THINK SCREEN FIRST:
Twenty-First Century Document Design Professionalism

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Abstract

The Pandemic caused a massive shift in the daily reality of real estate law practice in every way but one: We still create our real estate documents using mental models developed for 1950s manual typewriting pools. It is long past time that we brought modern principles of information design to our real estate documentation. In this paper, I explore how well-researched rules of information design could modernize our real estate document approaches. I examine how basic principles of typography, iconography, and hypermedia interactivity could help us create a 21st century experience for those who will be using the real estate documents that we create. This paper is a call to arms to advance ourselves professionally, as the professional publishers that we truly are.

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Introduction

> *"All [people] are designers. All that we do, almost all the time, is design, for design is basic to all human activity. The planning and patterning of any act toward a desired, foreseeable end constitutes the design process."*[1]

In the past ten years, I have grown fond of good wine. But when I first became a Californian a decade ago, I knew very little about wine. Most of my knowledge back then came from the Greatest Class I Ever Had in Law School, where my commercial bankruptcy professor (an actual sommelier in his spare time) gave us a break from the trustee's strong-arm powers and similar code minutiae by rededicating an entire two-hour lecture to the basics of wine. Although I still have the "wine outline" he offered, together with my handwritten notes from that lecture, I think it is fair to say that what wisdom I received during those two hours was only retained as: "Just order a Napa Valley cabernet sauvignon—it's always the safe choice."

Although this rule of thumb has proven effective for me, it also hides away a world of rich complexity, style, and taste. A Napa cab is, indeed, just about always capable of doing the job. But ordering a Napa cab every time one sits down for dinner just gets dull. A person who always takes the safe route of a Napa cab never tastes the incredible "like eating the entire grapevine" experience of a cab franc, nor can they find their place in the polarizing debate over whether oaked or buttery chardonnay is "better." Taking the safe choice of a Napa cab is eventually a path to boredom.

I see strong similarities between what I learned about wine in those two hours, and how we real estate lawyers design our documents. From my professor's lecture, I took the entire universe of oenology, in all of its sumptuous nuance, and crammed it down into a safe-but-boring heuristic. And so also have we real

[1] Victor Papanek, Design for the Real World 3 (2019 ed.).

estate lawyers taken the entire universe of document design and crammed it down into another safe-but-boring heuristic: *Everything in every document must always be Microsoft Word default*.

Indeed, seemingly every real estate document ever created in at least the past twenty years has been formulaically formatted in Times New Roman, 12 point font, with 1" margins all around, using only some combination of bold, italics, underline, and all-caps as the sparse variations to be found. Talk about boring. At least Napa cabs can be different depending on the vineyard, weather year, and other *terroir* matters. Documents created using Microsoft Word's default settings and features are always the same, every single time, with no variation in anything but their substance.

"Well of course that's the way it is," you might be thinking. "Substance is all that matters." Speaking of wine, this idea is sometimes known as the "crystal goblet metaphor" of document design. The basic idea is that document design should aspire to be like a fine crystal goblet, transparent and invisible, leaving the reader alone with the substance, just as one can better experience the substance of fine wine in a clear-and-simple crystal goblet rather than an ornate, solid-gold chalice.[2] How *Last Crusade*.

My goal in writing this paper is to convince you otherwise. While it is no doubt true that presentation ought not to *interfere* with substance, it is fallacious to overextend this principle into an overbroad conclusion that presentation has *no part* in substance. Indeed, "presentation matters specifically because it's *not* meaningless. It reinforces our core message by adding its own complementary

[2] Beatrice Wade, *The Crystal Goblet, or Printing Should Be Invisible*, *available at* https://readings.design/PDF/The%20Crystal%20Goblet.pdf (last visited 10 Dec. 2021) (contending, at page two thereof, that "[t]ype well used is invisible as type").

meaning."[3] Form and substance are inextricably intertwined. The medium is not the message, but **the medium is part of the message**.

There are decades of social science research showing that design matters when it comes to things that are highly relevant to us lawyers (content retention, persuasiveness, credibility). This research also demonstrates that the principles of good information design on a screen can differ from those that apply to physical paper. This is particularly important now that the COVID-19 Pandemic has poured jet fuel on real estate's previously-simmering digital transition away from paper and towards pixels. To borrow from Lenin, "decades happened in weeks"[4] during the Pandemic.

About ten years ago, the software industry went through a revolution in its thinking about a similar challenge. Prior to about 2010, many website developers struggled with the challenge of "making desktop things work on smartphones." The prevailing mental model at the time was that the "real" place where web content was viewed was on a desktop or laptop screen. Smartphones were an outlier, an edge case, and complaints about a website not being "mobile friendly" weren't prioritized. Websites were therefore often broken and jangly when one visited them on an early-generation smartphone. Remember your Blackberry's web browser?

But research at the time increasingly began to show that people's primary means of accessing the internet *was* their smartphone. This forced web developers to change the way they think. Today, any piece of software worth its salt is designed to be "mobile first."

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[3] MATTHEW BUTTERICK, TYPOGRAPHY FOR LAWYERS: ESSENTIAL TOOLS FOR POLISHED & PERSUASIVE DOCUMENTS 35 (2nd ed. 2015), *also available at* https://typographyforlawyers.com (last visited 10 Dec. 2021) (emphasis altered from bold to italics).

[4] *See* Vladimir Lenin Quotes, http://www.notable-quotes.com/l/lenin_vladimir.html (last visited 10 Dec. 2021) ("There are decades where nothing happens; and there are weeks where decades happen.").

It is hard to overstate the revolutionary effect of this shift on how ordinary consumers experience software. It turned the software development process on its head. Before the "mobile first" revolution, developers assumed that they had unbounded screen space, which they ironically refer to as "real estate." Under this paradigm, one could always add more into the program, because "everybody" was going to see it on a big monitor anyway. Nothing had to be prioritized. Everything could be important. Or so it seemed at the time.

But dealing with the usability needs of software on small screens forced programmers to rethink their entire approach. Limited screen space meant that only the *truly* important things could stay. There had to be clear priorities, and the user's experience had to be simplified and streamlined. This change in mentality led to an improvement in the usability of software overall, not just on small smartphone screens.

I submit that it is time for a similar change in our thinking as real estate lawyers. For decades, we have thought about our documents through the lens of "infinite reams of paper" into which a little bit more can always be stuffed. And when it comes to our documents, we think about screens as outliers and edge cases. We are like the web developers of the late '00s, except that most of our mental models come from the days of typewriter typing pools. Even though every single one of us now creates our documents on a screen (probably using Microsoft Word), we imagine this state as temporary, as though the document is *in vitro* and will never have any interaction with a reader besides ourselves until it emerges from a physical printer.

This mental model is long past its expiration date. **The default way that we lawyers and our clients actually experience documents is now on a screen**. During the Pandemic, nearly all of us changed to a "work from anywhere" mentality driven by technology. Screens were everywhere, both on our desks and in our hands, and we spent our entire day affixed to them. The entire world

became virtual. We had "virtual meetings," "virtual school," "virtual church," "virtual concerts," and so on. And in real estate practice, documents became virtual as well. (Or legally, "electronic documents.") Paper documents became "the backup plan" rather than the default. Indeed, at an industry meeting that I (virtually) attended in 2020, it was reported by some in-house bank lawyers that certain banks now prohibited their in-house lawyers from printing out documents *at all*, due to information security concerns.[5]

The parallels between dirt lawyers' shift from paper to pixels, and software's shift from desktop-centric to mobile-first, are apparent. We now live in a screen-first world. We need a screen-first mentality. We need to understand the principles of good design, especially good design for screens. These principles have been thoroughly researched over the last 15 years. The software industry learned many important lessons that can benefit us. This paper is my effort to distill those lessons, and to make them accessible to real estate practitioners.

I count myself among the early adherents of an emerging discipline known as "legal design." The field is only just beginning to solidify: the first known use of the term is found in a 2001 doctoral dissertation, and the first known gathering of interested parties occurred in 2013.[6] Among the first attempts to give the field a comprehensive definition only reached press a few months ago.[7] I offer this paper as an addition to the incipient legal design scholarship, with a real estate practitioner's focus on real estate documents.

So to be clear, this is an unorthodox topic. Some of what I have to say here may therefore sound crazy to you. But everything we take for granted as obvious

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[5] It goes without saying that some seasoned veteran lawyers at the conference expressed their feelings that they found this mandate to be extremely painful. I submit that poor document design is no doubt part of the reason why!

[6] ASTRID KOHLMEIER & MEERA KLEMOLA, THE LEGAL DESIGN BOOK: DOING LAW IN THE 21ST CENTURY 46-47 (1st ed. 2021)

[7] *Id.* at 70 (defining the term as "design deployed in the field of law to transform legal products, services, work, systems, business strategies, ecosystems and user experience").

today sounded crazy to our predecessors. Fax machines once sounded crazy. Email once sounded crazy. Smartphones once sounded crazy. Turn back to the clock a few decades, and today's status quo would be unimaginable: "Lawyers typing their own documents—can you even imagine!? On *computers*!? That will *never* happen."

So I'd ask you, dear reader, to put aside your preconceived notions for a bit. Suspend your disbelief as best you can. Let's undertake a critical analysis of our stock document approaches through a design perspective, a lens that is foreign to most of us right now, but will (I predict) be part of our lexicon in the rapidly-approaching future. Perhaps the "crazy" things we learn by doing so will be the "obvious" things of the near future. Because believe it or not, *you* are a designer.

1. Typography

> *"When Times New Roman appears . . . it connotes apathy . . . . Times New Roman is not a font choice so much as the absence of a font choice, like the blackness of deep space is not a color. To look at Times New Roman is to gaze into the void."*[8]

Have more provocative words ever better written by a member of the bar? Attacking real estate lawyers' use of Times New Roman is like attacking their use of air. Asking a real estate lawyer what typefaces there are is like asking the bartender in *The Blues Brothers* what kinds of music they have.[9] There is one—and only one—typeface, and Its Name is **TIMES NEW ROMAN**. And it is written just like that. In all caps. And maybe bolded. Yeah, definitely bolded.

In all seriousness, it is time to come to grips with two hard truths: First, that lawyers have utterly awful typography habits that we have slavishly inherited from long-superseded typewriter conventions; and second, that the 21st century

[8] Butterick, *supra* n.3, at 119.
[9] THE BLUES BROTHERS (1980) ("Oh, we got both kinds [of music]! We got country *and* western!").

reality of reading documents on screens makes those bad habits even more punishing to the eye. We have *unintentionally* developed a typographic style in real estate practice, and we have become desensitized to how terrible nonlawyer audiences (read: clients, customers, decisionmakers, etc.) find it to be.

The point that I want to make in this section of this paper is that we should make more intentional choices about our typography. Each year, my home bar jurisdiction requires me to receive at least one continuing legal education hour of "professionalism."[10] In my experience, these courses focus on lawyer behavior, and the difference between what's *required* versus what's *professional*.

In this spirit, I submit that it is worth examining the typographic style of our real estate documents. Whether we admit it or not, we are professional publishers.[11] Indeed, many of the documents we create are quite literally placed into public archives (the county land records offices), where they will be available for generations to come. Therefore, our document design choices (intentional or unintentional as they may be) have an important impact on our professionalism and the lay public's view of us.

I speak on this subject as a reformed Pharisee of Pharisees. My wife (who has a masters' degree in the history of books and is thus a typography connoisseur) has long told me how awful are the printed works that I create. Not the substance,[12] but rather the typographic choices. "Hogwash," I used to say. "This is how real estate lawyers format documents. And furthermore, style doesn't matter in the law anyway. All that matters is whether I get the substance right. Nobody cares whether it's pretty."

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[10] The State Bar of Georgia, Frequently Asked Questions, FAQ / Mandatory Continuing Legal Education, FAQ #3, https://gabar.org/aboutthebar/faq/faqs.cfm?filter=Mandatory%20Continuing%20Legal%20Education (last visited 10 Dec. 2021).

[11] Butterick, *supra* n.3, at 13-14.

[12] Yeah, ok. Sometimes also the substance.

I was wrong.[13] Basic principles of design matter in all documents, even legal documents that are likely only going to be read by other lawyers. Witness what one author calls his Two Laws of Typography:

> **First:** *Given multiple documents, readers will make more judgments based on typography as they find it harder to make judgments based on substance.*
>
> **Second:** *Judgments based on substance require attention, so under the First Law, readers with limited attention are more likely to make judgments based on typography.*[14]

In this insanely-paced world, our readers are perilously short on attention. And years of psychology research show that people short on attention take mental shortcuts based on appearances.[15]

We intuitively know this to be true. Rightly or wrongly, we unconsciously judge people by what they wear and how they speak. If substance was truly all that mattered, we would walk into court for oral argument wearing beat-up sweatpants[16] and conduct our oral arguments in a drab monotone drone. But we don't do that, because it's patently obvious that style and presentation matter to an advocate's persuasiveness.[17] And even transactional lawyers must write persuasively: whether for their clients, their counterparties, or the unknown judge who may someday be interpreting the clauses that we create. What unquantifiable future advantage might we be able to convey to our clients by dressing our document clauses as if they were already going to court?

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[13] Further proof that I should listen to my wife more often.

[14] Butterick, *supra* n.3, at 21.

[15] *See, e.g.,* DANIEL KAHNEMAN, THINKING, FAST AND SLOW 4 (2013 ed.) ("When the handsome and confident speaker bounds onto the stage, for example, you can anticipate that the audience will judge his comments more favorably than he deserves."); ROBERT B. CIALDINI, INFLUENCE: THE PSYCHOLOGY OF PERSUASION 171 (2007 ed.) ("Research has shown that we automatically assign to good-looking individuals such favorable traits as talent, kindness, honesty, and intelligence.").

[16] Real court, not Zoom court. I am certain that a great number of advocates wore sweatpants to Zoom court during the Pandemic.

[17] *See* Butterick, *supra* n.3, at 23-24.

In short, "Typography matters. The only question is whether you—as a writer and as a lawyer—are going to neglect it."[18] What I am proposing below are some ways to end our ingrained neglect, now that we have entered the age of screens. Many of the points are drawn from *Typography for Lawyers* by Matthew Butterick, which I strongly recommend purchasing in "real book" form[19] and reading cover to cover, but which can also be found online in its entirety.[20] Other lessons are those I learned by studying interaction design in graduate school, an experience that opened my eyes to my innumerable past document-design sins. While design is more than just typography, typography is a vitally important part of design.

I would also take a moment to add that while a basic premise of this paper is that we need to break down the hard dichotomy between substance and presentation, I fully recognize that governmental rules can force us into certain design choices. For example, county recorders may have typography requirements,[21] and some state statutes may mandate certain typography choices for certain documents.[22] We must of course do what we are legally required to do. I for my part do not plan to die on this hill.[23]

But this does not mean that the off-the-rack stylistic answer is always the correct answer. Indeed, the U.S. Supreme Court does not accept briefs written in Times New Roman.[24] Let that one sink in for a moment.

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[18] *Id.* at 28.
[19] Technically known as a "codex."
[20] https://typographyforlawyers.com (last visited 10 Dec. 2021).
[21] *E.g.*, Los Angeles County Registrar-Recorder / County Clerk, Recording Requirements, https://lavote.net/home/records/property-document-recording/recording-requirements (last visited 10 Dec. 2021) (illustrating certain document-margin requirements that must be met to record a document).
[22] *E.g.*, O.C.G.A. § 44-14-366 (mandating certain typography choices for Georgia mechanics' lien waivers).
[23] *See* Butterick, *supra* n.3, at 141 (counseling caution when using good typography presents undue risk).
[24] U.S. Supreme Court, Rule 33(1)(b) ("The text…shall be typeset in a Century family…."). *See also* Butterick, *supra* n.3, at 212 ("Practitioners should note that in the Supreme Court, Times New Roman is forbidden.").

1.1 Fonts (Typefaces)

Unlike types of music, for our lawyerly purposes, there really *are* only two basic genres of typefaces: serif and sans serif.[25] "The difference lies at the feet or tips of the letters, with a serif typeface carrying a finishing stoke often appearing to ground the letter on the page."[26] The use of a serif "makes the letters look traditional, square, honest and carved – and their lineage can be traced back as far as the Roman emperor Trajan,"[27] which perhaps explains why we lawyers love serif fonts. Indeed, Times New Roman is a serif font. By contrast, "[s]ans serif [type]faces may appear less formal and more contemporary,"[28] which perhaps explains why we lawyers generally eschew them.

When it comes to reading documents, there is no scientific consensus on whether serif or sans serif font choices are "better."[29] This is because crafting an empirical study capable of "controlling for acculturation and habit, which naturally play a large role in what is legible," is a particular challenge.[30] Indeed, there is no "best" font any more than there is a "best" sentence.[31] Context matters.

That being said, there is evidence to show that above 10-point size, going with a serif font is usually the right move. Under 10-point size, the opposite is true: a

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[25] This is not technically true, but it's "true enough" for our lawyer purposes. *See, e.g.*, Mozilla, Fundamental text and font styling, Web safe fonts, https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Fundamentals#web_safe_fonts (last visited 10 Dec. 2021) (listing the five cascading style sheet (CSS) categories of fonts as serif, sans-serif, monospace, cursive, and fantasy). It is hard to see a professional use of cursive or fantasy fonts in legal documents, and monospace fonts are too rare to merit treatment here.

[26] Simon Garfield, Just My Type: A Book About Fonts 34-35 (2011).

[27] *Id.* at 35.

[28] *Id.*

[29] *See* Susan Weinschenk, 100 Things Every Designer Needs to Know About People 30 (2011) ("There's no research showing that the shapes of words help us read more accurately or quickly.").

[30] Butterick, *supra* n.3, at 111.

[31] *Id.*

sans serif font is usually the superior choice.[32] Since body text in documents meant for reading should usually be between 10 and 12 points,[33] **body text should usually be a serif font**.

Does this mean that using the Microsoft Word default of Times New Roman, 12-point font is ok for all the body text of my purchase and sale agreement? Technically, yes. But wearing the same pair of bell bottoms every single day without washing them is technically ok, too. It's just grotesquely lacking in style, and also just kind of gross.

"But," you are likely thinking, "If I send my counterparty a document in anything other than Times New Roman, how will they be able to read it on their computer? I *know* that everyone has Times New Roman, because *everyone* has Microsoft Word."

First, Microsoft Word may be less ubiquitous than you'd think. The days of "PC is for office people and Mac is for creative people"[34] are behind us. Beyond that, Google's online workspace (including a word processor) has millions of users,[35] and no doubt at least some of them are lawyers, because Google has put up a support page dedicated to law practice tips for its legal users.[36] Indeed, more and more educational institutions are utilizing Google Workspace products (such as

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[32] Jill Butler, 33 Laws of Typography, LinkedIn Learning, https://www.linkedin.com/learning/the-33-laws-of-typography (last visited 19 Oct. 2019).
[33] Butterick, *supra* n.3, at 86.
[34] *See, e.g.,* Complete 66 Mac vs. PC Ads, https://www.youtube.com/watch?v=oeEG5LVXdKo (last visited 10 Dec. 2021)
[35] Jordan Novet, "Google's G Suite now has 6 million paying businesses," CNBC.com, 7 Apr. 2020, https://www.cnbc.com/2020/04/07/google-g-suite-passes-6-million-customers.html (last visited 10 Dec. 2021).
[36] 10 Google Workspace tips for law practices, https://support.google.com/a/users/answer/9283133?hl=en (last visited 10 Dec. 2021).

Google Docs), and as their students enter the working world, expectations about "the default" word processing software are apt to change.[37]

So, the real question is not whether the person to whom you're sending the document has Microsoft Word, but rather whether the person to whom you're sending the document has *the font* that you're using. This in turn leads to two other questions: 1) What fonts does "everybody" have? and 2) What happens when somebody doesn't have the font that I'm using?

There is no doubt that we should consider whether our font choices will be comprehensible to those reading our documents. Writing secret messages in Wingdings was fun in high school,[38] but is ineffective for your nonrecourse carveout guaranty. That being said, going down to the lowest common denominator of "put everything in Times New Roman" is no longer necessary to address this issue. A little history will help explain why.

Admittedly, fonts can be a major pain for programmers, especially web developers. In 1996, Microsoft tried to drive a solution to this problem through its "Core Fonts Project." Although the project itself ended in the early 2000s, a legacy of this effort is that nearly everyone has access to the following fonts, which are collectively known as the "web safe fonts," because nearly any modern web browser (Chrome, Firefox, Edge, etc.) can access and render them:[39]

Arial	Courier New	Georgia
Times New Roman	Trebuchet MS	Verdana

At this juncture, it is basically safe to consider these fonts universally available, no matter what operating system or program is being used to render a document

[37] Those who long wistfully for the dominant days of Corel WordPerfect may sympathize.
[38] Indeed, it is still fun today. ✍♏♦♍♒♋ ♍♋■❼♦ ❒♏♋♎ ♦♒♓⬧🖉
[39] Mozilla, Fundamental text and font styling, Web safe fonts, https://developer.mozilla.org/en-US/docs/Learn/CSS/Styling_text/Fundamentals#web_safe_fonts (last visited 10 Dec. 2021).

on a viewer's screen. Of course, nothing is ever absolutely true in all circumstances, but this is a viable rule of thumb for lawyer purposes, because the web's needs and capabilities drive nearly everything in software these days.

So, Times New Roman is indeed a "safe" choice, because it is one of the web safe fonts. But that does not make it the only plausible choice, because today's software knows how to deal with fonts that it does not have. For example, in web development, a programming language called cascading style sheets (CSS) allows the developer to create "font stacks" in which there are specified backup fonts in the event that the web browser cannot find the programmer's first choice of font. The programmer will typically list a preferred font, then a backup font, and then just give a font category ("sans serif") so the machine can pick whichever font from the specified category that it can find, if both the primary and secondary fonts are for whatever reason unavailable. And if the developer doesn't specify any font or font category at all, the browser will just go for its default font of last resort, which is usually (surprise!) Times New Roman.[40]

So contrary to popular belief, Microsoft Word will not self-immolate if it doesn't have the font that the document drafter used. Instead, Word will look for a replacement font that Word considers suitable.[41] Word will then re-render the document using its substitute font in place of the one that Word could not find. The same substance will still be there.

"Ah," but you're thinking, "This could mess up my line spacing! I really need that one section to end on that one page, or it won't look right." There are better (and far more effective) ways to address this need than shoehorning everything into Times New Roman, 12-point, and putting the "right" number of hard returns in to move text around. Butterick's work lays out the solutions in easy-to-understand form, and again, I strongly recommend his book.

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[40] *Id.* As is apparent, even web developers consider Times New Roman to be the font of last resort!
[41] Allen Wyatt, Tips.net, Finding Word's Font Substitutes, https://wordribbon.tips.net/T012657_Finding_Words_Font_Substitutes.html (last visited 10 Dec. 2021).

So where does one get fonts? Microsoft Word comes with a slew of them, but stock system fonts are generally banal and/or overused.[42] Web developers' favorite font tool these days is Google Fonts. Google Fonts has a collection of free, open-source fonts that anyone can use for any project.[43] It's easy to download fonts and install them where Microsoft Word can find them. Butterick's book explains how to do it.[44] This paper is largely written in Cormorant Garamond, a free font that I love from Google Fonts. (The pull quotes are in Cooper Hewitt, a free font recommended by Butterick.)

While I recognize that the "put everything in 12-point Times New Roman and forget about it" approach that we real estate lawyers have informally adopted has its merits, there are two key advantages to deploying better typography in our work. First and foremost, it makes us more effective attorneys.

"When you read on a computer screen, the image is not stable—it is being refreshed constantly, and the screen is emitting light....The refreshing of the image and emitting of the light on the computer display are tiring on the eyes."[45] Tired eyes distract the reader from the document's message, decreasing the effectiveness of the attorney's work product. Bad document design exacerbates this problem. Good document design mitigates it. Therefore, attorneys who master good document design will have a competitive advantage over those who do not. In the age of screens, good document design is good lawyering. It is an essential element of 21st century professionalism.

Second, good typography is an opportunity to gain a heretofore untapped competitive advantage in a cutthroat legal marketplace. Law firms compete for clients on everything from having the best office space to having the best suite at the local sports arena. How strange that they have largely yet to differentiate the

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[42] Butterick, *supra* n.3, at 78 ("All system fonts are overexposed.").
[43] Google Fonts, https://fonts.google.com/ (last visited 10 Dec. 2021).
[44] Butterick, *supra* n.3, at 114.
[45] Weinschenk, *supra* n.29, at 42.

"look and feel" of the core product that they create. Most "ordinary" corporations learned long ago to differentiate their brands with strong typography. (*See, e.g.*, Coca-Cola.) Would not there be a competitive advantage if a would-be client sees a well-designed legal document and just *knows* that it came from Dewey, Cheatem & Howe LLP?

I hope that I have convinced you. But if not, I will have more to say in the coming pages about why this is a good use of our mental energies. And if I haven't convinced you by the end of this paper, rest assured that Times New Roman will still be there!

1.2 Visual Hierarchy

"Hierarchical organization is the simplest structure for visualizing and understanding complexity."[46] Indeed, the real estate recording statutes and their focus on priorities amongst competing claimants place hierarchies at the center of real estate practice. "Increasing the visibility of the hierarchical relationships within a system is one of the most effective ways to increase knowledge about the system."[47]

"There are three basic ways to visually represent hierarchy: trees, nests, and stairs."[48] Trees place the parent structure at the top of a pyramid, and place child structures below or to the right of the parent.[49] Nests place child structures within parent structures, Venn-diagram style.[50] Stairs stack child structures below or to the right of parent elements, as in an outline.[51]

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[46] William Lidwell, Kritina Holden & Jill Butler, Universal Principles of Design 122 (2010).
[47] *Id.*
[48] *Id.*
[49] *Id.*
[50] *Id.*
[51] *Id.*

Ah, outlines. We lawyers do indeed love them, from our very first "One L" days. Outlines are most effective for complex hierarchies,[52] something that we frequently create. But the problem with stair structures like outlines is that they are difficult for readers to browse.[53] You know what I mean. Have you ever flipped pages in vain to find "that section" in a loan agreement?

Therefore, one of the easiest and most effective document design changes at our disposal is to make our outline hierarchies more easily browsable. Consider the following three outline structures. These outline "levels" are identical. Which of them best enables the reader to know, at a glance, where she is in the document?

IX.D.7.f.xxi 9.d.(7).(f).((21)) 9.4.7.6.21

Yeah, it's the last one. Translating roman numerals into numbers, or trying to remember whether we are two or three parenthesis layers deep, is not how we should want our readers to spend their mental energy. "Lawyers should take a cue from technical writers, who solved this problem long ago—by using tiered numbers as indexes for hierarchical headings."[54]

1.3 Emphasis

If a magical document design genie offered to grant me but one wish, by which I could change anything about how we lawyers design our documents, I would use that one wish to expunge our miserable habit of ALL CAPS. This decomposing typewriter convention ought to be put out of its misery as quickly as possible. It is as ineffective as it is unsightly, and sound design principles show that there are far better ways for us to emphasize things in our documents.

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[52] *Id.*
[53] *Id.*
[54] Butterick, *supra* n.3, at 106.

Let's begin with first principles. Emphasizing is "[a] technique for bringing attention to an area of text or image."[55] The whole point of it is to make something stand out and attract attention. In order for that to happen, the emphasized text needs to be different from its surroundings. This means that overusing emphasis becomes counterproductive: it actually *reduces* the reader's attention to the emphasized text.[56] For this reason, a basic rule of design is that one should **never emphasize more than 10% of your text**.[57]

Below is an actual example of emphasized text from an actual purchase & sale agreement that I have seen. I have anonymized any relevant names to protect the identities of the parties.[58] I will use this text as an example to show how our ALL CAPS habit is counterproductive, and as an avenue for showing alternative solutions that are demonstrably more effective.

PURCHASER ACKNOWLEDGES THAT PURCHASER HAS INSPECTED AND INVESTIGATED THE PROPERTY (OR PRIOR TO THE CLOSING WILL HAVE INSPECTED AND INVESTIGATED THE PROPERTY) AND HAS ENTERED INTO THIS AGREEMENT BASED UPON SUCH INVESTIGATION AND INSPECTION AND PURCHASER'S RIGHT TO CONDUCT THE INSPECTION AND INVESTIGATION PURSUANT TO THIS ARTICLE. EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, INCLUDING WITHOUT LIMITATION THE WARRANTIES AND REPRESENTATIONS OF SELLER SET FORTH IN THIS AGREEMENT AND THE WARRANTIES CONTAINED IN THE CLOSING DOCUMENTS, PURCHASER ACKNOWLEDGES THAT IT IS RELYING SOLELY ON ITS OWN INVESTIGATION AND INSPECTION

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[55] Lidwell et al., *supra* n.46, at 126. Technically, emphasizing is "highlighting" in design-speak.
[56] *Id.*
[57] *Id.* ("Highlight no more than 10 percent of the visible design; highlighting effects are diluted as the percentage increases.").
[58] If this text comes from your document, dear reader, I offer as consolation that I have no doubt committed my own emphasis atrocities. I am as sinful here as is any other dirt lawyer.

OF THE PROPERTY AND NOT ON ANY INFORMATION PROVIDED FOR OR ON BEHALF OF SELLER. EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, INCLUDING WITHOUT LIMITATION THE WARRANTIES AND REPRESENTATIONS OF SELLER SET FORTH IN THIS AGREEMENT AND THE WARRANTIES CONTAINED IN THE CLOSING DOCUMENTS, THE SALE OF THE PROPERTY IS MADE ON AN "AS IS", "WHERE IS" AND "WITH ALL FAULTS" BASIS, AND PURCHASER EXPRESSLY ACKNOWLEDGES THAT, IN CONSIDERATION OF THE AGREEMENTS OF SELLER AND EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, INCLUDING WITHOUT LIMITATION THE WARRANTIES AND REPRESENTATIONS OF SELLER SET FORTH IN THIS AGREEMENT, SELLER HAS NOT MADE ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, OR ARISING BY OPERATION OF LAW, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF SUITABILITY, HABITABILITY, CONDITION, ELIGIBILITY, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PROPERTY OR ANY PORTION THEREOF AND EXCEPT AS EXPRESSLY PROVIDED IN THIS AGREEMENT, INCLUDING WITHOUT LIMITATION THE WARRANTIES AND REPRESENTATIONS OF SELLER SET FORTH IN THIS AGREEMENT, SELLER HAS NO LIABILITY OF ANY KIND TO PURCHASER ON ACCOUNT OF THE FOREGOING. THE PROVISIONS OF THIS PARAGRAPH SHALL SURVIVE THE CLOSING.

Did you read this entire provision? Maybe you did. You're a lawyer and you find this kind of thing interesting. You're habituated to both the subject matter, and also to reading stuff in ALL CAPS. You have lots of practice dealing with our lawyer habit of ALL CAPS text. "If you practice reading text in all capital letters, you'll eventually read that text as fast as you read mixed [regular] case."[59]

[59] Weinschenk, *supra* n.29, at 31.

But ordinary people don't read pages and pages of ALL CAPS text. To ordinary people, this is a 275-word visual assault and battery. How is a non-lawyer reader supposed to know what is *really* important here? For that matter, how is a lawyer reader supposed to know?

I grant that the "as-is, where-is" nature of the transaction needs to be driven home. So the words in this provision are important. But are *all* of them *equally* important? How can the nature of this transaction be clear to the reader when it's hard for the reader to even tolerate reading? Let's explore some other ways that we could bring *appropriate* emphasis to this "as-is, where-is" provision.

To address this challenge, we need to pull some concepts apart. First, we need to find the core message in this provision, drawing it out in order to give it appropriate emphasis. So we need to emphasize *words* at the "provision" level. Second, we need to find a way to set this entire provision apart from other provisions in the document in an appropriate way. We need to emphasize *provisions* at the "document as a whole" level. The example above illustrates that the go-to lawyer method of using ALL CAPS in an effort to do both at the same time ultimately succeeds at doing neither.

1.3.1 Emphasizing Parts of a Provision

Each provision in a document serves a purpose. Indeed, it is for this reason that we often give "section titles" to various provisions in our documents.[60] Considering the basic design rule that no more than 10% of a design should be emphasized, this means that we need to emphasize *appropriate* parts of a provision to drive home its message. The parts that should be emphasized are those that contain the core purpose of the provision in question. Below, I explore

[60] Yes, I grant that we generally include boilerplate in our documents stating that section titles are not to be used in interpreting the actual text of the provision. While that is true, it is irrelevant to the subject currently at hand.

some ways (new and old) that we can leverage word-level emphasis in the age of electronic documents.

1.3.1.1 Bold, Italics, and Underline

Along with all caps, these are our go-to emphasis techniques as real estate lawyers. Microsoft Word puts them easily at our fingertips, and so we reach for them frequently. However, design research shows that only two of them are actually useful.

Let's cut straight to the chase: **don't underline**. This is an outmoded typewriter technique: "Typewriters had no bold or italic styling. So the only way to emphasize text was to back up the carriage and put underscores beneath the text. It was a workaround for shortcomings in typewriter technology."[61] But more importantly, "[u]nderlining adds considerable visual noise and compromises legibility."[62] Even worse, in the 21st century, underlining text signals to the reader that the text is a hyperlink to some other form of media available through the internet.[63] The only thing that should ever be underlined is a hyperlink, and even those should be kept short in above-the-line body text.

Instead, **use bold and italics**, but use them for differing levels of emphasis. Think of italics as a first level of emphasis: "Italics add minimal noise to a design, but they are less detectable and legible."[64] Italics are like a gentle tap on the reader's shoulder. For a greater level of emphasis, use bolding. Bolding "clearly highlights target elements."[65] Bolding is like pushing the reader in a particular direction.[66]

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[61] Butterick, *supra* n.3, at 74.
[62] Lidwell et al., *supra* n.46, at 126.
[63] Butterick, *supra* n.3, at 75.
[64] Lidwell et al., *supra* n.46, at 126.
[65] *Id.*
[66] Further, ALL CAPS is the accepted internet convention for shouting. Please don't shout at people—it's not nice.

Let's explore what this provision might look like if we used an appropriate amount of bolding, instead of all caps:

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, **Purchaser acknowledges that it is relying solely on its own investigation and inspection** of the Property and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, **the sale of the Property is made on an "as-is", "where is" and "with all faults" basis**, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

In this example, I have emphasized 30 words. Although this is a little more than 10% of the text, it's not that much more than the recommended level. Note how

the visual noise is reduced, and the core message of the paragraph comes through more clearly.

A quick aside, because I know what you're thinking: Aren't you taking the risk that a court will find your "as-is, where-is" provision unenforceable because you didn't emphasize it hard enough? To that I would answer, aren't you taking the risk that a court will find your *overemphasized* "as-is, where-is" provision unenforceable? The legal test generally at play here is whether a provision like this one is "conspicuous." Conspicuousness "turns on the likelihood that a reasonable person would actually see a term in an agreement."[67] Design research shows that overemphasizing text actually causes readers to skip over the entire overemphasized section.[68] So as the inimitable Judge Kozinkski bluntly put it in a published Ninth Circuit case, "Lawyers who think their caps lock keys are instant 'make conspicuous' buttons are deluded."[69]

1.3.1.2 Typeface

Perhaps you don't think that the bold method illustrated above emphasizes things sufficiently. Fair enough. There are more robust techniques at our disposal. One of them is adjusting the typeface. There are three basic ways to apply this technique.

Yes, one of them is ALL CAPS. Truthfully, all caps is ok for a word or two—maybe a line at most.[70] Any more than that, and it backfires. Another technique

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[67] *In re Bassett*, 285 F.3d 882, 886 (9th Cir. 2002) (Kozinski, J.).
[68] Lidwell et al., *supra* n.46, at 126 ("Highlight no more than 10 percent of the visible design: highlighting effects are diluted as the percentage increases.") *See also* Butterick, *supra* n.3, at 83 ("If you need readers to pay attention to an important part of your document, the last thing you want is for them to skim over it. But that's inevitably what happens with all-caps paragraphs because they're so hard to read.").
[69] *In re Bassett,* 285 F.3d at 886 (pointing out that "there is nothing magical about capitals," and decrying "the canard that all language in capitals is automatically conspicuous, and the fallacy that language not in capitals isn't conspicuous").
[70] Butterick, *supra* n.3, at 82.

is to alter the point size of the emphasized text, but don't go overboard on the size difference.[71] A third one is to use small caps,[72] which is particularly useful for those who find it difficult to wean themselves off of the caps-lock key. A critical benefit of the small-caps approach for us dirt lawyers is that this method preserves the casing of our precious Defined Terms, which the all-caps approach obliterates. Now one need not wonder whether "PURCHASER" means *this* "Purchaser," or another to-be-determined "purchaser."

In the example below, I am combining two techniques, using the small-caps function, along with a very slight increase in the point size of the font:

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, PURCHASER ACKNOWLEDGES THAT IT IS RELYING SOLELY ON ITS OWN INVESTIGATION AND INSPECTION OF THE PROPERTY and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, THE SALE OF THE PROPERTY IS MADE ON AN "AS-IS", "WHERE IS" AND "WITH ALL FAULTS" BASIS, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but

[71] *Id.* at 86.
[72] *Id.* at 104.

not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

Perhaps you think this doesn't sufficiently emphasize the key points, either. Also fair enough. Let's up the emphasis ante a bit.

1.3.1.3 Color

Color can be a very effective means of emphasis. That being said, it is also a dangerous method of emphasis, for two reasons. First, colorblindness is surprisingly common. Statistics show that nearly 8% of males worldwide have some form of colorblindness.[73] Second, colors have cultural connotations that must be considered.[74] For example, in Western societies we associate red with danger. But in Chinese culture, red is associated with luck.[75] And in our internet-saturated world, blue text means "unclicked hyperlink," while purple text means "hyperlink that you've already clicked."

This leads to two rules of thumb when using color as a means of emphasis: First, color should never be the *sole* means of emphasis. It must always be used together with some other means. And second, it is important to consider the cultural context in which the document will be used.[76] With those rules in mind, let's

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[73] Colour Blind Awareness, https://www.colourblindawareness.org/colour-blindness/ (last visited 10 Dec. 2021).
[74] Weinschenk, *supra* n.29, at 27.
[75] Lucky Colors in China, https://www.chinahighlights.com/travelguide/culture/lucky-numbers-and-colors-in-chinese-culture.htm (last visited 10 Dec. 2021).
[76] *See* Weinschenk, *supra* n.29, at 23-29.

assume that our “as-is, where-is” provision is for a typical American audience, and try out some color. To make sure that color is not the sole means of emphasis, I have also bolded the emphasized text:

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser’s right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, **Purchaser acknowledges that it is relying solely on its own investigation and inspection of the Property** and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, **the sale of the Property is made on an “as-is”, “where is” and “with all faults” basis**, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

This method combines bolding and color into a powerful punch. It has the advantage of being readable to those who are colorblind, or those who may print

the document on a black-and-white printer. (Just please remember that this is a paper about electronic document techniques.)

1.3.1.4 Reverse Type

Reverse type is the nuclear weapon of textual emphasis.[77] Reverse type occurs when the background color and text color are swapped for one another. Many of us have become familiar with reverse type as "dark mode" has found its way into personal computing systems.

Reverse type is highly effective, but must be used sparingly.[78] Let's examine the power of reverse type on our "as-is, where-is" provision:

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, Purchaser acknowledges that it is relying solely on its own investigation and inspection of the Property and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, the sale of the Property is made on an "as-is", "where is" and "with all faults" basis, and

[77] Strictly speaking, blinking text is the most powerful weapon of document-design destruction. But good design principles forbid its use for all but life-threatening situations. As far as we are concerned, blinking text is more like the biological weapon of emphasis: incredibly powerful, but considered to be off-limits by decent humans. Remember websites from the 1990s? Nobody wants that again. *See, e.g.,* Lidwell et al., *supra* n.46, at 126.
[78] *Id.*

Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

1.3.2 Emphasizing Entire Sections of a Document

Now that we have explored "micro" level emphasis on particular parts of provisions, let's turn our attention to "macro" level emphasis and explore ways that entire provisions can be brought out of the document as a whole. Some of these are "old" in that a typewriter could have done them, and some of them are "new," in that they are more or less unique to the age of electronic documents. But all of them are more effective, and less optically offensive, than ALL CAPS.

1.3.2.1 Rules and Borders

Rules and borders are important to us real estate lawyers. But I'm talking about a different kind of "rule," and the "borders" of which I speak are not the boundaries of Blackacre. A "rule" is typography-speak for a "line," while a "border" is typography-speak for a box.[79] Either can be deployed as a means of emphasis. First, let's see what our "as-is, where-is" clause looks like when set off with a rule above and below it.

[79] Butterick, *supra* n.3, at 153-54.

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, Purchaser acknowledges that it is relying solely on its own investigation and inspection of the Property and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, the sale of the Property is made on an "as-is", "where is" and "with all faults" basis, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

Now, isn't that much easier on the eyes than all-caps? If you prefer, you can enclose the entire provision in a border. It's an aesthetic judgment. Whether one

goes with a rule or a border, these are "classic" approaches that would look as at-home on a typewriter as they would on an electronic document.

1.3.2.2 Margins and Negative Space

Emphasis is as much about contrast as anything else. The human eye is attracted to things that are different or unexpected in context.[80] And thus somehow, some way, you need to make the emphasized text different than the other text around it. Another "classic" approach to make this happen is utilizing margins, or what designers call "white space" or "negative space." Let's turn up the level of negative space to illustrate the point:

> Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, Purchaser acknowledges that it is relying solely on its own investigation and inspection of the Property and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, the sale of the Property is made on an "as-is", "where is"

[80] *See, e.g.*, Weinschenk, *supra* n.29, at 104 ("People are unconsciously aware that they have limited resources, and the brain therefore decides what it really needs to pay attention to and what it can ignore.").

> and "with all faults" basis, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

As with everything, negative space can be effective, but overdoing it will backfire.

1.3.2.3 Symbols

Suppose you are driving along a country road. Traffic is light, the weather is sunny and pleasant, and your favorite album is playing on the stereo. You're enjoying the drive, just motoring along on mental autopilot. You round a gentle curve and see this:

What do you do? You slow down, of course. Mental autopilot mode shuts off. You're on alert. There's danger somewhere. Something is amiss. You need to pay careful attention.

Symbols are incredibly powerful means of communication. So much so, in fact, that I am going to devote the entire next section of this paper to their use. But for now, let's just consider how a symbol could be used as a means of emphasis to bring attention to the entire "as-is, where-is" provision.

Purchaser acknowledges that Purchaser has inspected and investigated the Property (or prior to Closing will have inspected and investigated the Property) and has entered into this Agreement based upon such investigation and inspection and Purchaser's right to conduct the inspection and investigation pursuant to this article. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, Purchaser acknowledges that it is relying solely on its own investigation and inspection of the Property and not on any information provided for or on behalf of Seller. Except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement and the warranties contained in the Closing Documents, the sale of the Property is made on an "as-is", "where is" and "with all faults" basis, and Purchaser expressly acknowledges that, in consideration of the agreements of Seller and except as expressly provided in this Agreement, including without limitation the warranties and representations of Seller set forth in this Agreement, Seller has not made any warranty or representation, express or implied, or arising by operation of law, including, but not limited to, any warranty of suitability, habitability, condition, eligibility, merchantability or fitness for a particular purpose with respect to the Property or any portion thereof and except as

expressly provided in this Agreement, including without limitation the representations and warranties of Seller set forth in this Agreement, Seller has no liability of any kind to Purchaser on account of the foregoing. The provisions of this paragraph shall survive the Closing.

1.4 Bringing Typography Principles Together

Together, typefaces, visual hierarchy, and appropriate methods of emphasis (at both a "words inside of provisions" level and a "provisions inside of documents" level) are basic elements of real-estate-law document design. Understanding them, and making conscious decisions about how to effectively apply them, is more important in the age of electronic documents than it has ever been before.

Yes, learning to apply the principles described in this paper takes some work. Doesn't anything worth doing take some work? It also requires a degree of iconoclasm. To write this paper using the principles I advocate for here, I must deliberately choose not to obey ACREL's guidelines for print submissions,[81] which require the usual dirt lawyer formula of Times New Roman, 12-point font, one-inch margins. So to capitalize on this potential advantage, one needs to be willing to take a walk out onto an appropriate limb. But as the old saying goes, that's where the fruit is. In a highly-competitive legal landscape, why not choose to leverage proven techniques that others are likely to ignore?

[81] ACREL Guidelines for Written Materials, https://www.acrel.org/resource/collection/25FA0C93-F58C-4797-91B0-557B9DC22FD2/ACRELGuidelinesforWrittenMaterials_June_20141.docx (last visited 10 Dec. 2021).

2. ICONOGRAPHY

"A picture is worth a thousand words."[82]

Icons are all around us. An icon is a specific type of symbol that is "a visual representation of an object, action, or idea."[83] We see icons when we drive or cross the street, in the form of traffic signs and pedestrian walk / don't walk signs. We see them on the forecast when we check the weather before work, in the form of sun rays and rain clouds. We see them on the coffee maker that helps us wake up for work. We see them on the screen of our computer when we start work for the day.

Indeed, icons can be extremely effective means of nonverbal communication. Consider the following icon. It conveys a cultural meaning that does not require verbal explanation.

Interestingly, for all the places that icons exist in our daily lives, they are conspicuously absent from our legal documentation. In this section of this paper, I explore the use of iconography in legal drafting. Research shows that using icons is an exceedingly effective communication method—especially in the age of

[82] Common proverb of multiple origins. *See* Wikipedia, *A picture is worth a thousand words*, https://en.wikipedia.org/wiki/A_picture_is_worth_a_thousand_words (last visited 10 Dec. 2021).
[83] Nielsen Norman Group, Icon Usability, https://www.nngroup.com/articles/icon-usability/ (last visited 10 Dec. 2021).

screens. Yet experience shows that we dirt lawyers don't make use of them. I submit that it is time we did.

2.1 The Advantages of Visual Communication

Pictorial communication far antedates writing.[84] All of us know the cartoon "caveman" trope of club-carrying Flintstones-like humans pointing to cave paintings and rock drawings. There are sound reasons for this caricature. Humans first learned to communicate using images, and thus the earliest forms of writing were often pictorial in nature (e.g., Egyptian hieroglyphics). And even today, children learn to draw before they learn to write. Pictorial communication is innate to humankind.

Indeed, the evidence actually shows that humans recall images better than they recall words.[85] There are a variety of reasons for this. To start, images can be a more efficient means of representing information than words.[86] This is so because the human brain processes images faster than words, and images convey information to the human brain more directly.[87] Further, images have the potential for universal meaning, allowing communication without processing

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[84] *E.g.*, Wendy Page Free, Pictures and Words Together: Using Illustration Analysis and Reader-Generated Drawings to Improve Reading Comprehension 9 (2004) (Ed.D dissertation, Florida State University).

[85] *E.g.,* Susan Widenbeck, *The Use of Icons and Labels in an End User Application Program: An Empirical Study of Learning and Retention*, 18 Behaviour & Information Tech. 68, 69 (1999); Woodrow Barfield et al., *The Use of Icons, Earcons, and Commands in the Design of an Online Hierarchical Menu*, 34 IEEE Transactions on Prof'l Comm. 101, 106 (1991).

[86] Chrysoula Gatsou et al., *The Importance of Mobile Interface Icons on User Interaction*, 9 Int'l J. of Comp. Sci. & Applications 92, 96 (2012); Barfield et al., *supra* n.85, at 101; Yvonne Rogers, *Icons at the Interface: Their Usefulness*, 1 Interacting with Computers 105, 108, 113-14 (1989); David Gittens, *Icon-Based Human-Computer Interaction*, 24 Int'l J. of Man-Machine Stud. 516, 519, 539 (1986).

[87] Stefano Passini et al., *Icon-Function Relationship in Toolbar Icons*, 29 Displays 521, 521 (2008); Free, *supra* n.84, at 9, 27-29; Shih-Miao Huang et al., *Factors Affecting the Design of Computer Icons*, 29 Int'l J. of Indus. Ergonomics 211, 211 (2002); Barfield et al., *supra* n.85, at 101; Charles J. Kacmar & Jane M. Carey, *Assessing the Usability of Icons in User Interfaces*, 10 Behaviour & Infor. Tech. 443, 444-45 (1991); Thomas H. Carr et al., *Words, Pictures, and Priming: On Semantic Activation, Conscious Identification, and the Automaticity of Information Processing*, 8 J. Exper. Psychol: Human Perception & Performance 757, 771-72 (1982).

words at all, and thereby avoiding language barriers.[88] This is more than just the language barriers of different spoken tongues; it can also be language barriers amongst subcultures of the same tongue. Have you ever tried explaining non-consolidation opinions to a non-lawyer at a cocktail party?

The power of images is also particularly important for tasks that require complex reasoning. (Such as, say, lawyering.) Images serve as a form of "external memory" that frees up cognitive resources for complex, higher-order thinking.[89] Who among us couldn't use more cognitive resources these days? And further, images aid the comprehension and memory of written text.[90] For this reason, the so-called "multimedia effect" of images and words together is an especially powerful communication tool.[91] Take a look at any modern software product, and you'll see what I mean. There is almost always an icon or image associated with the text—if there is any text at all. The reason that modern software companies do this is because decades of research shows that it works.

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[88] Passini et al., *supra* n.87, at 521; Huang et al., *supra* n.87, at 211; Sine J.P. McDougall et al., *Exploring the Effects of Icon Characteristics on User Performance: The Role of Icon Concreteness, Complexity, and Distinctiveness*, 6 J. EXPERIMENTAL PSYCHOL. 291, 291 (2000); Kacmar & Carey, *supra* n.87, at 443; Rogers, *supra* n.86, at 106.

[89] Widenbeck, supra n.85, at 70; Arthur Glenberg & William E. Langston, *Comprehension of Illustrated Text: Pictures Help to Build Mental Models*, 31 J. MEMORY & LANG. 129, 149 (1992); Rogers, *supra* n.86, at 114.

[90] *E.g.*, Inouk E. Boerma et al., *Reading Pictures for Story Comprehension Requires Mental Imagery Skills*, 7 FRONTIERS IN PSYCHOL. 1, 2 (2016); Fei Yu, *An Analysis of Picture[s] for Improving Reading Comprehension: A Case Study of the New Hanyu Shuiping Kaoshi*, 2 THE NEB. EDUCATOR 1, 1 (2015); Detlev Leutner et al., *Cognitive Load and Science Text Comprehension: Effects of Drawing and Mentally Imaging Text Context*, 25 COMPUTERS IN HUMAN BEHAV. 284, 284 (2009); Free, supra n.84, at 10; Sine McDougall & Martin Curry, *More Than Just a Picture: Icon Interpretation in Context*, PROC. OF THE FIRST INT'L WORKSHOP ON COMPLEXITY 73 (2004); Diamanto Filippatou & Peter D. Pumfrey, *Pictures, Titles, Reading Accuracy and Reading Comprehension: A Research Review*, 38 EDUC. RES. 259, 275 (1996); Douglas P. Newton, *Pictorial Support for Discourse Comprehension*, 64 BRITISH J. EDUC. PSYCHOL. 221, 222 (1994); Arthur Glenberg & William E. Langston, *Comprehension of Illustrated Text: Pictures Help to Build Mental Models*, 31 J. MEMORY & LANG. 129, 129 (1992); Barfield et al., *supra* n.85, at 101; Rogers, *supra* n.86, at 115-16; Michel Denis & Jean-Francois Le Ney, *Centering on Figurative Features During the Comprehension of Sentences Describing Scenes*, 48 PSYCHOL. RES. 145, 151 (1986).

[91] Leutner et al., *supra* n.90, at 284; Barfield et al., *supra* n.85, at 102; Kacmar & Carey, *supra* n.87, at 445-46.

Finally, the research demonstrates that people prefer images to words, even when their task performance vis-à-vis text alone is immaterial.[92] In other words, people subjectively find it easier to work with images, even if their objective performance in comprehension is no different than working with words alone. Who wouldn't want our clients and stakeholders to enjoy working with our documents more than they do today?

"Well that's all great," you may be thinking, "but I'm a *words* person. And all my clients are words people too. Visuals just aren't right for us." I used to say that too. But I have been corrected, because the psychology research evidence does not support that proposition. You're a human, and all of your clients (or at least their warm-body, decision-making principals) are also humans. And simply put, **all humans are visual people**.

Why, then, do we undoubtedly-human lawyers so often fail to leverage imagery in our work? The answer is culture.

2.2 Textual Blinkers

As I have written elsewhere, there are strong parallels between computer programmers (who create "software code") and us lawyers (who create "law code"). The "code" that we lawyers create need not be statutory code (although it certainly can be). For example, when we create a contract, it must be able to process future fact patterns through its provisions, providing answers to its users on its own and without external human intervention. In much the same way, a piece of software must process future data through a computer, providing

[92] McDougall & Curry, *Icon Interpretation in Context*, *supra* n.90, at 77; Huang et al., *supra* n.87, at 212; Widenbeck, *supra* n.85, at 82.

answers to its users on its own and without external human intervention.[93] A contract can therefore be thought of as a "paper program" written in "law code".

Computer programmers learned a long time ago that ordinary humans cannot feasibly interact directly with the software code that they create. Even tech-savvy layfolk tremble at the sight of a "command line interface," where one must know how to incant the exact programming magic words the system needs to hear in order to get it to do what you want. Invoking the wrong spell can be disastrous, and could effectively destroy the computer (such as by accidentally invoking the command to reformat the hard drive). The parallels to laypersons attempting to be their own lawyers, invoking legal magic words that they do not truly understand, are readily apparent.

Raw software code just cannot be made simple for the untrained user, and few non-programmers will ever become familiar with the command-line interface and its peculiar argot. For this reason, by the 1980s the software industry had learned that they needed some sort of abstraction layer between their raw software code and the user. This abstraction layer became known as the "graphical user interface," or GUI. Today, more or less everything we do involving computers occurs through a GUI.[94] The most famous GUI (undoubtedly familiar to us all) is Microsoft Windows.

We lawyers have long known that our law-code creations are also not for the faint of heart. Some of our forebears have tried to do something about it. For

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[93] *See* Justin Lischak Earley, *Refactoring Our Documents: How Software Code Can Inform Legal Prose*, NEWS & NOTES (Am. College of Real Estate Lawyers, Fall 2020).

[94] *See, e.g.*, Alan F. Blackwell, *The Reification of Metaphor as a Design Tool*, 13 ACM TRANSACTIONS ON HUMAN COMPUTER INTERACTION 490, 500-01 (2006); ALAN COOPER, THE INMATES ARE RUNNING THE ASYLUM: WHY HIGH-TECH PRODUCTS DRIVES US CRAZY AND HOW TO RESTORE THE SANITY 17 (2004) ("Programmers aren't evil. They work hard to make their software easy to use. Unfortunately, their frame of reference is themselves, so they only make it easy to use for other software engineers, not for normal human beings.") Feel free to insert "lawyers" in place of "programmers" and the point is equally valid.

example, the "plain language" drafting movement, led most visibly by Brian Garner, has been around for at least twenty years.[95]

While it is a laudable effort, "plain language" legal drafting can only take you so far. Many (if not most) legal concepts cannot be made "plain" any more than can code blocks written in programming languages such as JavaScript or C++. I am confident that skilled software engineers can write "plain" lines of C++, and I am equally confident that I will not understand those lines, no matter how "plain" they may be to those trained in art of C++ coding. Software code simply requires a GUI to work for normal people.

Why ought we law-coders think that our type of code is any different? When we create a magisterial, 100-page loan agreement and hand it to a non-lawyer, they look at it with the same deer-in-the-headlights trepidation as when any of us would stare white-faced at a command-line interface. Despite the obvious parallels between law and software, why is there no GUI to help make our law-code work for normal people? I submit that a confluence of circumstances has kept us from realizing what other disciplines have learned.

2.2.1 Legal education and cognitive dissonance

Law school is often referred to as "intellectual boot camp." All of us understand why. The painful experience of law school is well-documented in the arts, from *The Paper Chase*[96] to *One L*.[97] As life imitates art, the statistics on law students' mental health are dire: "Depression among law students is 8-9% prior to matriculation, 27% after one semester, 34% after two semesters, and 40% after

[95] *See generally* Bryan A. Garner, Legal Writing in Plain English: A Text With Exercises (2001).
[96] The Paper Chase (20th Century Fox 1973)
[97] Scott Turow, One L (1977).

three years."[98] It is an open secret amongst the bar that law school is often a mentally-traumatizing experience.

Why, then, do many of us look back fondly upon the law school experience years later? I certainly get misty-eyed when thinking of my time at Duke. Part of the answer is probably that it wasn't nearly as bad as it seemed at the moment, because we did not have other life experiences to which it could be compared. Life moves on, and we gain perspective. But part of the reason is also no doubt what psychologists call "cognitive dissonance."

Cognitive dissonance occurs when we face two beliefs that are impossibly inconsistent, and have a compelling need to resolve the conflict.[99] For example, we are deeply proud of our legal educations, and we are also keenly aware of the mental pain we endured in achieving them. We humans have a need to appear consistent to ourselves, and so we have to choose: Many of us likely altered our perception about the law school experience to make it seem more positive in retrospect than it was in real-time. To do otherwise would be to admit to ourselves that the pain we endured wasn't worth it, which is emotionally very hard to swallow.

In short, when faced with cognitive dissonance, people often double down on what we *want* to be true.[100] This explains how those who go through some sort of a hazing ritual to achieve admission into a social group perpetuate the hazing to the next generation: They subconsciously choose to remember it differently in order to justify to themselves that their having undergone the experience was in fact worthwhile. They lionize the experience and elevate it to a socio-cultural

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[98] Dave Nee Foundation, Lawyers & Depression, http://www.daveneefoundation.org/scholarship/lawyers-and-depression/ (last visited 10 Dec. 2021).
[99] Weinschenk, *supra* n.29, at 70-71.
[100] *See id.* ("[When] presented with information that opposes your beliefs . . . the tendency is to deny the new information instead of changing your belief to fit it.").

pedestal, which makes it harder and harder to change it with each succeeding cohort enduring the ritual.

All of us learned the law through the entirely words-based, Socratic-questioning case method invented in the 1800s by Christopher Columbus Langdell. Although Langdell's underlying philosophy of "law as a science" has long been rejected, the words-based case method remains deeply entrenched in legal education to this day. Legal academics (themselves lawyers trained by the case method) are intellectually and emotionally wedded to the words-based case method, and find it difficult to conceive of what role visual communication skills could possibly play in the law.[101] Visual communication skills for lawyers are thus academically unexplored, and pedagogically untaught.

And so one generation of lawyers who has come to revere the word-combat, Socratic-method right of passage raises up another generation that adopts the same approach. And without any prior training in visual communication techniques, practitioners understandably find it hard to imagine utilizing them in real-world situations.[102] Lacking positive examples of how visual communication can be leveraged in legal drafting, the cycle repeats.

2.2.2 The weight of precedent

As attorneys, all of us know the importance of precedent. The Anglo-American legal system still largely operates upon the common law principle of *stare decisis*: "For it is an established rule to abide by former precedents, where the same points come again in litigation; as well to keep the scale of justice even and steady, and not liable to waver with every new judge's opinion...."[103] When judges

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[101] *E.g.*, Kara Abramson, *"Art for a Better Life:" A New Image of American Legal Education*, 2006 BYU EDUC. & L.J. 227, 227-28, 239, 244, 268, 292 (2006); *see also* Philip A. Hamburger, *The Development of the Nineteenth-Century Consensus Theory of Contract*, 7 L. & HIST. REV. 241, 245 (1989).
[102] *See* Free, *supra* n.84, at 8-9.
[103] WILLIAM BLACKSTONE, COMMENTARIES [ON THE LAWS OF ENGLAND], *available at*

make new decisions based on prior decisions, scriveners can draft in the shadow of those prior decisions, which provides a stable legal environment for contract negotiations. All of this is good for us and our clients alike.

An understandable outcome of the precedent-based approach is that one is generally disincentivized to do anything that has not already been tested before. This is true on many levels. When it comes to what the law actually is, the precedential cases are exclusively verbal in nature. And even on business points that are not strictly legal in nature, we often speak of what verbal formulation is "market" with the same weight as we would speak of a case that is "on all fours."

In short, there is a well-founded fear of straying from the herd and trying something new. We find malpractice safety in numbers. And so we look to the things we have always done before and do them over and over again, without asking whether there might be a better way to express a concept than perhaps lightly adjusting an already well-worn turn of phrase.[104] In this way, our precedent-based approach has likely done us some degree of harm by preventing us from experimenting with visual approaches.

2.2.3 The Precision Dichotomy

When we real estate lawyers do use visuals in our documents, we generally do so as exhibits *in support of* substantive text, but definitely not as substantive things in and of themselves. For example, common conventions include attaching a map of the property to a purchase and sale agreement, or attaching site plans to a development agreement. Our use of these images as exhibits suggests an

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https://avalon.law.yale.edu/18th_century/blackstone_intro.asp#1 (last visited 10 Dec. 2021) (modern English words substituted for archaic original).

[104] *See also* Kohlmeier & Klemola, *supra* n.6, at 16 ("Lawyers tend to rationalize the pitfalls of an idea to reduce risk. Because of this tendency, we find that many ideas in legal ecosystems are discarded before they even have the chance to incubate and flourish.").

underlying but generally unstated assumption: visuals are either "too vague" or "too precise" for use as substantive on their own.

For example, when I was in private practice, I often worked on timber transactions. Timber deals are notorious for their horrendous legal descriptions. It was not uncommon to see legal descriptions along the lines of "All the lands of Farmer Brown in the State of Franklin, County of Jefferson, bordered on the north by the lands of Farmer Green, on the east by the lands of Farmer White, on the south by the lands of Farmer Jones, and on the west by a swamp." Great. Where the heck is that?

A legal description this bad may well be legally unenforceable.[105] But the process of accurately surveying and creating precise legal descriptions for properties of the multi-thousand-acre scale of most timber deals would absorb unacceptable amounts of time and money. And so it is generally understood amongst practitioners and clients alike that in timber transactions, the legal description of the property to be conveyed may end up being something along the lines of a vague hand-drawn map of the "Brown Tract" dating from the early 1900s. It's a suboptimal compromise that's treated as "market." Here, the image is treated as a substantive term of last resort because it is too vague for its intended purpose.

Contrast that with the countervailing fear of an image being "too precise," in the sense that it may give the reader an expectation of details that the drafter does not want to be locked into. For this reason, site plans or similar renderings of a to-be-constructed project universally come festooned with disclaimers. For example, a homebuilder's online site plan for a new community near me contains the following disclaimer:

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[105] *E.g.*, DANIEL R. HINKEL, PINDAR'S GEORGIA REAL ESTATE LAW & PROCEDURE § 13-55 (6th ed. 2004) ("Instruments which fail to identify the land so that its boundaries can be definitely determined are void and without legal effect.")

Site plans, community maps, aerial photos, community photos and/or computer generated or enhanced depictions of communities (collectively 'Illustrations') may be posted on this Website for illustration purposes only. All site plans, community maps and computer generated or enhanced depictions shown are conceptual in nature and are merely an artist's rendition, and may not accurately represent the actual condition of the item being represented. All photos/videos shown depict the community or home as of the date taken. All Illustrations are solely for illustrative purposes and should never be relied upon. THE PAST, PRESENT, FUTURE OR PROPOSED ROADS, EASEMENTS, LAND USES, CONDITIONS, PLAT MAPS, LOT SIZES OR LAYOUTS, ZONING, UTILITIES, DRAINAGE, LAND CONDITIONS, OR DEVELOPMENT OF ANY TYPE WHATSOEVER, WHETHER REFLECTED ON THE ILLUSTRATIONS, OR WHETHER INSIDE OR OUTSIDE THE BOUNDARIES OF THE ILLUSTRATIONS, MAY NOT BE SHOWN OR MAY BE INCOMPLETE OR INACCURATE. THE PRESENT, FUTURE OR PROPOSED ROADS, EASEMENTS, LAND USES, CONDITIONS, PLAT MAPS, LOT SIZES OR LAYOUTS, ZONING, DRAINAGE, LAND CONDITIONS, OR DEVELOPMENT OF ANY TYPE MAY OR MAY NOT CHANGE IN THE FUTURE. IT IS NOT UNCOMMON THAT ANY OF THE FOREGOING CAN CHANGE WITHOUT NOTICE TO YOU. YOU SHOULD NEVER RELY ON THE ACCURACY OF THE FOREGOING OR THE ILLUSTRATIONS IN MAKING ANY DECISIONS RELATIVE TO PURCHASING ANY PROPERTY. [The developer] reserves the right to make changes to any of the foregoing at any time, without notice.[106]

[106] Lennar.com, Site Plan / Community Map Disclaimer, https://www.lennar.com/legal#site-plan--community-map-disclaimer (last visited 10 Dec. 2021).

Here, the image is treated as a substantive term of last resort because it may be too precise for its intended purpose. (As an aside, did you read *this* block of all-caps text in its entirety? How do your eyes find it to be now?)

The precision dichotomy is a real problem to be sure, but it infects our entire conception of the use imagery in real estate law with an unnecessarily broad heuristic of, "use only as a last resort."

2.2.4 The Picture Book Stigma

Let's just get out in the open what you're likely thinking: "What, are we making picture books here? I do serious real estate law stuff. I don't make kindergarten bedtime stories." This thought admittedly went through my mind when tasked with certain assignments in graduate school.

Rightly or wrongly, the use of imagery in documentation conjures images of diapers, onesies, and stuffed animals. It is true that children's books are generally image-laden and word-spare. As noted above, children generally learn to draw before they learn to read, and the use of images is empirically proven to help children learn to read. The association is thus understandable.

But you know what else is empirically proven? The fact that images are beneficial to adults, too. The social science research is laid out above. It's compelling. Eventually it pushed me to get past my own ego, and I concluded that it is not worth leaving points on the field just to preserve my preferred mental image of THE MAJESTY OF THE LAW.

2.2.5 Practical Problems

We all have favorite documents. The purchase and sale agreement from the X deal. The mortgage from the Y deal. They're great places to start, and pulling

them off the shelf greatly improves our efficiency as lawyers. Whether or not we bill hours, our clients (and our sanity) demand that we not "reinvent the wheel" when faced with a fact pattern that we've already written a "paper program" to address. Why do I want to spend time fixing what isn't broken?

And for that matter, we need to redline things. How do I redline an image? It's practically difficult. Redline software can detect that an image *has* changed, but it can't easily show me *how* it has changed. Adding images to documents creates negotiation headaches that we don't have today. Why introduce that friction?

These are legitimate points and we must consider them. But they ought not in and of themselves be dispositive on the whole of the subject. They are simply downsides to be weighed against the possible updsides to be gained by trying things that we have generally been unaware of in the past.

2.2.6 The Intellectual Moat Temptation

This is a paper about professionalism, and that means we need to address some of the darker corners of our collective psyche. The evidence discussed above shows that using images appropriately in our documents can simultaneously make them both more appealing and more understandable. Practical problems, ego issues, and lack of training aside, what's not to like here?

It is worth exploring whether perhaps, in our collective heart of hearts, we don't *want* our documents to be either more appealing or more understandable. When we are the only ones who understand them and can tolerate them, we make ourselves valuable and marketable to clients. Perhaps we have a subconscious (or barely-conscious) desire for an intellectual moat that protects our careers.

If so, we need to strongly consider the ethics of this. We are a profession, not a business.[107] Beyond that, the intellectual moat temptation is in my view likely to be self-destructive. There is a secular trend in society towards making things easy to use.[108] In some emergent legal practices (perhaps not surprisingly involving computers), the statutory law expressly rejects intentionally-bad design and presentation.[109] I speculate that it is only a matter of time before this type of intentionally-bad design or use of "dark patterns" becomes an equitable defense. This will probably start in areas where layperson consumers enter contracts of adhesion with mega-sized companies. It's unlikely to end there.

In any event, I submit that the secular trend towards ease of use is a tide that will wash away the unmoored from a market competitiveness perspective. Why not be on the right side of history? In my view, the question is not *whether* to utilize pictorial communication in real estate law practice, but *when*. I explore this topic below.

2.3 Using Icons in Legal Drafting

As noted above, the research evidence shows that icons are valuable to persons with all levels of knowledge about a topic.[110] That being said, two things are also apparent from the research: Icons are particularly valuable to novices,[111] and

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[107] Model Rules of Prof'l Conduct, Preamble 1, *available at* https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/model_rules_of_professional_conduct_preamble_scope/ (last visited 10 Dec. 2021).
[108] *See generally* Cliff Huang & Robert Fabricant, User Friendly: How the Hidden Rules of Design Are Changing the Way We Live, Work and Play (2019).
[109] *See, e.g.,* 11 Cal. Code Regs. § 999.305(a)(2) (requiring that a notice under the California Consumer Privacy Act "shall be designed and presented in a way that is easy to read and understandable to consumers"), *available at* https://www.oag.ca.gov/sites/all/files/agweb/pdfs/privacy/oal-sub-final-text-of-regs.pdf (last visited 10 Dec. 2021).
[110] McDougall & Curry, Icon Interpretation in Context, *supra* n.90, at 78; Rogers, *supra* n.86, at 108; Gittens, *supra* n.86, at 526.
[111] Gatsou et al., *supra* n.86, at 92; Gittens, *supra* n.86, at 526.

experts tend to like command-line interfaces,[112] regardless of the benefits of graphical interfaces.

This alone teaches us much about when icons might be useful in legal drafting. First, when one expert-in-the-field lawyer is drafting a document whose user will be another expert-in-the-field lawyer (or a similarly-situated non-lawyer expert), the benefits of using iconography may well be outweighed by the cultural preferences that we experts in "law code" have for our traditional approaches. The juice may not be worth the squeeze. However, when drafting a document whose user will be a non-lawyer or a non-expert, the opposite is true: Leveraging iconography is likely to have significant positive effects across the board. Indeed, litigators speaking to layperson juries have long known about and utilized the power of visual communication. Let's take a cue from their playbook.

To properly deploy icons, it is helpful to have a basic understanding of what the research shows about iconography. Below, I explore the basic research about iconography and design.

2.3.1 Iconography Primer

Icons come in three basic types: concrete, abstract, and semi-abstract.[113] A concrete icon is one whose referent is a tangible thing that can be experienced through the five senses.[114] For example, a fence is a tangible thing, and can be represented by the following concrete icon:

[112] Rogers, *supra* n.86, at 108.
[113] Widenbeck, *supra* n.85, at 69; Barfield et al., *supra* n.85, at 101; Kacmar & Carey, *supra* n.87, at 446.
[114] *See, e.g.*, Gorana Pobric, et al., *The Role of the Anterior Temporal Lobes in the Comprehension of Concrete and Abstract Words: rTMS Evidence*, 45 Cortex 1104, 1105 (2009).

By contrast, an abstract icon is one that does not refer to a physical object that can be experienced through the five senses. Instead, abstract icons refer to ideas or mental states.[115] For example, "happiness" is an abstract concept that can be represented by the following abstract icon:

A semi-abstract is (as its name implies) a combination of the other two possibilities.[116] Perhaps unsurprisingly given the topic at hand, although this is hard to describe verbally, it can be represented visually. The following is a semi-abstract icon that represents the concept of an "idea." In American culture, the light bulb is both a tangible, physical object and a representation of the abstract concept of innovation, perhaps deriving from the invention[117] of the physical light bulb itself:

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[115] *Id.*

[116] *See, e.g.,* Barfield, *supra* n.85, at 101 ("Semiabstract icons . . . consist of a combination of representational and abstract icons."); Kacmar & Carey, *supra* n.87, at 446 ("A semi-abstract icon is a combination of the characteristics from the representational and abstract categories.").

[117] *See, e.g.,* Nicholas Graham Platt, *How did the lightbulb become associated with a new idea?*, Medium.com, 13 Feb. 2016, *available at* https://medium.com/navigo/how-did-the-lightbulb-become-associated-with-a-new-idea-1dce1b6d648 (last visited 10 Dec. 2021).

Whatever its type, an icon's effectiveness depends on what psychologists call the "articulatory distance" between the icon and its intended referent.[118] This is the degree of mental processing required to "get" what the icon means. "The closer the visual representation is to the intended meaning, the shorter the articulatory distance becomes."[119]

The upshot is that three factors seem to result in more successful icons by shortening the articulatory distance needed to grasp the icon's meaning: simplicity,[120] concreteness,[121] and familiarity.[122] The simpler, more concrete, and more familiar an icon is to its observer, the faster it is visually located, and the less mental energy is required to process it. Of the three factors, familiarity appears to rule over the other criteria.[123]

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[118] Johanna M. Silvennoinen & Jussi P.P. Jokinen, *Aesthetic Appeal and Visual Usability in Four Icon Design Eras*, PROC. OF THE 2016 CHI CONF. ON HUMAN FACTORS IN COMPUTING SYS. 4390, 4391, 4395, 4398; McDougall & Curry, Icon Interpretation in Context, *supra* n.90, at 75; Gatsou et al., *supra* n.86, at 96; Kacmar & Carey, *supra* n.87, at 444.

[119] Gatsou et al., *supra* n.86, at 96.

[120] Sine McDougall et al., *What Makes Icons Appealing? The Role of Processing Fluency in Predicting Icon Appeal in Different Task Contexts*, 55 APPL. ERGONOMICS 156, 158 (2016); Gatsou et al., *supra* n.86, at 104; Sine McDougall et al., *Beyond Emoticons: Combining Affect and Cognition in Icon Design*, in ENGIN. PSYCHOL. & COGNITIVE ERGONOMICS 71, 72 (D. Harris ed., 2009); McDougall et al., *Effects of Icon Characteristics on User Performance, supra* n.88, at 296; Gittens, supra n.86, at 528, 538.

[121] McDougall et al., What Makes Icons Appealing?, *supra* n.120, at 158; Gatsou et al., *supra* n.86, at 105; McDougall et al., Beyond Emoticons, *supra* n.120, at 72-73; Pobric et al., *supra* n.114, at 1105; Passini et al., *supra* n.87, at 524; McDougall & Curry, Icon Interpretation in Context, *supra* n.90, at 74; McDougall et al., Effects of Icon Characteristics on User Performance, *supra* n.88, at 296.

[122] McDougall et al., What Makes Icons Appealing?, *supra* n.120, at 158; Silvennoinen & Jokinen, *supra* n.118, at 4396; Gatsou et al., *supra* n.86, at 104; McDougall et al., Beyond Emoticons, *supra* n.120, at 73; McDougall & Curry, Icon Interpretation in Context, *supra* n.90, at 76.

[123] McDougall et al., Beyond Emoticons, *supra* n.120, at 73.

Because people are hardwired to conserve energy,[124] people like simpler, more concrete, and more familiar iconography choices.[125] This user preference explains the modern trend away from "skeuomorphic" (life-like) iconography, and towards the simpler, "flat" style of iconography that often prevails in modern software.[126] Below are examples of skeuomorphic and flat icons so you can see what I mean. The first is a skeuomorphic icon from Windows 10. The second is a flat icon from The Noun Project, my favorite icon source:

Another reason to stick to simpler, more concrete, and more familiar icon choices is that icons lack grammar rules to sort out ambiguities (a process that psychologists call "disambiguation").[127] Attempting to overextend an iconographic metaphor can therefore backfire.[128] This counsels caution in using icons for legal concepts unfamiliar to the reader, or in becoming "too cute" with the use of icons. For example, it is probably a bad idea to try conveying the idea of "closing" a real estate deal by using an icon of a baseball pitcher. This requires too many mixing of metaphors, and is apt to foment misunderstanding.

2.3.2 Icons in Use: An Example

To review, the evidence suggests that icons may best be used in the following legal-drafting circumstances:

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[124] Weinschenk, *supra* n.29, at 132 ("Over eons of evolution, humans have learned that they will survive longer and better if they conserve their energy.").
[125] McDougall et al., What Makes Icons Appealing?, *supra* n.120, at 157.
[126] *Id.* at 156; Passini et al., *supra* n.87, at 521; Silvennonien & Jokien, *supra* n.118, at 4390; McDougall et al., Beyond Emoticons, *supra* n.120, at 71.
[127] Rogers, *supra* n.86, at 106; McDougall et al., Effects of Icon Characteristics on User Performance, *supra* n.88, at 291; Barfield et al., *supra* n.85, at 102; Gittens, *supra* n.86, at 527.
[128] Silvennoinen & Jokien, *supra* n.118, at 4391; Gittens, *supra* n.86, at 528.

- The document reader will be a non-lawyer or non-expert in the subject.
- The icons used are simple, concrete, and familiar to the reader.
- Aesthetics aside, flat icons are probably better fit for purpose because they are simpler than skeuomorphic icons.
- The icons should not require the user to understand a metaphor to grasp their intended meaning.

Let me offer a possible example from my own practice area that meets these criteria. The stock title insurance policy forms typically contain what we refer to as "access coverage." For example, the 2006 ALTA Owner's Policy and 2006 ALTA Loan Policy each provide coverage (at covered risk 4) against loss by reason of "[n]o right of access to and from the Land."[129]

Notwithstanding their apparent simplicity, these nine words have proven troublingly litigious. The title insurance industry intends by them to offer what is referred to as "legal access" coverage, which is to be distinguished from the "practical access" coverage offered by the ALTA 17 or 17.1 endorsement.[130] A

[129] ALTA 2006 Owner's Policy of Title Insurance & ALTA 2006 Loan Policy of Title Insurance, *available at* https://www.alta.org/policy-forms/ (last visited 10 Dec. 2021).

[130] *E.g.*, JOYCE D. PALOMAR, TITLE INSURANCE LAW § 5:8, at p.273 (2011-12 ed.) ("It is important to understand that the standard title insurance policy insures only a legal 'right of access,' and not any particular physical route."); BARLOW BURKE, THE LAW OF TITLE INSURANCE § 3:06, at p.3-94 (3rd ed., 2007 supp.) ("[O]nly the legal right to a roadway for ingress and egress is insured. The further fact that a tank or a four-wheel drive vehicle (for example, a Hummer) is needed to drive safely over the road is irrelevant. The fact that the road is…otherwise impassible is also irrelevant."); J. BUSHNELL NIELSEN, TITLE & ESCROW CLAIMS GUIDE § 9.7.1, at p.9-40 (2d ed. 2013) ("The access coverage is also not invoked if the insured possesses a valid access grant, but its path is over harsh terrain or is physically impossible to navigate."). Notably, while some commentators contend that the policy *should* offer practical vehicular access without need of an endorsement, the text of the policy and the weight of the caselaw is otherwise. *Compare* PALOMAR, TITLE INS. LAW § 5:8, at 275 ("Surely, insureds reasonably expect that insurance of a right of access means they will have access to the insured property over land by car or truck.") (citing, *inter alia*, *Marriott Fin. Servs., Inc. v. Capitol Funds, Inc.*, 288 N.C. 122 (1975)) *with* NIELSEN, TITLE & ESCROW CLAIMS GUIDE, § 9.7.1, at p.9-41 to 9-42 ("*Marriott* has not been followed by other courts. The reasonable-

common dispute fact pattern illustrates the difference: Insured receives a standard 2006 ALTA Owner's policy with no endorsements, and insured cannot reach the property by ordinary passenger car—notwithstanding that the insured indisputably has the legal right to reach the property—because the road is for whatever reason difficult or impassible.

The cut-and-dry answer is that there is no coverage for that fact pattern. The unvarnished 2006 ALTA Owner's policy simply provides coverage in the nature of legal access, which effectively means the legal right to reach the property by foot, without having to get permission from another landowner. If a person wants coverage against the inability to reach the property by car over certain named roadways with established curb cuts, that comes via the ALTA 17 or 17.1 endorsement. Numerous cases establish this proposition,[131] as does the plain language of the ALTA 17 series of endorsements.[132]

Nevertheless, the fact pattern continues to arise. People tend to go places by vehicle, not by foot. It is understandable that a person who is not deeply schooled in what title insurance truly covers in the access arena might incorrectly assume that "access" as used in the policy means access by vehicle. (Again, to be crystal clear: *It doesn't*.)

But suppose one was drafting tabula rasa, and wanted to express the basic proposition that there is coverage for lack of legal access by foot, but not for lack of access by vehicle. Why not just come out and say it? It's harder to verbally formulate than you may think. Think of the angles: How do you define "vehicle"? What if a 4x4 pickup truck can make it, but a Ferrari cannot? Does a bicycle

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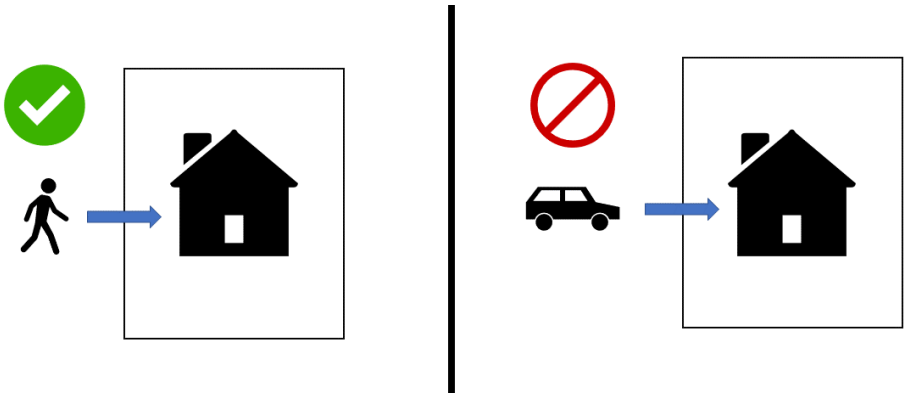
access ruling was flatly rejected [by other cases] . . . ."). In any event, the core point here is about how this debate might be meaningfully resolved through the techniques discussed in this paper.

[131] NIELSEN, TITLE & ESCROW CLAIMS GUIDE § 9.7.1, at p. 9-37 ("Courts have uniformly found that access coverage is limited, and does not provide implicit assurances as to the type of permitted access.").

[132] For example, the ALTA 17-06 endorsement provides coverage against loss or damage if, *inter alia*, "the Land does not abut and have both *actual vehicular and pedestrian access* to and from [insert name of street, road, or highway" (emphasis supplied).

count as a "vehicle"? What about a helicopter? Etc. The natural lawyer response here is to create carefully-worded defined terms, but this tends to become a laundry-list arms race that foments the arrival of more difficult fact patterns,[133] which in turn expand the layers of defined terms even more. The cycle then continues, creating an ever-more-complex document that becomes harder and harder for laypersons to understand.

What if, instead of crafting layers of defined terms that may themselves prove insufficient when tested in the crucible of a dispute, the scrivener tried a visual approach instead? Extensive and carefully-wordsmithed definitions are important when we need to define the precise contours of a concept. But that is not the task at hand. The core need here is simply to disabuse the reader of any expectation of access coverage by anything other than foot. Putting together the principles discussed above, here is a simple iconographic attempt to do so:



Observe how this approach touches all the bases noted above, suggesting that iconography could be a successful tactic: It is directed at non-lawyer / non-

[133] Indeed, to this end, the policy does not provide coverage for *actual* access, but rather a *legal right* of access. For example, a blizzard which temporarily blocks the insured's way in snowdrifts is not an access title claim. But this is beside the core point at hand.

expert recipients; it uses simple, concrete, and familiar concepts (walking, cars, houses); the "flat" icons are distilled to their essence; and there are no difficult metaphorical dots to connect.

Is this "visual scrivening" approach perfect? I highly doubt it. But notably, unlike most of what we lawyers do, in this case *the efficacy of the approach is empirically testable*. Its effectiveness is not a matter subject only to mere opinion or speculation. There is a right answer here: no coverage. The empirically-testable question is which communication approach (words or iconography) better conveys that message.

It would be a fascinating piece of practical legal design research to find an appropriate cadre of volunteers, and divide them into two groups. Give each of them the same fact pattern: "Do you have coverage against being unable to drive your car to your property?" Show one of the groups the language from covered risk 4 of the 2006 ALTA title insurance policies. Show the other group the iconographic approach illustrated above. See which group answers the question correctly at a greater rate.[134]

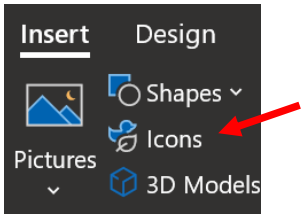
I don't know the answer, but based on the principles set out above, I know where I'm putting my money. This is a user-centered, design-thinking approach to a legal drafting problem. I submit that the practice of law would benefit from more approaches like this one. Perhaps there are similar opportunities to explore iconographic approaches—or even just to leverage general legal design principles—in your practice area?

[134] I submit that social science research like this is underutilized in legal practice. Deploying it in circumstances like these would actually be "law as a science" in a way that Christopher Columbus Langdell could not have imagined. If any of my readers are interested in exploring controlled experiments in this vein, I would appreciate hearing of your interest, and looking for opportunities to partner up.

2.4 Bringing Iconography Principles Together

As discussed above, the evidence demonstrating that iconographic approaches work in the right circumstances is compelling. And yet, for a variety of cultural reasons, we real estate lawyers have left these advantages untapped. Research suggests that icons will be most useful when we are drafting for non-lawyers / non-experts; when the icons we use are simple, concrete, and familiar; when we use flat rather than skeuomorphic icons; and when we avoid icons as metaphors for something else.

Perhaps I have convinced you to give it a try. If so, you may be wondering where you can get icons. Luckily for you, Microsoft Word contains a variety of them. You can find them in the "Insert" menu, under the sub-menu "Icons." Here is a screenshot showing it on my system (running Windows 10, Microsoft Office 365):



While Microsoft's icons are readily available to anyone who has Word, my favorite icon source is The Noun Project. It is a fantastic, ever-growing collection with an *incredibly* friendly license agreement that costs a mere $40 per year. Specifically, "the license lets you . . . use the icon for any purpose, even commercially, without giving the creator credit."[135] Almost every icon in this paper comes from this source. My Noun Project subscription is among the best $40 that I spend per year. At that price, why not experiment with it?

[135] https://thenounproject.zendesk.com/hc/en-us/articles/200509938-What-if-I-don-t-want-to-or-can-t-credit-the-creator-in-my-work- (last visited 10 Dec. 2021).

3. Hypermedia

> *"[The internet is] interpenetrating our everyday reality to the point that on-line is our normal waking state."*[136]

The concept of hypermedia dates to a 1965 article by philosopher of technology Ted Nelson. In this piece, Nelson prognosticated: "Let me introduce the word 'hypertext' to mean a body of written or pictorial material interconnected in such a complex way that it could not conveniently be presented or represented on paper."[137] And Nelson did not limit his thinking to strings of text. He also mused about "[t]he hyperfilm—a browseable or vari-sequenced movie—[as another] of the possible hypermedia that require our attention."[138]

By now all of us are intimately familiar with these concepts, which run the series of interconnected networks that we now just commonly refer to as "the internet." Most of us don't use technical terms like "hypertext" or "Uniform Resource Locators," and rather we just speak of "links." We talk about "clicking on a link" or "opening a link" as means of navigating through the world wide web of hypermedia consisting of everything from web pages of weather forecasts to SEC disclosure documents to LinkedIn feeds to Zoom meeting logins to cat videos on YouTube. In so doing, we are living out Nelson's vision from over 50 years ago. Today's internet does things that would have once passed for magic: "[It] integrate[s], for human understanding, bodies of material so diversely connected that they could not be untangled by the unaided mind."[139]

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[136] Attributed to William Gibson. *See* https://www.skmurphy.com/blog/2014/09/30/quotes-for-entrepreneurs-september-2014/ (last visited 10 Dec. 2021).
[137] T.H. Nelson, *A File Structure for the Complex, The Changing and the Indeterminate*, at 96, 1965 Proceedings of the ACM, *available at* https://dl.acm.org/doi/10.1145/800197.806036 (last visited 31 July 2021)
[138] *Id.*
[139] *Id.* at 97.

Given that all of us utilize these various forms of hypermedia every single day, it is perhaps a bit surprising that the use of hypermedia in real estate documents is embarrassingly underdeveloped. Although I do on occasion stumble across a real estate document making use of hypermedia, it is a rare sighting. Why? Again, I submit that this is because we have traditionally viewed our documents through the lens of paper, whereas hypermedia is an inherently screen-based technology.[140] Under a paper-based worldview, if a document is not "complete" until it becomes paper, then spending time working on features that will only work on screens is a waste of time. You might as well be making the bed in your hotel room before checkout.

It's time to rectify this. In the 21st century, where screens are the default way of using our documents, hypermedia opportunities abound. All of us have by now gotten lost going down "the Wikipedia rabbit hole," or have spent time on the couch engaging in "Zillow tourism." The instant-transportation experience of hypermedia is engaging, compelling, and convenient to the user, and "[i]ts use can be easily taught to people who do not understand computers."[141]

I see two underutilized opportunities for hypermedia in our real estate documents. First, hyperlinks could be better utilized to navigate *within* our documents. And second, hyperlinks could be better utilized to connect readers with sources and data that are *external* to our documents. Let's explore each of these use cases.

3.1 Internal Navigation

Real estate documents are often long. A 100-page purchase and sale agreement is table stakes in a modern commercial real estate transaction. All of us have had

[140] *Cf. id.* at 98 ("[Nelson's hypothetical file system] can be . . . implemented or incorporated in any programming language.")
[141] *Id.*

the experience of trying to navigate through our voluminous documents in paper form. It's rarely fun.

First, we pull a stack of paper from somewhere, and lug it to our desk. We read, then discover that we need to reference another section, or examine an exhibit. So we hold the original page with one hand, flipping pages with another, hoping to avoid both paper cuts and losing our original place while acting as a human bookmark. Given that *this* is the paper experience, it's somewhat bizarre why we should cling to it. Instead, leveraging hypermedia could make our documents significantly more usable to our readers.

Let me propose that any document longer than thirty or so pages should have a table of contents, along with document-internal links that provide for easy navigation to referenced sections. It's not hard to add "internal links" to your documents. You can learn how to do it here. Beyond this basic level of interactivity, even richer experiences (such as a "pop up window" giving the definition of a term, in context) are imaginable.

I don't have any scientific research to support my 30-page recommendation: "It's just, like, [my] opinion, man."[142] But my opinion is reasoned: I feel this way because it becomes difficult for me to effectively scroll through anything longer than about 30 pages. And indeed, the issues that I have with scrolling are supported by the research. One study found that "[t]he mousewheel, scrollbar thumb, and paging keys account[ed] for 80.2% . . . of all navigated distance in [Microsoft] Word . . . ."[143] These are inefficient mechanisms for navigating long distances within documents, and they strain humans' spatial memory capabilities.[144] Little surprise then that one study mused about the possibility of

[142] THE BIG LEBOWSKI (Sundance 1998).
[143] Jason Alexander & Andy Cockburn, *An Empirical Characterization of Electronic Document Navigation*, GRAPHICS INTERFACE 123, 129 (2008).
[144] Andy Cockburn, Carl Gutwin & Jason Alexander, *Faster Document Navigation with Space-Filling Thumbnails*, 2006 PROCEEDINGS OF THE ACM, at 1 ("Scrolling is the standard interface control for

applying web-browser conventions to aid document navigation.[145] It's hard to imagine anything more "web browser" than links to sections of our documents. Let's use them.

3.2 External Navigation

Much of our documents' heft consists of substantive text, but much of it also consists of exhibits referred to in those substantive provisions. The content of our exhibits can vary widely, from survey plats to complete versions of other documents in and of themselves, as when a purchase and sale agreement contains the form of deed to be utilized at closing.

I certainly understand the desire to have "self-contained" documents that stand entirely on their own, without the need to locate anything else extrinsic to the document. There are strategic reasons for it. Take a purchase and sale agreement. By attaching all of the closing document forms, it helps avoid the possibility of later disputes about the provisions of those documents: "We already agreed to that document's form. It's in the PSA." And of course, there are also convenience reasons for having all of your closing documents near at hand, in one place.

But stacking our documents with exhibits to everything that might ever possibly be relevant is a paper-centric workaround. In the age of screens, making the document longer and longer by attaching more and more exhibits only increases the difficulty of navigating through the compiled document. Further, it creates a logistical headache for the document drafter, who always needs to make sure that the "most current" version of an exhibit is attached at the time of compilation. Errors are (in my experience) unsurprisingly common.

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navigating through almost every type of digital document, yet several researchers have observed that it causes a performance bottleneck.").

[145] *See* Alexander & Cockburn, *supra* n.143, at 129.

Beyond this, there are things that are simply ill-suited to being shoehorned into an 8 ½" by 11" cage. Take plats of survey, for example. Many surveyors now deliver these as high-fidelity PDFs, with extraordinary resolution that enables zoom-in inspection without magnifying glasses. Why are we throwing away this rich experience by unnaturally contorting it into a paper pretzel?[146] Further still, the days of real estate exhibits that are in no way "documents" that could be made into an "exhibit" are at hand. Consider the possibility of drone-video site inspections, augmented reality surveys, and the like. How are we going to attach one of those in paper form as "Exhibit T"?

Let me therefore propose that we ought not to be attaching as exhibits that which could be hyperlinked. When I left private practice ten years ago, I was giving the firm's clients closing binders in both paper and compact disc format. Today, there is generally no compelling reason to have any type of physical media at all.[147] Cloud storage is insanely cheap, and it opens the possibility of solving the problems discussed above.

First, utilizing hypermedia links to ancillary matters keeps our documents shorter, cleaner, and easier to navigate. It enables the reader to find the thing you're referencing from within the sentence where you're referencing it, instead of having to remember whether it's found at "Exhibit C," "Attachment 3-1," or "Addendum F6." Just click on the link and go to it.

Second, appropriate use of hypermedia can solve "the versioning problem" that arises during document compilation. Did you remember to attach as Exhibit V the final draft of the environmental guaranty that we finished at 11:26 pm last night? No? Things like this can easily slip through the cracks in the madness of a

[146] 2021 ALTA-NSPS Survey Standards, section 8 ("A digital image of the plat or map may be provided in addition to, or in lieu of, hard copies pursuant to the terms of the contract.").
[147] I grant that there may be certain places where an ink-signed physical document is still legally necessary, as in the case of commercial promissory notes, or documents to be recorded in the land records of certain technologically-challenged counties. These are now exceptions rather than the rule.

closing. Instead of "slipsheeting" the final execution documents to fix the oversight, how about preventing the problem instead? If you create an appropriate hyperlink to your environmental guaranty document that resides in a modern cloud document-management platform, the "most current" version of that document can always be found there, without your having to remember to do anything else.

You might be thinking about security challenges. They are real, but eminently solvable. "Can't everyone get to a web link?" Yes, and no. Modern cloud storage platforms have robust access controls. If you want anybody to be able to reach the document through a link, you can make that happen. Or if you want only certain people to be able to reach the document through the link, you can make that happen, too. And in well-controlled systems, you can even prohibit downloading if you really want to. Importantly, these access controls can be amended on a moment's notice. By contrast, once paper is printed and released into the wild, it is forever uncontrollable as a practical matter.

Is electronic security foolproof? Of course not. But there is no such thing as an impregnable fortress. The only true security lies in hardening the target to the point that it's not worth the effort to try and overcome the security protocols. In this regard, electronic methods are already superior to the "please don't distribute this further" primitivity of paper.

3.3 Bringing Hypermedia Principles Together

The best thing about hypermedia links is that they can instantly take you to where you want to go. Internal cross-references through links can eliminate the pain of scrolling through a three-digit page count. External links can ameliorate document compilation challenges, while preserving the rich digital experience of modern real estate due diligence materials. And as real estate moves ever more into the 21st century, even richer interactive experiences such as augmented

reality are no doubt at hand. There will soon be no way to cram these emergent materials into an 8 ½" by 11" exhibit cage.

But the worst thing about hypermedia links is when they *don't* instantly take you where you want to go. Users are acculturated to instant gratification when they see a link. When links don't work, our frustration is heightened. Therefore, watch out for dangers such as "broken links;"[148] software that the user may need to experience the hypermedia, but not have; and the possibility that the user may not have sufficient internet bandwidth to experience the hypermedia at the time the link is clicked.

The benefits of hypermedia far outweigh these problems. Some advance thought can go a long way towards ameliorating them. Links can be tested by a trusted third party (say, a paralegal) before external transmission. Using common file types that are web-friendly can avoid software compatibility issues. And there are ways of giving users appropriate warning of large-size documents before they click on links to them. (Iconography, anyone?)

The bottom line is this: You use the internet every day. So do your clients. And so does pretty much everyone in Western civilization. Hyperlinks are everywhere, and people are used to them. Appropriately leveraging them in our real estate documents is a no-brainer.

[148] The colloquial term for what happens when a uniform resource indicator is "pointing" to the wrong location.

Conclusion

> *"In times of change, learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists."*[149]

The world around us today changes at a pace that would have been incomprehensible to those living just a few generations ago. In my own middle-aged lifetime, we have gone from the science fiction of Star Trek tricorders to the reality of having them in our pockets and purses in the form of modern smartphones. I am among the youngest Fellows of this College, and many of those reading this paper have seen even greater change in their respective lifetimes than I have in mine. This pace is simply breathtaking when viewed in historical context.

Case in point: If you have not done so yet, you will soon meet a person who has never heard a landline phone's dial tone. To these persons, the concept of a phone tethered to a wire is an archaic relic. *These are the lawyers, judges, juries, and future clients that will be interpreting the real estate documents that we create today*. How can they possibly relate to much of what we currently do? To the generation right behind my own, many of our prevailing real estate document approaches are as much museum pieces as are the handwritten deeds that we sometimes find from the 1800s.

The time has come to stop thinking about our documents through the lens of the lowest common denominator, using a mental model of typewriting pools in the 1950s. The world has advanced, and it is time that did as well. Willingly or not, the Pandemic has driven us into the long-predicted but late-arriving era of electronic real estate transactions. Screens are now the default, rather than the outlier. Our default document approaches need to take account.

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[149] Eric Hoffer Quotes, The Cite Site, https://thecitesite.com/authors/eric-hoffer/ (last visited 14 Dec. 2021).

Will this be easy? No, assuredly not. There will be hard problems, edge cases, frustrations, and workarounds. As the finest real estate lawyers in America, your minds are no doubt brimming with myriad possible problems, and I do not profess to be able to offer an answer to every objection.

But this paper is a call to action, and not a comprehensive how-to guide. In law school, we all learned the importance of being able to teach ourselves new concepts and skillsets. No class that I took in law school gave me any useful insight into the how-to's of drafting cash flow waterfalls in LLC agreements, but I had to learn how to do it. It was not easy, and understanding the mathematics of IRR hurdles was well outside of my wheelhouse, but I adapted. And adapting was no doubt part of how my then-fledgling legal career survived the vicious culling of the Great Recession.[150]

Learning principles of good document design will not be easy for many of us. It was not easy for me. It was far outside of my wheelhouse. Much of my early work in graduate school is rather pathetic when viewed in retrospect. Indeed, even crafting this paper to have "the look and feel" that I wanted was still challenging for me. More than a few curse words were uttered in the direction of my word processor in the creation of this text.

But I pushed forward and adapted. And in so adapting, I have gained a new skillset that I appreciate immensely as a competitive advantage in a cut-throat legal marketplace. Even for those of us who work for large corporations as salaried employees, the world is not as static as private practitioners may have been led to believe. We may not need to "eat what we kill," but we can still be "right-sized" out of our paychecks. Ossification is a recipe for redundancy.

[150] More importantly, I was also very, *very* lucky to have mentors and supervisors who believed that I was an investment worth saving. Some are no doubt reading this paper. I owe my career's existence to you.

It need not be so. Modern information design approaches are not beyond our reach. To even become a lawyer, you divined the mysteries of proximate cause, and you tweezed apart the permutations of the rule against perpetuities. Mastery over Microsoft Word and its kin is most assuredly within your powers. You can do this. You need only *want to*.

JLE