL APPEALS BLOG (Oct. 8, 2013), <http://raymondward.typepad.com/la-appellate/2013/10/how-us-5th-circuit-judges-read-briefs.html> (noting that Fifth Circuit judges are reading primarily on iPads). In June 2014, the author participated in a discussion between law faculty and Judge Theodore McKee, at which Judge McKee discussed the digital reading preferences of Third Circuit judges. Judge Theodore McKee, Chief Judge of the United States Court of Appeal for the Third Circuit, et al., *Conversation at the 16th Biennial Conference of the Legal Writing Institute* (July 1, 2014) [hereinafter *Conversation with Judge McKee*].

87 Brown, *supra* note 85.

88 Shane Anthony, *Courts in St. Charles County Move Forward With E-Filing*, ST. LOUIS POST-DISPATCH (June 29, 2011), available at http://www.stltoday.com/news/local/stcharles/courts-in-st-charles-county-move-forward-with-e-filing/article_907adb0e-a51f-5898-a5df-4e4d12ea2206.html (explaining that although federal court files have been electronically available for years, "[s]tate courts, which handle massive numbers of cases, have been slower to adapt to new technology"); Geri Dreiling, *iPad Use by Lawyers and Judges Continues to Grow*, LAW. TECH REV. (Mar. 1, 2011), <http://lawyertechreview.com/2011/ipad-use-by-lawyers-and-judges-continues-to-grow/> (stating that the iPad is being used in both federal and state courtrooms).

89 Ward, *supra* note 86; *Conversation with Judge McKee*, *supra* note 86.

90 *Id.*

91 Ferris Jabr, *The Reading Brain in the Digital Age: The Science of Paper versus Screens*, SCI. AM. (Apr. 11, 2013), available at <http://www.scientificamerican.com/article/reading-paper-screens/>.

paper, though these differences have gotten smaller as screen reading has become more ubiquitous.⁹¹ Different parts of the brain are used for reading print and digital content.⁹² In addition, the eye tracks differently when reading on a screen, following an “F” pattern, rather than reading across and down the entire page.⁹³ These differences can all affect the reader’s comprehension and focus on the content of the document.

Another significant difference is the way that readers navigate through digital documents. Because digital reading takes place on many different-size screens—desktop monitor, laptop, tablet, smartphone—the reader does not necessarily see the entire page at once. In addition, the reader often scrolls through the document, rather than turns pages. This changes the reader’s sense of what is on a page, potentially affecting perception of where in the document she is and how the document is organized.⁹⁴ Given the highly organized, linear nature of legal writing, this is a particularly important issue that should cause us to rethink the way that we write legal analysis.

Perhaps most significantly, reading digital texts is often multidimensional, rather than linear. Traditionally, text on a page did not contain many distractions, beyond an occasional picture.⁹⁵ But because we now read not only on digital devices, but also often with a live connection to the internet, we scan, follow hyperlinked text to new destinations, scroll up and down, and watch videos.⁹⁶ The idea of a single document is becoming obsolete.⁹⁷ Studies show that when reading digital media, we browse rather than read linearly, skimming across pages, clicking on hyperlinks, jumping from one topic to another.⁹⁸ While linear reading was once the only option, the internet has made nonlinear reading the norm.⁹⁹ Whether this is good or bad, there can be no doubt that digital technologies have changed the way we read, understand, and interact with information.

92 NICHOLAS CARR, *THE SHALLOWS: WHAT THE INTERNET IS DOING TO OUR BRAINS* 168 (2010).

93 Jakob Nielsen, *F-Shaped Pattern for Reading Web Content*, NIELSEN NORMAN GROUP (Apr. 17, 2006), http://www.useit.com/alertbox/reading_pattern.html.

94 Beazley, *Digital Age*, *supra* note 28, at 49.

95 Michael S. Rosenwald, *Serious Reading Takes a Hit From Online Scanning and Skimming, Researchers Say*, WASH. POST (Apr. 6, 2013), http://www.washingtonpost.com/local/serious-reading-takes-a-hit-from-online-scanning-and-skimming-researchers-say/2014/04/06/088028d2-b5d2-11e3-b899-20667de76985_story.html.

96 *Id.*

97 Yates, *supra* note 31, at 119.

98 *Id.* at 127; *see also* Dalton, *supra* note 38, at 182 (noting that the digital reading habits of Millennials include searching for key terms and skimming, bouncing from one source to the next, and reading only portions of each source).

99 Yates, *supra* note 31, at 135 (citing STEVEN JOHNSON, *EVERYTHING BAD IS GOOD FOR YOU: HOW TODAY’S POPULAR CULTURE IS ACTUALLY MAKING US SMARTER* (2005)).

Given the dramatic changes in both writing and reading in a digital world, it is clear that the medium has changed the message, and will continue to do so. Rather than continue to rely on centuries-old forms of legal writing, it is time to revisit these documents and think about the significant possibilities created by reading and writing digitally. Changes have already started to creep in, but we have yet to fully explore the ways in which memos and briefs should change so that legal writing can reach its potential for the twenty-first century.

III. Legal Writing—Where We Are and Where We Are Going

Despite the changes in digital technology, the memorandum of law, trial and appellate briefs, and many other legal documents, have remained essentially the same for more than a century.¹⁰⁰ The formal, text-based, linear structure of traditional forms of legal writing is clearly reflected in courts' format requirements¹⁰¹ and legal writing texts.¹⁰² For example, the U.S. Supreme Court adopted rules for the filing of briefs in 1821 that were similar in form to briefs filed today.¹⁰³ The rules governing the filing of briefs in state and federal courts also tend to follow the same basic structure and format,¹⁰⁴ and clearly presume a linear, text-based document.

Similarly, the predictive office memorandum of law was widely recognized as an important form of legal writing at least as early as the 1950s.¹⁰⁵ The format of the research memorandum is based on the capabilities of the typewriter, the predominant mode of writing at the time.¹⁰⁶ The formal structure of the legal memorandum has been relatively consistent since that time, though its use in practice has steadily diminished

100 Porter, *supra* note 15, at 1694 (“Litigants, scholars, and courts have been rebooting the same formalist templates for over a century . . .”).

101 For a discussion of various courts' format requirements, see *supra* note 25 and accompanying text.

102 For a discussion of the function, purpose, and structure of the objective memorandum, see *supra* note 24 and accompanying text.

103 Michael Whiteman, *Appellate Court Briefs on the Web: Electronic Dynamos or Legal Quagmire?*, 97 LAW LIB. J. 467, 468 (2005).

104 For a discussion of various courts' filing requirements for briefs, see *supra* note 25 and accompanying text.

105 See, e.g., Davis, *supra* note 4, at 473 n.4 (citing F. Trowbridge vom Baur, *How to Look Up Law and Write Legal Memoranda*, PRAC. LAW. 27–28 (Dec. 1956) (noting that the memorandum of law is a “fundamental” that underlies legal advice and opinions)).

106 MATTHEW BUTTERICK, *TYPOGRAPHY FOR LAWYERS* 180 (2010).

107 See, e.g., Fershee, *supra* note 16, at 1; Sheila F. Miller, *Are We Teaching What They Will Use? Surveying Alumni to Assess Whether Skills Teaching Aligns with Alumni Practice*, 32 MISS. C. L. REV. 419, 433–38 (2014); Robbins-Tiscione, *supra* note 16, at 32–33; Wawrose, *supra* note 2, at 537–38.

over the years.¹⁰⁷ Despite the widespread changes technology has brought to many areas of law practice, as well as communication generally, there has been very little innovation in the world of written law.¹⁰⁸

Because so little has changed for so long, there is room for change on numerous fronts, in both the form and content of written legal analysis. Some changes are taking place in law practice, as evidenced by the increased use of email to communicate legal analysis¹⁰⁹ and the proliferation of software products and businesses offering to digitize and reformat briefs and other court filings.¹¹⁰ There are also a growing number of practitioner-oriented articles and blog posts identifying techniques for creating effective digital documents.¹¹¹ Yet there has been no real scholarly analysis of these developments, no identification of best practices, and no significant consideration of the numerous questions raised by these changes. Likewise, there has been little change to the way these forms of writing are taught in the legal writing classroom.¹¹² It is time to be more systematic in analyzing both the changes that have already been made and the implications of those changes for the substance of legal analysis.

A. Typography and Document Design

To the extent that there have been changes to documents such as briefs and memoranda, they have been in the areas of typography and document design. Typography refers to the visual appearance of the written word.¹¹³ While making changes to the appearance of a document

¹⁰⁸ Porter, *supra* note 15, at 1691.

¹⁰⁹ Robbins-Tiscione, *supra* note 16, at 32–33.

¹¹⁰ See, e.g., *Bundledocs Overview*, BUNDLEDOCS, <http://www.bundledocs.com/features/?gclid=CKqshjBhXcECFYQ8aQodXg0ACg> (software for producing electronic briefs with multiple features) (last visited Feb. 16, 2015); *E-Briefs, eBriefs and Electronic Briefs*, A2L CONSULTING, <http://www.a2lc.com/services/ebriefs#.VEpqqovF9jA> (consulting service creating e-briefs for multiple platforms, including hyperlinks and numerous other features) (last visited Feb. 16, 2015); *Easily Create Hyperlinked Electronic Briefs*, EBRIEFPRO, <http://ebriefpro.com/> (software for creating e-briefs in PDF form with hyperlinks to numerous electronic documents) (last visited Feb. 16, 2015).

¹¹¹ E.g., Brett Burney, *How to Build Electronic Briefs*, GPSOLO (2010), http://www.americanbar.org/newsletter/publications/gp_solo_magazine_home/gp_solo_magazine_index/solo_lawyer_acrobat_electronic_brief.html; John Y. Hur & Tary Socha, *Maximizing Your Electronic Documents in the California Court of Appeal*, COUNSEL PRESS (Sept. 17, 2013), http://www.counselpress.com/page_blog_single.cfm?bid=65; Cathy L. Ribble, *Electronic Briefs: Hyperlinking Your Way to a Positive Outcome*, LAWYER-COACH LLC (Jan. 12, 2012), <http://www.lawyer-coach.com/index.php/2012/01/12/electronic-briefs-hyperlinking-your-way-to-a-positive-outcome/>; Sockwell, *supra* note 3; Morgan Smith, *e-Briefs on the iPad: An Exciting New Tool to Give Attorneys an Edge*, COGENT LEGAL (Feb. 14, 2012), <http://cogentlegal.com/blog/2012/02/ebriefs-on-the-ipad/>.

¹¹² For a discussion of the linear nature of memos and briefs, see *supra* notes 94–98 and accompanying text. See also *Survey*, *supra* note 21 (showing that 174 schools assign the office memo, 125 assign the appellate brief, and 168 assign either the pretrial or trial brief); Robert Dubose, *Writing Appellate Briefs for Tablet Readers*, APP. ISSUES 9, 9 (Spring 2012), available at http://www.americanbar.org/content/dam/aba/publications/appellate_issues/2012sprng_ai.authcheckdam.pdf (noting that most law schools teach a legal writing style geared to paper readers). Some schools have begun to incorporate email analysis assignments and other more-informal types of writing, but the basic form of the memo and brief remain the same. See *Survey*, *supra* note 21, at 13.

may seem merely cosmetic, using the features of word-processing software to make a document visually effective contributes to its readability, and the more readable a document is, the more it will be understood and remembered.¹¹⁴ Making a text easier to read makes it easier for a busy legal reader to pay attention.¹¹⁵ The more easily it is understood, the more effective the document is as a means of communicating legal analysis.

As writing technology shifted from typewriters to the sophisticated word-processing software that exists today, lawyers began to take advantage of the features of that software—changing fonts, making use of alternate typefaces such as bold and italics, altering line spacing—all in ways that typewriters did not allow.¹¹⁶ Yet these changes are still not widespread, even decades later. Minor as they may seem, even these changes challenge lawyers’ traditional understanding of the appearance of legal documents.¹¹⁷ And although they may seem minor, making changes in typography and document-design elements of traditional memoranda and briefs has the potential to change their effectiveness, showing one way in which the medium is the message.

The groundbreaking works of Matthew Butterick and Ruth Anne Robbins have shown how seemingly minor changes such as a single space after a period, or using a sans serif or variable-spaced font can affect the reader’s perception of the document.¹¹⁸ Other formatting choices, such as line width, line spacing, and use of bold, italics, and underlining can also affect the readability of a document.¹¹⁹ Some courts, such as the Seventh Circuit Court of Appeals have begun to recognize the importance of typography and provide a guide for typography in appellate briefs filed with the court.¹²⁰ Other courts have begun to adopt rules about varying aspects of font use, mostly size, but have not comprehensively addressed typography issues.¹²¹ While court rules in some jurisdictions may limit use of typography principles for court documents, there are no similar

113 BUTTERICK, *supra* note 106, at 20.

114 Robbins, *supra* note 19, at 113.

115 BUTTERICK, *supra* note 106, at 23.

116 *Id.* at 77–93 (discussing the different ways in which lawyers can use text formatting).

117 Robbins, *supra* note 19, at 112 (noting that recommendations to change the conventional text design of legal documents is likely to draw criticism).

118 BUTTERICK, *supra* note 106, at 14, 79–83; Robbins, *supra* note 19, at 119–21.

119 BUTTERICK, *supra* note 106, at 14, 77–93.

120 United States Court of Appeals for the Seventh Circuit, PRACTIONER’S HANDBOOK FOR APPEALS 128 (2014) (“Requirements and Suggestions for Typography in Briefs and Other Papers”), available at <http://www.ca7.uscourts.gov/rules/type.pdf>.

121 See BUTTERICK, *supra* note 106, at 200–04; Robbins, *supra* note 19, at 135–50 (collecting typography rules from various state and federal courts).

constraints on other legal documents other than the weight of tradition.

Beyond typography, other aspects of document design made possible in an environment of digital writing and reading should also be considered. Document design refers to the way that the information is laid out on the page.¹²² The layout of text on the page, use of white space, margins, text justification, line spacing, and alignment all contribute to the readability of a document.¹²³ While a number of legal writing scholars have addressed the principles of good document design,¹²⁴ there is little evidence that this good advice is being addressed systematically in legal writing classes, or has widely penetrated into law practice.

The studies on digital reading suggest that understanding principles of document design could affect the substantive content of legal analysis in ways that go beyond readability. The reading research shows that rather than reading each line from left to right, the eye travels across the screen, skimming and looking for key terms.¹²⁵ In addition, the research showing that the eye travels in an “F” pattern when reading online has become widely accepted.¹²⁶ Since a significant part of legal analysis, and more particularly persuasion, involves emphasizing some points and de-emphasizing others, document and digital reading principles could be used to ensure that certain points are more clearly brought to the readers’ attention.¹²⁷ There has been little to no development of best practices to make use of what we know about document design to inform the content of legal analysis.

The time has come for lawyers and legal writing experts to be more deliberate in using what we know about document design to create legal documents that most effectively carry out their purpose. It is time to embrace the changes of the digital environment and figure out how to use them to maximize the effectiveness of written legal analysis. That might mean changing the traditional structures of memoranda, briefs, and other forms of written analysis that will most likely be read on a screen in order for these legal documents to most effectively carry out their purposes.

122 See Mary Beth Beazley, *Hiding in Plain Sight: “Conspicuous Type” Standards in Mandated Communication Statutes*, 40 J. LEGIS. 1, 31–35 (2014) (discussing document design in the context of government-mandated communication).

123 BUTTERICK, *supra* note 106, at 133–149; Robbins, *supra* note 19, at 114, 122–23.

124 See Derek H. Kiernan-Johnson, *Telling Through Type: Typography and Narrative in Legal Briefs*, 7 J. ALWD 87, 88 n.2 (2010) (reviewing the existing literature on document design).

125 Dalton, *supra* note 68, at 429.

126 A 2006 study by Jakob Nielsen first established this reading pattern. Nielsen, *supra* note 93. The pattern has been widely cited in legal and nonlegal sources. *E.g.* Dalton, *supra* note 68, at 429 n.202; Yates, *supra* note 31, at 126 n.49; Michael Agger, *Lazy Eyes*, SLATE (June 13, 2008), http://www.slate.com/articles/technology/the_browser/2008/06/lazy_eyes.html; Jabr, *supra* note 91; Kate Motsinger, *What the F? Online Reading Pattern of Most Users is F-shaped*, INSOURCECODE (Sept. 23, 2013), <http://insourcecode.com/news/f-online-reading-pattern-users-f-shaped/>.

127 See, *e.g.* Kiernan-Johnson, *supra* note 124 (asserting that typography can be used in legal briefs to reinforce, complement, and even create narrative meaning).

B. Document Navigation and Communicating Organization

The shift to electronic reading calls for dramatic change in how we conceptualize organization and document navigation. Because screen readers' eyes move around the page, rather than read in a linear fashion, communicating structure through visual cues becomes crucial. Likewise, navigating through a long document has changed. Readers no longer flip through physical pages as a way of moving through the document.¹²⁸ Depending on the device a document is being read on, it may not be easy to turn to a particular section of analysis based on its page number or heading.¹²⁹ Indeed, the page has lost meaning as a unit of measure in a reading environment that involves scrolling, either within a page or from page to page. Add to this the fact that screens are getting smaller, as lawyers and judges read more on smartphones and tablets and less on computer screens,¹³⁰ and it becomes clear that legal writers need to make changes to traditional legal documents.

Organization of legal analysis is generally communicated through structure. In both memoranda and briefs, large-scale structure is indicated by section captions and headings, usually in traditional outline form.¹³¹ Longer documents may begin with a table of contents, indicating the page on which a section begins. Traditionally, roadmaps and headings have played an important role in communicating structure.¹³² These are still important, but not enough, in a screen-reading environment. When reading on a screen, and especially a smaller screen where the architecture of the document may not be present, it is easy for the reader to lose track of the context of the content being read.¹³³

In order to combat this, the writer should be conscious of creating both substantive and visual cues about organization. These can include more-frequent headings, use of lists and bullet points, and using white space and text proximity to communicate points that are related to each other.¹³⁴ Some scholars have suggested that continuing to use traditional structures in order to meet readers' expectations is the best way to deal with these challenges.¹³⁵ But it is possible these other approaches might create new forms of legal analysis that are even more effective for the

128 See Davis, *supra* note 4, at 511–15 (discussing ways that reading on screens differs from reading paper).

129 Beazley, *Digital Age*, *supra* note 28, at 63.

130 *Id.* at 512; see also Dubose, *supra* note 112, at 13.

131 See *supra* notes 24–26 and accompanying text.

132 Davis, *supra* note 4, at 517; Robbins, *supra* note 19, at 124–26.

133 Davis, *supra* note 4, at 514.

134 BUTTERICK, *supra* note 106, at 14; Dubose, *supra* note 112, at 14; Robbins, *supra* note 19, at 133–34.

135 See, e.g., Davis, *supra* note 4, at 520.

current state of technology. For example, a reader might find it preferable to see a multi-part rule presented with bullet points and indents to visually represent the relationship between elements. A rule statement like this could appear in a digital memorandum or brief and make it easier for the reader to understand the substantive component of the law through its visual layout.¹³⁶ It is possible that using different organizational signals, combined with varying the traditional structure of legal analysis, will result in clearer, more-readable legal analysis for the screen.

Another relatively simple change, but one that has not been adopted in the legal writing context, is to switch from using traditional outline notation to scientific notation. Traditionally, briefs and other legal documents include hierarchical headings such as Part I, Section A, Subsection 1, etc.¹³⁷ A reader in the middle of a complex document, seeing a heading numbered simply “2” may have lost track of whether this is subsection 2 of Section A or B, possibly even lost track of whether this is in Part I or Part II. Scientific numbering would indicate sections as Part 1, Section 1.1, Subsection 1.1.1, etc.¹³⁸ Though in some jurisdictions court rules may preclude using this system for briefs, at least one judge has indicated that it is a good idea.¹³⁹ Though legal writing traditionalists may express skepticism about changing the numbering system because it would frustrate many legal readers’ expectations,¹⁴⁰ the legal profession should begin to make these changes.

Scientific numbering also helps with another challenging aspect of screen reading—document navigation. The way that the reader navigates through a document is different in paper and on screen. Reading a paper memorandum or brief is a tactile experience. The reader can flip back and forth through the pages, can skim for headings and turn to a particular page, can have a sense of completion based on how many pages are in front and behind. None of this is possible in the same way when reading on a screen.

The page loses meaning as a unit of measurement on a screen. As word processing allows the writer to shift font size, line spacing, and

136 Steve Johansen & Ruth Anne Robbins, *Art-iculating the Analysis: Systemizing the Decision to Use Visuals as Legal Reasoning*, 20 LEGAL WRITING 57 (forthcoming 2015) available at <http://www.legalwritingjournal.org/2015/07/05/art-iculating-the-analysis-systemizing-the-decision-to-use-visuals-as-legal-reasoning>.

137 See Sockwell, *supra* note 3.

138 *Id.*; see also Joyce Rosenberg, *Mobilize! Some Tips to Improve Documents for Mobile Devices*, 83 J. KAN. B. ASS’N 12, Sept. 2014, at 13 (recommending either scientific numbering or traditional numbering, but retaining the relationships between sections, as in I.A.2).

139 See Eugene Volokh, *Judge Andrew J. Guilford, “Modern Headings to Head Readers the Right Way,”* THE VOLOKH CONSPIRACY (Oct. 30, 2014), <http://www.washingtonpost.com/news/volokh-conspiracy/wp/2014/10/30/judge-andrew-j-guilford-modern-headings-to-head-readers-the-right-way/>.

140 *Id.*; see also Beazley, *Digital Age*, *supra* note 28, at 63–64 (suggesting same).

margins, it has become impossible to control the amount of information contained in a page. Courts have recognized this by shifting from page limits to word counts.¹⁴¹ But the issues raised by reading documents on devices call for broader changes than word-count limits. On a small screen, the reader may not see a full page at once. Different devices, different apps, different word-processing programs all may have different ways of indicating progress through a document. Legal writers must find other ways to help the reader understand where she is in the document.

One solution is to use a bookmarking system. A bookmark is a feature in Portable Document Format (PDF) files that allows the reader to jump from a heading in the table of contents to the corresponding section within the document.¹⁴² More importantly than the table of contents, creating bookmarks will result in a navigation panel, visible at all times when viewing the document, that shows the overall structure of the document.¹⁴³ The bookmarks bar is much more useful to a reader, both for understanding the overall structure and for navigating to particular sections, than a table of contents that can be seen only by scrolling all the way to the top of the document. While it has mostly been recommended in the context of e-briefs, bookmarking can be useful for any electronic legal document; yet it has not been widely adopted throughout the legal profession and is not being taught in legal writing courses. It is time to change that.

The digital medium lawyers communicate in requires the use of these techniques to continue to make legal writing effective. When memos and briefs are simply transferred to a digital environment without any changes, the reader either loses the structural comprehension of long documents or has to work much, much harder by going through the document multiple times, continuously scrolling back and forth to get a sense of the whole.¹⁴⁴ Legal writers must start incorporating clearer signals for organization and tools for navigation so that the writing can maintain its effectiveness. Indeed, some of these features, such as a bookmark pane and links to

¹⁴¹ See Robbins, *supra* note 19, at 135–50 (collecting format rules from various state and federal courts). The change to word counts is often driven by judges' desire to read documents in a larger font size, which is easier to see on electronic devices. See, e.g., Don Cruse, *Word Counts Are Coming to Texas*, THE SUPREME COURT OF TEXAS BLOG (June 22, 2012), <http://www.scotxblog.com/practice-notes/word-counts-are-coming-to-texas/>.

¹⁴² Dubose, *supra* note 112, at 14; see also Burney, *supra* note 111 (discussing the use of Adobe Acrobat to create bookmarks in a PDF document).

¹⁴³ See Ribble, *supra* note 111 (noting the importance of setting the document properties so the bookmark panel is always visible); see also Burney, *supra* note 111; Bushell, *supra* note 85; Dubose, *supra* note 112, at 14.

¹⁴⁴ See Beazley, *supra* note 28, at 58–59 (discussing the increased cognitive energy readers need to understand the large scale organization of appellate briefs).

other parts of the document, may well make legal reading even easier than it was in a print environment.

C. Hyperlinks, Multidimensionality, and the Great Citation Debate

Just as reading electronically takes away the sense of the page as a unit of measure, the ability to embed hyperlinks¹⁴⁵ takes away the sense of the page as linear and two-dimensional. Instead, the page becomes a portal, taking the digital reader to new documents, different sources outside of the writer's control. This is at odds with the traditional linear, text-based nature of legal writing. The use of hyperlinks has great potential to significantly change the nature of legal writing, in good ways and bad. It is time to figure out how to use hyperlinks effectively, to develop best practices for how and when to include them in legal analysis. The legal profession has barely scratched the surface in understanding the issues that hyperlinking raises.

The most obvious use of hyperlinks is for citations to legal authority, but a document could also contain hyperlinks to numerous other sources, including exhibits from a case record, other case filings, and even nonlegal sources outside the record.¹⁴⁶ A hyperlinked citation can take the reader directly to the original source being referenced, or even to the particular part of that source. Judges, at least in jurisdictions that allow e-filing,¹⁴⁷ are increasingly expressing a preference for hyperlinked citations.¹⁴⁸ A group of federal judges and judicial staff have created a website designed to encourage lawyers practicing in federal court to use hyperlinks.¹⁴⁹

¹⁴⁵ Hyperlinks are words or phrases that the reader can click on that will either open a new document or take the reader to another location within the document or to other locations on the internet. See David R. Fine & Bridget E. Montgomery, *A Lawyer's Short Primer for Filing Hyperlinked and Hyperlinked-plus Briefs*, PA. B. INST. MIDDLE DIST. MANUAL I(A)(2) (2014).

¹⁴⁶ *Id.* at I(A)(3); see also *E-Briefs*, *supra* note 110 (noting that an electronic brief could contain links to "tens of thousands of cites, exhibits, cases or other documents"); Sam Glover, *Judges Want You to Add Links to Your Pleadings*, LAWYERIST (May 8, 2013), <https://lawyerist.com/64657/judges-want-you-to-add-links-to-your-pleadings> (indicating judges' growing preferences for citations to both cases and other documents in the record).

¹⁴⁷ The majority of federal and state courts allow e-filing, although there are still a few holdouts, such as the United States Supreme Court and the Massachusetts court system. See *Courts Accepting Electronic Filings*, UNITED STATES COURTS, <http://www.uscourts.gov/FederalCourts/CMECF/Courts.aspx> (listing federal courts accepting e-filing) (last visited Feb. 16, 2015); *Electronic Filing State Links*, NAT'L CENTER FOR STATE COURTS, <http://www.ncsc.org/Topics/Technology/Electronic-Filing/State-Links.aspx> (last visited Feb. 16, 2015) (listing state electronic filing rules); John Ruch, *Modern Typefaces vs. the Massachusetts Court System*, THE BOSTON GLOBE (Nov. 2, 2014), <http://www.bostonglobe.com/ideas/2014/11/01/modern-typefaces-massachusetts-courtsystem/PEX8IKSWOINdAUnf5fv1O/story.html> (noting that most filing in Massachusetts is still done on paper).

¹⁴⁸ See, e.g., Black, *supra* note 12; Copeland, *supra* note 86 (showing Ninth Circuit preference for hyperlinks); *How E-Filers Can Make Chambers Happy*, RONALD N. BOYCE FEDERAL COURT LITIGATION PRACTICE SEMINAR 10–12 (Oct. 27, 2006), <http://www.pamd.uscourts.gov/sites/default/files/chambershappy.pdf> (indicating preference for hyperlinks in briefs); Glover, *supra* note 146.

¹⁴⁹ *Hyperlinking in Federal Court*, FEDERAL COURT HYPERLINKING, <http://federalcourthyperlinking.org/> (last visited Feb. 16, 2015).

Included on this site are judges' testimonials exhorting attorneys to begin using hyperlinks sooner rather than later, because they make the judges' work so much easier.¹⁵⁰

It is easy to see why judges like hyperlinks to authority and record documents. It is much easier to verify the accuracy of a citation when, without going through the steps of opening and closing documents, the judge can call up the source with the click of a mouse or the tap of a finger.¹⁵¹ From the lawyer's perspective, including hyperlinks can be a way of establishing credibility, sending the implicit message to the judge that the source has been used correctly and accurately, so there is no concern about the judge easily accessing the source.¹⁵² Lawyers who read documents on iPads or other devices also appreciate hyperlinks for the same reason judges do.¹⁵³

In addition to general calls for more use of hyperlinks, a number of courts and bar organizations have begun to create guidelines and manuals to help legal writers incorporate hyperlinks into their documents.¹⁵⁴ The Fifth Circuit has even amended its rules to require citations to the record to be hyperlinked.¹⁵⁵ There are also a growing number of commercial services that will take an existing document and create hyperlinks.¹⁵⁶ The Third and Fifth Circuit Courts of Appeal have gone even farther and developed software to convert all citations to hyperlinks in electronically filed briefs.¹⁵⁷ The use of hyperlinks in court documents is likely to continue spreading as the growing number of judges reading on iPads and other tablets realize their utility.

¹⁵⁰ *Testimonials*, FEDERAL COURT HYPERLINKING, <http://federalcourthyperlinking.org/testimonials/> (last visited Feb. 16, 2015).

¹⁵¹ Ernie Svenson, *Some Federal Judges Now Read Briefs Electronically on iPads*, PAPERLESSCHASE.COM (June 14, 2014), <http://www.paperlesschase.com/5th-circuit-ebriefs-ipads/>.

¹⁵² Fine & Montgomery, *supra* note 145, at 1.

¹⁵³ See, e.g., Richard B. Phillips, *The Great Footnote Debate (A Response to Bryan Garner)* TEXAS APPELLATE WATCH (Jan. 28, 2014), <http://www.texasappellatewatch.com/2014/01/the-great-footnote-debate-a-response-to-bryan-garner.html> (appellate lawyer noting that he reads opponents' briefs on an iPad).

¹⁵⁴ See, e.g., *Attorney Guide to Hyperlinking in the Federal Courts (for Microsoft Word users)*, UNITED STATES COURTS (Jan. 31, 2014), available at http://www.ned.uscourts.gov/internetDocs/cmecf/hyperlinking_attorneys_word.pdf; Don Cruse & Blake Hawthorne, *Appellate Briefs of the Future*, 20TH ANNUAL CONFERENCE ON STATE AND FEDERAL APPEALS (June 3–4, 2010), <http://www.scotxblog.com/wpcontent/uploads/2010/06/Appellate-Briefs-of-the-Future-final.pdf>; Michael A. Cruz, *Electronic Briefs, Formatting for an iPad (or Any Other Medium)* PRACTICE BEFORE THE TEXAS SUPREME COURT (Apr. 12, 2013), <http://www.texasbarcle.com/Materials/Events/11845/152825.pdf>; Sam Glover, *How to Insert Hyperlinks in Word Documents*, LAWYERIST (Dec. 12, 2013), <https://lawyerist.com/71164/insert-hyperlinks-word-documents/>; *How E-Filers Can Make Chambers Happy*, *supra* note 148; *Suggestions for Creating a Really Accessible Document*, UNITED STATES DISTRICT COURT FOR THE DISTRICT OF UTAH (Dec. 5, 2013), http://www.utd.uscourts.gov/judges/Creating_A_Really_Accessible_Document.pdf (hereinafter *Suggestions*).

¹⁵⁵ 5TH CIR. R. 28.2; see also Richard B. Phillips, *New 5th Circuit Briefing Rules*, TEXAS APPELLATE WATCH (Dec. 2, 2013), <http://www.texasappellatewatch.com/2013/12/new-5th-circuit-briefing-rules.html>.

¹⁵⁶ See *supra* note 110.

While most of the discussion surrounding hyperlinked citations has focused on briefs and other documents filed in court, it stands to reason that lawyers reading legal analysis in contexts other than briefs will also come to appreciate the value of hyperlinks. Legal authority retrieved on Westlaw and Lexis already includes hyperlinks for most citations. As more courts require hyperlinks for citations to the record and other types of documents, and as courts begin to include these links in opinions,¹⁵⁸ the legal profession as a whole will learn how to use them more effectively, so that written legal analysis will become increasingly multidimensional.

Although there has been increasing movement towards using hyperlinks in legal writing, there has been relatively little discussion about how to use them effectively, when to use them, and what potential problems may be raised by their use. For example, hyperlinks might make it easier for the reader to find the original sources, but presumably they should not take the place of sound and thorough legal analysis.¹⁵⁹ If a writer hyperlinks to a particular case or passage from a case, should that change what is written in the original document? How, and to what degree? Should the writer include less of the original source or more? How should quoting practices change? Should the reader be able to hover over a link and have the relevant text pop up on the same page, or should it take the reader to a new document? Using hyperlinks could change the rhetorical situation between writer and reader, which in turn could change the nature of the legal analysis. Scholars of legal writing as well as practitioners should begin to develop best practices around how and when hyperlinks are helpful, how and when they change traditional organization of analysis, and how and when they should be avoided. These are issues the profession has not yet begun to wrestle with.

In addition to how to best use hyperlinks, there are a number of issues that arise related to what exactly is being linked to. In linking to legal authority, courts seem to express a preference for links to Westlaw or Lexis.¹⁶⁰ But this could pose a problem for documents that are part of the public record and should be accessible to anyone, regardless of whether they can access a fee-paid service. It could also pose a problem if smaller-

157 Ward, *supra* note 86 (noting that the Fifth Circuit has a program to convert legal citations to hyperlinks to Lexis or Westlaw, and that the district courts are moving to electronic records); *Conversation with Judge McKee*, *supra* note 86 (explaining that the Third Circuit has developed its own software to convert citations to hyperlinks).

158 The Fifth Circuit has already begun to issue opinions including hyperlinks to the case record, although the technology for this has not been fully developed. See Brett Snider, *5th Circuit Rolls Out New Hyperlinks in Decisions*, FINDLAW (Feb. 11, 2014), http://blogs.findlaw.com/fifth_circuit/2014/02/5th-circuit-rolls-out-new-hyperlinks-in-decisions.html.

159 See Fine & Montgomery, *supra* note 145, at 1 (“Inserting hyperlinks into a poorly written brief is like putting lipstick on a pig.”).

160 See *supra* notes 46–48.

practice settings use a different fee-paid service than the court system or opposing counsel. An added concern for interoffice documents is that the links to a fee-paid service could incur charges. This would likely not be a welcome development in the law firm setting. Notwithstanding abundant discussion of open-source citing, it is not widely available in a majority of jurisdictions.¹⁶¹ Despite efforts to make primary legal materials available,¹⁶² many legal materials are not available in linkable form. In addition, hyperlinked citations raise the panoply of questions that have also been raised in discussions of the reliability of online sources, including the reliability, authenticity and legitimacy of the sources.¹⁶³

When considering hyperlinks to sources beyond primary legal authority, additional questions arise. If the sources are factual in nature, are they subject to the rules of evidence? What weight of authority should be given? How can the writer take advantage of the multidimensionality of the document without losing the essence of the legal analysis? Finally, when linking to a source on the web, whether legal or nonlegal, there is the concern about link rot and the ability of the reader to access the particular page the link is intended to lead to.¹⁶⁴ These are important questions, but they are questions that can, eventually, be answered.

Finally, a discussion of hyperlinked citations would not be complete without a mention of the great footnote debate.¹⁶⁵ Legal writing expert Bryan Garner has long maintained that textual citations are onerous for the reader, and that most information about a source should be placed in a footnote so as not to disrupt the flow of the discussion.¹⁶⁶ Other judges

¹⁶¹ See generally Peter Martin, *Neutral Citation, Court Websites, and Access to Authoritative Case Law*, 99 LAW LIB. J. 329 (2007).

¹⁶² See, e.g., *A Proposed Distributed Repository of All Primary Legal Materials of the United States*, LAW.GOV, <https://law.resource.org/index.law.gov.html> (last visited Feb. 16, 2015); *About*, FREE LAW PROJECT, <http://freelawproject.org/about/> (last visited Feb. 16, 2015); see also *Non-Profit "Free Law Project" Provides Open Access to U.S. Case Law*, UC BERKELEY SCHOOL OF INFORMATION (Sept. 25, 2013), <http://www.ischool.berkeley.edu/newsandevents/news/20130925freelawproject>.

¹⁶³ See Ellie Margolis, *It's Time to Embrace the New—Untangling the Uses of Electronic Sources in Legal Writing*, 23 ALB. L.J. SCI. & TECH. 191, 192 (2013); J. Thomas Sullivan, *The Perils of Online Legal Research: A Caveat for Diligent Counsel*, 29 AM. J. TRIAL ADVOC. 81, 89 (2005).

¹⁶⁴ See Raizel Liebler & June Liebert, *Something Rotten in the State of Legal Citation: The Life Span of A United States Supreme Court Citation Containing an Internet Link (1996–2010)*, 15 YALE J. L. & TECH. 273 (2013); Arturo Torres, *Is Link Rot Destroying Stare Decisis As We Know It? The Internet-Citation Practice of the Texas Appellate Courts*, 13 J. APP. PRAC. & PROCESS 269 (2012); Jonathan Zittrain, Kendra Albert & Lawrence Lessig, *Perma: Scoping and Addressing the Problem of Link and Reference Rot in Legal Citations*, 127 HARV. L. REV. F. 176 (Mar. 17, 2014), available at <http://harvardlawreview.org/2014/03/perma-scoping-and-addressing-the-problem-of-link-and-reference-rot-in-legal-citations/>; Catherine Sanders Reach, *Link Rot: Combating the 404*, 28 CBA REC. 44 (2014), available at <http://www.digitaledition.biz/CBA/794350/files/assets/basic-html/page44.html>.

¹⁶⁵ See Phillips, *supra* note 153.

¹⁶⁶ Bryan A. Garner, *Textual Citations Make Legal Writing Onerous, for Lawyers and Non-lawyers Alike*, ABA J. (Feb. 1, 2014), available at http://www.abajournal.com/magazine/article/textual_citations_make_legal_writing_onerous_for_lawyers_and_nonlawyers/.

and lawyers have spoken out strongly against footnotes in general, and particularly for citation, in non-academic legal writing.¹⁶⁷ Regardless of which is preferable in a print-reading environment, the era of electronic reading puts this issue to rest. Scrolling up and down between text and footnote is cumbersome on an electronic device, and hyperlinks are strongly preferable in the body of the text. Any legal writer who has considered the issue of electronic reading has concluded that citations are best placed in text.¹⁶⁸

Despite all of the questions they raise, hyperlinks are here to stay, and their use is only going to increase. Rather than shying away from them, lawyers and legal writing experts should be figuring out the answers and developing best practices and new paradigms for legal analysis that reflect the multidimensional reading experience hyperlinks provide.

D. Images and Embedded Files as Analytical Tools

The greatest potential for change in the very nature of legal analysis lies in the use of images, graphics, and embedded video, making reading not only a multidimensional but also multimedia experience.¹⁶⁹ From the use of simple charts to more-complicated infographics and video, images have the potential to communicate in ways that words cannot. Incorporating visual images and video into traditional legal analysis represents the most dramatic change from the linear, text-based format the profession is accustomed to, but is an inevitable part of the change brought by digital writing and reading. Lawyers have been accused of thinking that “a word is worth a thousand pictures.”¹⁷⁰ There is no question that images have not played a role in traditional forms of legal writing.¹⁷¹ If legal writing does not change to incorporate images, it will become increasingly out of step with readers’ expectations of digital documents. Because current technology makes it possible to include images without great effort, and because images play an important role in electronic communication, the time has come to change that.

167 See, e.g., Phillips, *supra* note 153; Richard A. Posner, *Against Footnotes*, COURT REVIEW (2001), available at <http://aja.ncsc.dni.us/courtrv/cr38-2/CR38-2Posner.pdf>; Raymond Ward, *The Never Ending Debate over Citational Footnotes* (Feb. 7, 2014); <http://raymondward.typepad.com/newlegalwriter/2014/02/footnotes.html>.

168 See Phillips, *supra* note 153; Ward, *supra* note 86; *Where Should Citations Be Placed? An Old Debate, a Radically Changed Environment*, CITING LEGALLY (Mar. 28, 2014), <http://citeblog.access-to-law.com/?p=138>.

169 See BARON, *supra* note 4, at 15 (discussing the page as a portal leading the reader to a multidimensional as well as multimedia space).

170 Richard A. Posner, *Judicial Opinions and Appellate Advocacy in Federal Courts—One Judge’s View*, 51 DUQ. L. REV. 3, 12 (2013) (noting the degree to which attorneys disfavor pictures, maps, and diagrams in appellate briefs).

171 Porter, *supra* note 15, at 1711 (citing Ronald K.L. Collins & David M. Skover, *Paratexts*, 44 STAN. L. REV. 509, 534 (1992)).

It has long been accepted that images are useful at the trial level, in presenting information to juries,¹⁷² but they are not yet in wide use in written legal documents.¹⁷³ This is despite the fact that digital technology has transformed the use of embedded live and still images in a wide variety of other traditional print media.¹⁷⁴ The most obvious use for images, and probably the reason they have made more inroads at the trial level, is to help illustrate and clarify facts of a case. Judges, advocates, and scholars have particularly emphasized the usefulness of images in trademark and copyright cases, where the appearance of something might be at the heart of the case.¹⁷⁵

Images, particularly pictures and video, could be equally useful as part of a statement of facts in a memo or brief, to bring the case alive and help the reader understand what happened.¹⁷⁶ For the most part, there are no rules that prohibit the incorporation of images into these documents, other than the forces of convention and tradition. The lack of rules and standards may, in itself, be concerning. Because use of images to convey factual information is unexplored, there are no clear standards on how the rules of evidence may apply, what ethical considerations should be taken into account, how to avoid problems of bias.¹⁷⁷ Likewise there are no standards relating to where images can come from, how they are to be authenticated, whether and how they can be edited, how they might affect page limits or word counts.¹⁷⁸ None of these are reasons not to use images, however. Instead, it is time to develop rules, standards, and best practices for their use.

In addition to their use as facts, the use of images as an analytical tool has not been fully explored in the context of law practice. In contrast, the use of images as analytical devices has been extensively considered in the context of legal education.¹⁷⁹ This is because visual images can be extremely effective at communicating complex concepts and indicating

172 See, e.g., Samuel H. Solomon, *Tips on Trial Graphics*, 35 APR TRIAL 24, Apr. 1999, at 24; Lisa C. Wood, *Making Your Case with Graphics: An Interview*, LITIG. PRAC. 108 (2008), available at https://www.krollontrack.com/publications/tg_antitrustnewsletter_lisacwood060108.pdf.

173 Porter, *supra* note 15, at 1691–92.

174 *Id.* at 6.

175 Posner, *supra* note 167, at 23; Charles J. Faruki, *The Preparation and Trial of Intellectual Property and Other Complex Cases*, 34 U. DAYTON L. REV. 125 (2009); Wood, *supra* note 172.

176 Richard K. Sherwin et al., *Law in the Digital Age: How Visual Communication Technologies Are Transforming the Practice, Theory, and Teaching of Law*, 12 B.U. J. SCI. & TECH. L. 227, 233–34 (2006) (noting use of images at trial); see also Johansen & Robbins, *supra* note 136.

177 Porter, *supra* note 15, at 1756.

178 *Id.*

179 See, e.g., Karen L. Koch, “What Did I Just Do?” *Using Student-Created Concept Maps or Flowcharts to Add a Reflective Visual Component to Legal Research Assignments*, 18 PERSPS. 119 (2010); Lisa T. McElroy & Christine N. Coughlin, *The*

the relationship between concepts.¹⁸⁰ In particular, infographics can quickly and easily convey large amounts of data, make abstract concepts concrete, and clarify the relationship between concepts.¹⁸¹ These are all common goals of legal analysis. It is no wonder that legal educators have begun employing these techniques. Now legal writers need to do the same.

Some scholars and legal advocates have begun to explore the role of images in written legal analysis.¹⁸² In addition, at least one judge has expressed a preference for graphics to clarify written discussion in a brief.¹⁸³ While the focus of discussion is typically on including images in briefs, there is no reason images cannot be used in other forms of written legal analysis as well. Using images in place of words is a major departure from traditional legal analysis, and raises a host of questions. What is the line between images that are gratuitous and images that play a valuable role in the narrative or analytical aspects of the writing? Where on the page should an image be placed? How do images, which can either be still, animated, or even possibly live video, interact with the traditional, structured legal analysis represented by the IRAC paradigm? If images are being used not to clarify the factual record, but to further the legal analysis, are they authority? How should they be treated as compared to other types of text-based nonlegal authority? These questions all need to be addressed.

Incorporating images into legal writing can play the dual role of meeting the needs of the digital reader and communicating in ways that are even more effective than purely print-based legal writing. Technology now allows us to incorporate images into documents in ways that were never envisioned in the print world that spawned the traditional forms of legal analysis. It is time to move into the twenty-first century and take advantage of that technology.

Other Side of the Story: Using Graphic Organizers to Counter the Counter-Analysis Quandary, 39 U. BALT. L. REV. 227 (2010); Rebecca Tushnet, *Sight, Sound, and Meaning: Teaching Intellectual Property with Audiovisual Materials*, 52 ST. LOUIS U. L.J. 891 (2008).

180 McElroy & Coughlin, *supra*, note 179, at 237.

181 See Andrea Ovans, *What Makes the Best Infographics Convincing*, HARV. BUS. REV. (Apr. 22, 2014), <https://hbr.org/2014/04/what-makes-the-best-infographics-so-convincing/>; Alex Jackson, *The Power of Using Infographics to Communicate Science*, NATURE.COM (Jan. 20, 2014), <http://blogs.nature.com/ofschemasandmemes/2014/01/20/the-power-of-using-infographics-to-communicate-science>.

182 Lucille A. Jewel, *Through a Glass Darkly: Using Brain Science and Visual Rhetoric to Gain a Professional Perspective on Visual Advocacy*, 19 S. CAL. INTERDISC. L.J. 237 (2010); Johansen & Robbins, *supra* n. 136 (offering a nomenclature for types of analytical visuals and a method for determining whether to include analytical visuals in legal documents); Porter, *supra* note 15; Sherwin, et al., *supra* note 176.

183 *Suggestions*, *supra* note 154, at 4.

IV. Conclusion—Email Memos, iPad Briefs, and Beyond

The changes that technology has brought to the world of writing and reading are significant. The basic elements of the memorandum and brief have remained the same, but new forms of writing, such as the email memo, have already become widespread in practice.¹⁸⁴ The iPad brief is on the horizon.¹⁸⁵ These changes are more than cosmetic. The email memo has a different structure and form than the traditional formal office memo. The iPad brief has the potential to be a multidimensional document employing analytical devices that go far beyond our current understanding of written legal argument. There is no reason we should not also consider the possibility of the iPad memo—a predictive document, designed to be read on an iPad or other tablet, employing the same multidimensional elements of legal analysis, including hyperlinks and embedded images.

Even as these new forms percolate through the profession and catch on, there is significant resistance and concern. The legal profession adapts to change slowly. Lawyers and other legal writers fear that doing something other than what the legal reader expects will cause a negative reaction. Yet it is time to embrace these changes and recognize that digital writing and reading are here to stay and that written legal analysis must adapt. It is time to be proactive in figuring out how to best use technology not just to make documents look better, but to actually find new and better ways of communicating ideas, all without losing the precision and rigor that are essential to legal analysis. And it is time to begin answering the difficult questions, developing best practices, and teaching new legal writers so that they are equipped for the practice of law now and in the future.

¹⁸⁴ See Robbins-Tiscione, *supra* note 16.

¹⁸⁵ See *A2L Consulting Produces First iPad Compatible E-Brief for the Legal Industry*, A2L CONSULTING, <http://www.a2lc.com/a2lproduces-legal-industrys-first-e-brief-for-the-ipad> (last visited Feb. 16, 2015); Sockwell, *supra* note 3.