

AGAINST NOTICE SKEPTICISM

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Requiring notice is a very popular way to regulate. It is also among the most heavily criticized. This article undermines the case for notice skepticism by exposing two erroneous assumptions critics of notice commonly make.

The first assumption is that notice is monolithic. It is not. Notice consists of several, distinct strategies. It is surprisingly common for a lawmaker to select the wrong form(s) of notice for the particular context or concern. A statute will require a warning, for instance, where other categories of notice such as reporting or notification would be more effective and less costly.

The second assumption is that notice must consist of language or its symbolic equivalent. Experience itself can also constitute a form of non-linguistic or “visceral” notice, one less susceptible to cognitive and other limitations. Electric cars, being silent, put pedestrians at risk. Officials could post warnings throughout the city that many would miss or tune out or ban the technology altogether. Instead, some regulators have proposed requiring that electric car manufacturers reintroduce an engine noise. Various emerging techniques can change our mental models in legally relevant ways without recourse to text or symbols.

The prevailing notice skepticism should not succeed in convincing lawmakers, academics, and others to abandon notice as a strategy without first acknowledging and correcting these errors. Officials, meanwhile, should look to these insights as they consider mandatory notice going forward.

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INTRODUCTION

Requiring the provision of notice is a singularly popular means by which to regulate conduct.¹ It is also among the most heavily criticized. Dozens of well-researched papers across a wide variety of expertise discuss the failures of mandatory notice (sometimes “disclosure”) at length, often concluding that the strategy should be abandoned.²

It is not hard to see the allure of notice skepticism. Examples abound of notice failing dramatically or doing more harm than good.³ People not only decline to read privacy policies,⁴ for instance, but believe incorrectly that the mere existence of one means that the company has a “policy” of protecting their privacy.⁵ New York City passed an ordinance requiring

¹ See William Sage, *Regulating Through Information: Disclosure Laws and American Health Care*, 99 COLUM. L. REV. 1701, 1707 (1999) (“Enthusiasm for mandatory disclosure laws is reaching a fever pitch. Virtually every bill under consideration by Congress to regulate managed care devotes major portions to information disclosure and dissemination.”); Paula Dalley, *The Use and Misuse of Disclosure as a Regulatory System*, 34 FLA. ST. U. L. REV. 1089, 1092 (2007) (“There are dozens, possibly hundreds, of regulatory schemes that use disclosure in whole or in part to accomplish their purposes.”); RICHARD THALER AND CASS SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 188-93 (2008) (hereinafter “NUDGE”) (noting multiple examples of mandatory notice).

² See, e.g., Sage, *supra* note 1 (criticizing notice in the context of healthcare); Howard Latin, “Good” Warnings, Bad Products, and Cognitive Limitations, 41 UCLA L. REV. 1193 (1994) (product liability); Fred Cate, *The Failure of Fair Information Practice Principles*, in CONSUMER PROTECTION IN THE AGE OF INFORMATION ECONOMY (2006) (online privacy); Lauren Willis, *Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending Price*, 65 MD. L. REV. 707 (2006) (predatory lending); Steven Schwartz, *Disclosures Failure in the Subprime Mortgage Crisis*, 2008 Utah. L. Rev. 1109 (2008) (subprime lending); Steven Schwartz, *Rethinking the Disclosure Paradigm in an Age of Complexity*, 2004 U. ILL. L. REV. 1 (2004) (securities regulation); Geoffrey Manne, *The Hydraulic Theory of Disclosure Regulation and Other Costs of Disclosure*, 58 ALA. L. REV. 473 (2007) (same); Susanna Kim Ripken, *The Dangers and Drawbacks of the Disclosure Antidote: Toward A More Substantive Approach to Securities Regulation*, 58 BAYLOR L. REV. 139 (2006) (same); Charles Weisselberg, *Mourning Miranda*, 96 CAL. L. REV. 1519 (2008) (*Miranda* warnings). There are many other examples, including general critiques of notice that span across contexts. See, e.g., Dalley, *supra* note 1 (general critique of notice); Omri Ben-Shahar & Carl Schneider, *The Failure of Mandated Disclosure*, U. OF PENN. L. REV. (forthcoming 2011) (same).

³ See *infra* Part I (walking through the case against notice).

⁴ See Cate, *supra* note 2 at 361 (“[T]he available evidence indicates that individuals tend to ignore privacy policies and consent requests if they can.”). According to one report, only .03% of the users read clicked on a website’s privacy policy. *Id.*

⁵ See Chris Jay Hoofnagle & Jennifer King, *Research Report: What Californians*

DRAFT

restaurants to undergo an inspection and to display the results in the form of a letter grade in a prominent location.⁶ Faced with a suboptimal hygiene grade, one sandwich shop dutifully displayed a “B” in the front window, to which it promptly added the letters “est restaurant in town.”⁷

Yet for all of their anecdotes and evidence, critics of notice routinely make erroneous assumptions. They marshal extensive, accurate evidence,⁸ only to fall into what are at base analytical mistakes that seriously undercut the case against notice.⁹

Their first assumption is that notice as a strategy is monolithic. It is not. Notice comes in a variety of forms, each with its own audience, purpose, and typical format.¹⁰ Whereas a “warning” seeks to inform any individuals within a particular context to a danger, often in an effort to shift responsibility for injury, a “notification” alerts one or more specific individuals of an obligation to act or lose a right or opportunity. Warnings and notifications differ from a “reporting” requirement, which is an obligation to release information generally about relationships, products, or practices. Each arguably differ from “terms”—that is, boilerplate and other quasi-contracts that explain ground rules and rights.

That notice skepticism can assume away the plurality of notice is important because blinds critics to the surprisingly common situation where a lawmaker selects *the wrong form of notice* to accomplish a given regulatory objective. A regulator mandates a warning, for instance, where reporting would accomplish the same goal to a greater degree and at a lesser cost. Or, alternatively, a regulator only requires terms where the use of multiple notice strategies might have been effective.¹¹ Rather than walk

Understand About Privacy Online, SSRN eLibrary (2008), online at <http://ssrn.com/abstract=1262130> (last visited March 14, 2011) (noting that a majority of Californian adults believe that the mere existence of a privacy policy translates into specific limitations on what a company may collect or disclose).

⁶ Glenn Collins, *Restaurant Grading Begins in New York*, N.Y. TIMES, Jul. 27, 2010, available online at <http://www.nytimes.com/2010/07/28/nyregion/28inspect.html>.

⁷ Aaron Rutkoff, *Restaurant Makes Best Out of ‘B’ Grade*, WALL STREET J. (Sept. 17, 2010), available online at <http://blogs.wsj.com/metropolis/2010/09/17/restaurant-makes-the-best-of-b-grade> (last visited March 14, 2011).

⁸ See *infra* Part I.

⁹ See *infra* Parts II and III.

¹⁰ There are, of course, other differences. But, as discussed in detail below, these in particular turn out to have important policy consequences.

¹¹ Consider the complex problem of electronic surveillance. Websites generally inform users that they will comply with lawful requests for information but, as notice skepticism predicts, no one reads the terms where this information appears. But this does

through the alternatives, critics of notice often examine only the strategy chosen in the particular instance and, finding it lacking, move on to propose non-notice alternatives (or declining to offer a solution altogether).¹²

Notice skepticism's second assumption is that notice necessarily involves language, or at least symbolic representation. This assumption is also unwarranted. Most notices do in fact rely on words or symbols. But there is a growing recognition among researchers, firms, and regulators that language is not the only means to convey notice, nor always the most efficient.¹³ Indeed, experience itself can constitute a kind of non-linguistic or "visceral" notice, altering expectations and understanding while avoiding many of notice's apparent pitfalls.

Consider the context of electric and hybrid vehicles. Such vehicles are, by and large, silent and therefore lack one of the sensory cues available to pedestrians to avoid them.¹⁴ This is particularly problematic for the visually

not mean that notice as a strategy is not useful. To the extent that the target of a subpoena may be in the best position to challenge its legitimacy, we might call for mandatory user notification. To the extent that electronic communications in storage for longer than 180 days cease to be protected by a warrant requirement, concerned users might expect a warning. And, insofar as we are worried about the overall volume of electronic surveillance, we might require law enforcement to disclose requests statistics. Part II discusses this and other, specific examples.

¹² See, e.g., Ripken, *supra* note 2 at 147 ("Rather than avoiding the merits of difficult questions, it may be time for regulators to lay aside the gospel of disclosure in favor of more substantive laws that regulate conduct directly."); Cate *supra* note 2 at 345 (critiquing privacy policies and proposing "substantive restrictions on data processing designed to prevent specific harms"); Ben-Shahar & Schneider, *supra* note 2 at *105 ("Our task is *not* to propose an alternative. ... We believe commentators and lawmakers must instead undertake the intellectually burdensome and politically painful work of tailoring solutions to problems.") (emphasis in original); Latin, *supra* note 2 at 1295 ("Good produce warnings may be useful, indeed necessary ... but their value is inherently limited and they consequently should not be treated as legally a acceptable alternative to safer product designs and marketing strategies."). See also Willis, *supra* note 2 at 821-238 (proposing both substantive regulation and notice); Schwartz, *Rethinking the Disclosure Paradigm*, *supra* note 2 at 23-24 (same).

¹³ See *infra* Part III.

¹⁴ A 2009 study undertaken by the National Highway Traffic Safety Administration found that low speed collisions with pedestrians were "significantly higher" with hybrids and electrical cars than gas ones. NHTSA, "Incidence of pedestrian and bicyclist crashes by hybrid electric passenger vehicles" (DOT HS 811 204), available online at <http://www.nrd.nhtsa.dot.gov/Pubs/811204.PDF>. See also European Commission, SEC(2010) 631 [6.2] (Feb. 7, 2007) ("The Commission services are also aware of the possible safety risks if 'quiet' vehicles like hybrids or electric vehicles are not adequately noticed by pedestrians or other vulnerable road users."); European Commission, "Clean and energy-efficient vehicles - European strategy for the uptake of green vehicles"

DRAFT

impaired.¹⁵ Rather than outlaw such vehicles, or plaster the city with signs that people will miss or ignore, transportation authorities in the United States and elsewhere have proposed a requirement that electric cars emit a variable engine noise, instantaneously realigning pedestrian expectations with the realities of contemporary traffic.¹⁶

Reintroducing engines sounds into electric vehicles—or shutter sounds into phone cameras¹⁷—represents an example of leveraging our familiarity with one technology to inform our use of another. Another technique of experience as notice, explored in detail below, involves the use of known, psychological responses to certain design techniques. Anthropomorphic design, for instance, elicits pro-social behavior.¹⁸ Yet another involves “showing” consumers exactly what will happen of relevance to them, instead of merely telling them generally what might. A simple example is a game one learns by playing, another is a mortgage or loan calculator.

Notice skepticism relies, quite heavily, on certain facts—the human tendency not to read notices; the differences among us in understanding language; and our inherent cognitive limitations such as information

MEMO/10/153 (Apr. 28, 2010) (noting “potential risks due to the quietness of electric vehicles”).

¹⁵ See NHTSA, “Quieter cars and the safety of blind pedestrians” (GRB-50-09) (Sep. 2009), available online at <http://www.unece.org/trans/doc/2009/wp29grb/ECE-TRANS-WP29-GRB-50-inf09e.pdf>. See also C. Visvikis *et al.*, “Electric vehicles: Review of type-approval legislation and potential risks,” CPR810 (June 2010) (“[O]ne of the main concerns associated with the operation of low-noise vehicles, such as those powered solely by electric motors or hybrid vehicles operating in electric mode is that the low noise levels from these vehicles may increase the potential for pedestrians (especially visually impaired people) and cyclists to be involved in accidents with these vehicles.”).

¹⁶ See, e.g., “Pedestrian Safety Enhancement Act of 2008,” H.R. 5237 (Cong. 110) (proposing requirement to address relative quiet of electric and hybrid cars).

¹⁷ People generally know when their picture is being taken by an analog camera. The camera makes a distinct sound and, under many lighting conditions, emits a flash. Digital cameras are silent, rely less on flash, and, importantly, can be incorporated into common devices such as cell phones that do not look like cameras. It seems invasive and inefficient to require permission, post warning signs, or ban photography with a camera altogether. In the 111th Congress, a bill was proposed—H.R. 414, the Camera Phone Predator Alert Act of 2009—that would have required cell phones to make an audible shutter sound.

¹⁸ If you are trying to convey to a user that their activities are being observed, for instance, the best way to do so may be to introduce the appearance of an observer. A recent study in England showed that people pay for coffee for often on the honor system when researchers placed a pair of eyes over the collection basket. Melissa Bateson *et al.*, *Cues of Being Watched Enhance Cooperation in a Real-World Setting*, BIOLOGY LETTERS, 2(3):412–14 (2006).

overload and wear out—to make the case that notice cannot work.¹⁹ This critique begins to unravel if we acknowledge the possibility that experience can change mental models—that is, a set of expectations and understandings about a product, activity, or premises—instantaneously, unavoidably, and yet to the same extent as language.

The article proceeds as follows. Part I lays out the case against notice, highlighting the main reasons most notice fails. These include practical obstacles such as people’s failure to open notices that come in the mail or click on links to notices that appear in websites, as well as cognitive limitations such as information overload, wear out, framing effects, and the use of poor heuristics. Part I acknowledges that, in many instances and for several reasons, notice regimes backfire or otherwise do more harm than good.

The remainder of the article poses two challenges to notice skepticism as well as corresponding lessons for lawmakers interested in notice as a regulatory strategy. Part II explains why critiques of notice move too fast when they assume away the plurality of notice. Sometimes notice’s failure results not from an intrinsic problem with the strategy, but from a kind of selection error that officials can and should avoid. Part III explains how language and symbols are not the only means to convey notice, as notice skepticism generally assumes. Experience can constitute a form of instantaneous or universal notice, capable of changing expectations in the legally meaningful ways.

I. THE CASE AGAINST NOTICE

The requirement to provide notice is an extremely common method of regulation.²⁰ Notice mandates arise in everything from criminal procedure to product liability to financial regulation.²¹ Although “ignorance of the law is no defense,”²² there is a sense in which notice underpins law’s basic

¹⁹ See *infra* Part I. This is not the only argument notice skeptics make. See, e.g., Ben-Shahar & Schneider, *supra* note 2 at *190-91 (arguing that notice is surprisingly costly).

²⁰ See *supra* note 1. See also Ben-Shahar & Schneider, *supra* note 2 at *104 (“Mandated disclosure is ubiquitous.”).

²¹ *Id.* (listing several dozen instances of mandatory disclosure, including within the contexts of criminal procedure, medicine, contract, financial transactions, and insurance); THAYER & SUNSTEIN, *NUDGE* at 188-93 (listing others).

²² See *Shevlin-Carpenter Co. v. Minnesota*, 218 U.S. 57, 68 (1910) (“[I]nnocence cannot be asserted of an action which violates existing law, and ignorance of the law will not excuse.”); *United States v. Int’l Minerals & Chem. Corp.*, 402 U.S. 558, 563 (1971) (“The principle that ignorance of the law is no defense applies whether the law be a statute

DRAFT

legitimacy—as alluded by Lon Fuller’s inclusion of notice in law’s “inner morality” or Friedrich von Hayek’s distinction between arbitrariness and the rule of law in *The Road to Serfdom*.²³

Notice is popular for several reasons. Regulators perceive notice as relatively cheap to implement and easy to enforce. Notice seeks to preserve the conditions for innovation and competition, which an excess of rigid restrictions are thought to compromise.²⁴ Notice also aims to respect the basic autonomy of the consumer or citizen by arming her with information and placing the ultimate decision in her hands.²⁵ Notice promises to represent, in these respects, a significant improvement over many of its costly and politically unpalatable regulatory alternatives.

It seems that for every example or proponent of notice, however, there is a powerful critic. Notice’s detractors, though disparate as to legal or policy context, share a great many similarities. They generally open, as this Part has, by noting the popularity of notice as a regulatory mechanism and the reasons for that popularity.²⁶ They then rehearse a variety of cognitive and other limitations notice faces explain how these limitations operate to undermine avowed regulatory goals.²⁷

or a duly promulgated and published regulation.”). *But see* *Lambert v. California*, 355 U.S. 225 (1957) (requiring probability of knowledge of obscure city ordinance).

²³ LON FULLER, *THE MORALITY OF LAW* 154 (1965); FRIEDRICH VON HAYEK, *THE ROAD TO SERFDOM* 112 (1944) (“[G]overnment in all its actions is bound by rules fixed and announced beforehand – rules that make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstances and to plan one’s individual affairs on the basis of this knowledge.”).

²⁴ *See* Cass Sunstein, *Administrative Substance*, 40 DUKE L.J. 607, 627 (1991) (critiquing the use of “rigid, highly bureaucratized ‘command-and-control’ regulation”). This belief surfaces in online privacy, for instance. *See, e.g.,* Dennis Hirsch, *Protecting the Inner Environment: What Privacy Regulation Can Learn from Environmental Law*, 41 GA. L. REV. 1, 9, 33-37 (2006) (arguing that “command-and-control type regulations would not be a good fit for the highly diverse and dynamic digital economy” due to the expense and threat to innovation); Kenneth Bamberger & Deirdre Mulligan, *Privacy On the Books and On the Ground*, 63 STAN. L. REV. 247, 303 (2011) (“The shortcomings of command-and-control governance ... are well recognized”). But it may be equally true in the criminal as the commercial context, as when informing suspects of their *Miranda* rights is thought to legitimize more rigorous and creative investigation.

²⁵ *See* Dalley, *supra* note 1 at 1093 (“[D]isclosure regimes comport with the prevailing political philosophy in that disclosure preserves individual choice while avoiding direct governmental interference.”); Sage, *supra* note 1 at 1705 (noting the “growing commitment to patient autonomy and self-determination” in bioethics as paving the way to mandated disclosure in healthcare); Ben-Shahar and Schneider, *supra* note 2 at *135-36 (observing that “mandated disclosure serves the autonomy principle”).

²⁶ *See supra* notes 1, 20-21.

²⁷ *See supra* note 2.

This article begins in much the same way. What follows is a whirlwind, non-exhaustive sample of the reasons notice does not accomplish what regulators or courts hope. This Part discusses practical problems such as the fact that many notices are never opened. It also rehearses many of the cognitive limitations, such as our inability to process large amounts of information, and differences among us, such as differing reading levels, that operate to undermine notice. Such problems are in a sense endemic—studies show that shortening notice or representing written notice as pictures or symbols improves understanding but a little.

Not only do notices fail to perform as intended, this Part concedes, they can do more harm than good—up to and including a complete policy backfire. Often the harm is accidental. Yet firms and individuals have, over time, also learned purposefully to co-opt notice. In short, this Part states the case for notice skepticism. The next two Parts part ways with the notice skeptics, examining some common, but unfounded assumptions of notice skepticism.

A. Physical Limitations

The best starting point in the case against notice may be the obstacles they face in even reaching their intended audience. According to legend, the Roman tyrant Caligula acknowledged the need to create and publish the law, “but it was written in a very small hand, and posted up in a corner so that no one could make a copy of it.”²⁸ Today’s notices are, if not posted in a corner, not always accessed in practice. Offline, we know that consumers will throw out many mandatory notices without reading them.²⁹ People miss notices posted on equipment, sometimes leading to injury.³⁰ People lose warnings that accompany products, or else buy products secondhand without the packaging or owner’s manual.³¹

Online, there is extensive evidence that no one reads privacy policies, terms of service, or other documents, whether or not they are forced to

²⁸ *Screws et al. v. United States*, 325 U.S. 91, 96 (1945), quoting Suetonius, *Lives of the Twelve Caesars* 278 (1907). I have Samuel Bray to thank for reminding me of this example.

²⁹ Cate, *supra* note 2 at 360 (“[N]otices may never be received. In fact, most requests for consent never reach the eyes or ears of their intended recipient.”); *id.* at 360-61 (citing reports).

³⁰ See Latin, *supra* note 2 at 1210.

³¹ *Id.* at 1208-09.

DRAFT

“click through” them on the way to content or services.³² In one dramatic example, a videogame company from the United Kingdom included a provision in its terms of service that, unless the user opted out, the company would retain rights to the user’s eternal soul.³³ Reportedly twelve percent of people opted out—an abnormally high number attributable to the coverage of the stunt among technology blogs.³⁴ Even the Chief Justice of the Supreme Court recently reported that he does not read terms of service.³⁵

Sometimes notices do not reach the intended audience because of wrong or outdated assumptions by lawmakers about media consumption or communications technology. A 1978 bankruptcy law, for instance, still requires that notice of municipal bankruptcy be posted “in three newspapers of general circulation.”³⁶ Courts have upheld the use of email for service of process,³⁷ notwithstanding the danger posed by spam filters³⁸ and the general, “best efforts” architecture of Internet protocol.

That people do not take the time to read notices is understandable. Notices take the user away from the fun or function of a service. People are busy and face many competing demands on their time.³⁹ It is likely rational for people to ignore at least some notices. And it is also probably desirable: researchers at Carnegie Mellon once calculated that it would cost \$781 billion in productivity were everyone to read all of the privacy policies they encountered online.⁴⁰

³² See Cate, *supra* note 2 at 361; Sarah Gordon, *Privacy: A Study of Attitudes and Behaviors in US, UK and EU Information Security Professionals*, Symantec White Paper (2003) (only 3 in 63 people in a study reported reading a privacy policy); Miriam Metzger, *Effects of Site, Vendor, and Consumer Characteristics on Webs Site Trust and Disclosure*, 33:3 COMMUNICATION RESEARCH 157, 159 (June 2006); *id.* at 168-69; Ben-Shahar & Schneider, *supra* note 2 at 125 (readership of boilerplate language “is effectively zero”).

³³ “7,500 Online Shoppers Unknowingly Sold Their Souls,” FoxNews.com (Apr. 15, 2010), *online* at <http://www.foxnews.com/scitech/2010/04/15/online-shoppers-unknowingly-sold-souls/> (last visited Mar. 13, 2011).

³⁴ *Id.*

³⁵ Andrew Malcom, *Chief Justice Roberts on tiny type*, Top of the Ticket, L.A. TIMES, Oct. 20, 2010.

³⁶ 11 U.S.C. § 923.

³⁷ See, e.g., *Rio Properties v. Rio International Interlink*, 284 F.3d 1007 (9th Cir. 2002).

³⁸ See *Pace et al. vs. AIG*, 8 C 945 (N.D. Ill.; Nov. 1, 2010) (spam filter allegedly filtered out notification of the right and timing of an appeal).

³⁹ See Latin, *supra* note 2 at 1215-20.

⁴⁰ Aleecia McDonald & Lorrie Cranor, *The Cost of Reading Privacy Policies*, Telecommunications Policy Research Conference (2008).

B. Cognitive Limitations

Assuming the notice reaches the intended audience, there are a number of reasons why notices still might not have their intended effect. These could be grouped into two very broad groups: (1) differences in understanding and capability across a wide potential audience and (2) inherent limitations in our ability to process information—what Herbert Simon famously referred to as our “bounded rationality”⁴¹ and what contemporary behavioral economics commonly refers to as “cognitive limitations” or “biases.”⁴²

1. Differences in recipient understanding.

People vary in their ability to process information.⁴³ Notices are usually written by specialized professionals for an audience that includes the very young, the very old, and the thirty million adults of “below basic” literacy.⁴⁴ The potential disconnect is enormous. Privacy policies, for instance, tend to be written at a college level; the average reading level of an American is somewhere between the eighth and ninth grade. Courts have held that typical notices may not suffice where it is foreseeable that a child may use the product.⁴⁵

Nor is English everyone’s first language. Translations are not always available: in 1986, the supreme court of New Jersey upheld a jury finding that products commonly used by migrant workers should contain pictures.⁴⁶ Even where they are, much can get lost in translation.⁴⁷ Studies have shown

⁴¹ HERBERT SIMON, *MODELS OF MAN* 270-71 (1957).

⁴² See, e.g., W. Kip Viscusi, *Individual Rationality, Hazard Warnings, and the Foundations of Tort Law*, 48 RUTGERS L. REV. 625, 630 (1996); Jon Hanson & Douglas Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 635 (1999); Christine Jolls and Cass Sunstein, *Debiasing Through Law*, J. LEGAL STUD. 199, 200 (2006).

⁴³ See *See Sage*, *supra* note 1 at 1728 (“Individuals vary widely in their knowledge and expertise, as well as their capacity to understand disclosed information.”).

⁴⁴ *Id.* (“This problem is particularly acute in the case of vulnerable subpopulations.”); Latin, *supra* note 2 at 1207-09 (discussing functional illiteracy and “predictably inattentive or incompetent user groups”). According to the most recent National Assessment of Adult Literacy, fourteen percent of American adults operate at “below basic” literacy.

⁴⁵ Latin, *supra* note 2 at 1262.

⁴⁶ [cite]

⁴⁷ See, e.g., *State v. Santiago*, 556 N.W.2d 687, 690 (Wis. 1996) (finding “evidence that the warnings given in Spanish did not reasonably convey the *Miranda* rights to the defendant”).

DRAFT

that translated *Miranda* warnings often have a different meaning than the original. Non-native speakers may also be more susceptible to the “lulling effect” sometimes occasioned by the appearance of legalistic notices.⁴⁸

Not only do those that require and draft notices have to deal with below average or impaired readers, they may run into problems with self-styled experts. People who are especially familiar with a given technology or context may assume that they know how to use a new iteration, whereas a neophyte would read the sign, manual, or disclaimer.⁴⁹

As Howard Latin relates in his well-known discussion of product warnings:

Reliance on presumed knowledge may also induce overconfidence and resulting failures to read warnings in fields that require expertise. In *Mays v. Ciba-Geigy Corp.*, a commercial pipe installer relied on a demonstration he had seen years before and on his decade of experience, rather than reading the extensive instructions accompanying new products. In *Richards v. Upjohn Co.*, a doctor ... continued to prescribe a drug for a purpose that had once been approved by was later found unsafe.⁵⁰

2. Shared cognitive limitations.

We are different from one another, but we also have inherent limitations. One of the most common complaints against notice is that it relies on a false model of human capacity: the perfectly rational consumer with limitless attention. Enter the insights of Herbert Simon, who first described our rationality as “bounded,” and the eventual behavioral economics movement.⁵¹ Through a series of experiments and observations, scholars have assembled a long, well-evidenced list of our shared cognitive limitations, which operate to hamper the human ability to process notices and other information. Critics routinely, and understandably, refer to cognitive limitations and biases in asserting their skepticism toward

⁴⁸ Willis, *supra* note 2 at 794-95. The lulling effect refers to the belief that rights exist merely because of the appearance of legalistic language. *Id.*

⁴⁹ Latin, *supra* note 2 at 1211.

⁵⁰ *Id.*

⁵¹ See Jolls & Sunstein, *supra* note 42 at 199-200; Jon Hansen & Douglas Kysar, *Taking Behavioralism Seriously: Some Evidence of Market Manipulation*, 112 HARV. L. REV. 1420, 1423-25 (1999).

notice.⁵²

Information overload is a common and intuitive example. Simply put, it is the idea that too much information will overwhelm the recipient, causing her to skim, freeze, or pick out information arbitrarily.⁵³ As Susana Kim Ripken explains:

When faced with too much data, people have a tendency to become distracted by less relevant information and to ignore information that may turn out to be highly relevant. They can handle moderate amounts of data well, but tend to make inferior decisions when required to process increasingly more information.⁵⁴

Nor can information overload be easily overcome by shortening notices or making them easier to read. Studies show only marginal improvement in consumer understanding where privacy policies get expressed as tables, icons, or labels.⁵⁵ Notice is in this sense hydraulic: it appears impossible to convey complex information in clear and concise format.⁵⁶ Earlier advertising research shows in that context that the addition of more information will crowd out other, relevant information.⁵⁷

A related limitation on audience attention is fatigue or “wear out.” This is the well-evidenced phenomenon whereby people begin to tune out or ignore notices that they see all of the time.⁵⁸ The result can be an escalating

⁵² See *supra* note 2 (compiling examples).

⁵³ Dalley, *supra* note 1 at 1115-17 (discussing “information overload”); Latin, *supra* note 2 at 1211 (same); *id.* at 1293 (describing “excessive disclosure”); Ben-Shahar & Schneider, *supra* note 7 at 27-28 (describing the “overload effect”). See also George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCH. R. 81 (1956) (describing the human capacity to hold multiple concepts in mind at the same time as limited to about seven).

⁵⁴ See Ripken, *supra* note 2 at 160-61 (internal citations omitted).

⁵⁵ See, e.g., Patrick Gage Kelly *et al.*, *Standardizing Privacy Notices: An Online Study of the Nutrition Label Approach*, CMU-CyLab-90-014, *10 (Nov. 10, 2009) (accessing the efficacy of labels); Allen Levy and Manoj Hastak, *Consumer Comprehension of Financial Privacy Notices*, Interagency Notice Project (Dec. 15, 2008) (assessing the use of tables).

⁵⁶ See Latin, *supra* note 2 at 1221 (“Other research findings indicate that ... exhaustive disclosure is incompatible with clear and vivid message formats.”); *id.* at 1222-23; Ben-Shahar & Schneider, *supra* note 2 at *142 (“There is rarely a good solution in principle: incomplete disclosure leaves people ignorant, but complete disclosure creates crushing overload problems.”).

⁵⁷ See Richard Craswell, *Taking Information Seriously: Misrepresentation and Nondisclosure in Contract Law and Elsewhere*, 92 VA. L. REV. 565, 583-84 (2006).

⁵⁸ See NUDGE at 90-91 (discussing wear out in the context of computer software; Jolls

DRAFT

cycle: because of the proliferation of notices, new ones must get “louder and louder” to have a chance of any impact.⁵⁹

Information overload and wear out are just two examples. Others includes many other phenomenon, including anchoring,⁶⁰ availability and other heuristics,⁶¹ susceptibility to framing,⁶² the influence of emotion or self-esteem⁶³ Our divergence from rational decision-making based on cognitive limitations or biases been repeatedly summarized elsewhere.⁶⁴ Suffice it to say that our capacity to process information—the stuff of notice—is limited, a fact underpinning much notice skepticism.

C. Backfire & Misnotice

Notice can be ineffective at informing consumers. People do not read them and, when they do, they often do not understanding what they are reading. There is also evidence that notices can do more harm than good. Privacy policies are, as discussed, one example. Few read or understand them.⁶⁵ But worse still: a majority of adults see the words “privacy policy”—required under state law—and assume that the company safeguards their information in specific, but often incorrect, ways.⁶⁶

Some notices contain alarming or vague information that cannot be acted upon. One example is the Homeland Security Terror Alert, which changes color to indicate the level of threat. It never seems to dip below elevated and, in any event, does not even purport to give people helpful

& Sunstein, *supra* note 42 at 212 (describing “wear out” as the phenomenon “in which consumers learn to tune out message that are repeated too often”).

⁵⁹ See Eric Goldman, *A Coasean Analysis of Marketing*, 2006 WIS. L. REV. 1151, 1180 (2006) (describing the escalating cycle of louder and louder disclosure);

⁶⁰ See Ripken, *supra* note 2 at 173-74. Anchoring bias refers to our tendency to latch onto or “anchor” early information, using it as a reference point for all future information. *Id.* See also Willis, *supra* note 2 at 1114.

⁶¹ Willis, *supra* note 2 at 1114; Latin, *supra* note 2 at 1235-41.

⁶² Ripken, *supra* note 2 at 780, 785-87.

⁶³ *Id.* at 755, citing *inter alia* George Loewenstein, *Out of Control: Visceral Influences on Behavior*, 65 ORG. BEHAV. & HUMAN DECISION PROCESSES 272 (1996).

⁶⁴ *E.g.*, Jolls & Sunstein, *supra* note 42; Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998); Hansen & Kysar, *supra* note 42; See also THAYER & SUNSTEIN, *NUDGE*; DAN ARIELY, *PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS* (2008).

⁶⁵ See *supra* note 32.

⁶⁶ Hoofnagle & King, *supra* note 5. For instance, a majority of adults surveyed believed that the presence of a privacy policy meant that the company could not share user data with a third party without permission. *Id.*

advice.⁶⁷ In addition to scaring us, such notices can dilute warnings we actually need to see.⁶⁸

Yet another example of backfire is online terms of use and other, boilerplate language. Empirical work—for instance, by Robert Hillman—suggests that online shoppers do not take terms of service into account when deciding where to purchase goods or services.⁶⁹ Nor are they able to bargain for different terms.⁷⁰ At the same time, such terms serve to insulate business from later claims of unfairness or procedural unconscionability.⁷¹

Sometimes notice fails to accomplish its objectives because the regulated entity engages in a form of “misnotice,” that is, takes purposive steps to reduce or reverse notice’s impact. The sandwich shop in Los Angeles from the introduction is one example.⁷² A lawsuit filed in 2003 alleges that a handset manufacturer purposefully designed rebate notices in a such a way that they were unlikely to be opened.⁷³ There is also evidence that some police officers take steps to soften or mitigate *Miranda* notices⁷⁴ and that doctors will sometimes downplay warnings of side effects while emphasizing the risks of not taking medicine.⁷⁵

As Jon Hansen and Douglas Kysar argue in another context, firms need not even engage in this conduct knowingly to reduce the efficacy of product warnings. “[M]anufactures have incentives to utilize cognitive biases actively to shape consumer perceptions throughout the produce purchasing context and independently of government regulations.”⁷⁶ Market pressures

⁶⁷ See Nudge, *supra* note 1 at 91. See also Viscusi, *supra* note 42 at 648 (1996) (discussing the extent to which subjects overestimate the risks associated with California Proposition 65); W. Kip Viscusi, *Predicting the Effect of Food Cancer Risk Warnings on Consumers*, 43 FOOD DRUG COSM. L.J. 283 (1988).

⁶⁸ See also Viscusi, *supra* note 42 at 665-66 (“Excessive warnings are not innocuous. ... [I]f warnings are included for inconsequential risks, they will serve to further dilute warnings for the real hazards that should be identified to consumers.”)

⁶⁹ Robert Hillman, *Online Boilerplate: Would Mandatory Website Disclosure of E-Standard Terms Backfire?*, 104 MICH. L. REV. 837, 839-40 (2006).

⁷⁰ *Id.* at 840.

⁷¹ *Id.*

⁷² See *supra* notes 6-7 and accompanying text.

⁷³ Pollard v. Ericsson, Inc., 22 Cal. Rptr. 3d 496 (2004). The court eventually found against the plaintiffs. *Id.*

⁷⁴ See Weisselberg, *supra* note 2 at 1557-62

⁷⁵ See Ben-Shahar & Schneider, *supra* note 2 at 154, citing Jean-Marie Berthelot et al., *Informing Patients About Serious Side Effects of Drugs. A 2001 Survey of 341 French Rheumatologists*, 70 JOINT BONE SPINE 52, 55 (2003).

⁷⁶ Hanson & Kysar, *supra* note 42 at 637.

DRAFT

can yield this outcome, on their view, “regardless of manufacturers’ awareness of the process.”⁷⁷ It is not clear that the makers of “Safety-Kleen,” for instance, selected this title to undermine the warning against indoor use.⁷⁸ Nor should it necessarily matter.

In short, the case against notice is not merely that the mechanism does reach the intended audience or affect that audience in the intended way. Poorly deployed and policed, a notice strategy can lead consumers and citizens to be in a worse situation than had the lawmaker done nothing at all. A strong skepticism about notice seems like a reasonable response.

II. SELECTION ERROR

Part I concedes that notice does not always work and, in instances, can do more harm than good. Are we forced to conclude, accordingly, that or that notice does not work?⁷⁹ That it is “a Lorelei, luring lawmakers onto the rocks of regulatory failure”?⁸⁰ That notice should be abandoned in favor of substantive restrictions?⁸¹ This and the next Part argue that notice skepticism, for all of its evidence, has yet to prove its case.

Critiques of mandatory notice tend to suffer from two flawed assumptions. The first is that notice is monolithic—that is, that notice only comes in one variety. This Part argues that “notice” (sometimes “disclosure”) is actually an umbrella term for several distinct regulatory strategies whose mechanism is the conveyance of information. If the notice strategy identified by the regulator, court, or commentator does not succeed, another still could. The second assumption is that the content of notice must consist of language or a symbolic equivalent. Experience itself can also be a highly efficient form of notice, as Part III will show.

This article has been using the term “notice” to describe what is really a set of phenomena involving the requirement that firms or individuals convey information. Notice is not monolithic; rather, it represents a collection of distinct strategies, each with a potentially different audience, purpose, and source. This Part describes the core properties of four common strategies of mandatory notice—warning, notification, reporting,

⁷⁷ Hanson & Kysar, *supra* note 51 at 1427.

⁷⁸ Though that was the practical effect. See Latin, *supra* note 2 at 1216.

⁷⁹ Edwards, *supra* note 12 at 204 (“Put bluntly, many critics simply do not think that disclosure works.”).

⁸⁰ Ben-Shahar & Schneider, *supra* note 2 at 135.

⁸¹ See *supra* note 12 and accompanying text. See also *infra* Part II.B.

and notice—and why differentiating them is important.

To be clear: the goal of this Part is not exhaustively to catalogue the many ways notice may operate. The discussion may miss a specific form of notice (e.g., a “disclaimer”) or the specific sense of notice used in a particular context (e.g., patent). The goal is merely to critique the common assumption that all mandatory notice is the same. Moreover, one must recognize the potential for imperfect fit and for categorical overlap. A notice could include a notification, for instance, or operate as reporting.

Rather, this Part shows that, to rule out mandatory notice altogether, notice skepticism must show that *none* of the strategies of notice work. The problem is not necessarily notice per se. Rather, the problem could be that a regulator, court, or commentator, has simply selected *the wrong form* of notice for the job. A statute required warning, for instance, where a reporting requirement was appropriate. Or, alternatively, it has used only one strategy when more than one would better effect the intended result. These possibilities undermine notice skepticism insofar as such skepticism commonly addresses only the form of notice that happened to have been selected and concludes on this basis that notice as a strategy cannot work.

A. *Four Forms of Notice*

This section describes four discrete categories of notice—warning, notification, reporting, and terms—each with its own intended audience, animating purpose, source in law, and common format. Neither the categories, nor the qualities, are exhaustive. They are evidence of a point. The next section addresses the repercussions of the plurality of notice for policy and scholarship.

1. Warnings

Rather than hire someone to watch a pool at all times, a hotel owner may invest in a sign reading “No lifeguard on duty.” The obvious purpose of the sign is to warn potential swimmers that they need to be particularly careful. It may, but will not necessarily, reduce the likelihood of a successful lawsuit in the event a guest drowns or is injured.⁸²

Warnings are one common category of required notice. Additional

⁸² E.g., *Haft v. Lone Palm Hotel*, 478 P.2d 465 (Ca. 1970) (remanding a tort case involving no lifeguard on duty).

DRAFT

examples include safety warnings on products or equipment,⁸³ warnings of known allergens in food,⁸⁴ warnings that someone is in danger of imminent harm,⁸⁵ warnings about the existence or transmission of a disease,⁸⁶ even warnings against trick-or-treaters.⁸⁷

The purpose of a warning is generally to alert one or more individuals to a specific danger within one context, often in an effort to shift responsibility in the event of an injury or other harm. They tend to be effective when there is a single harm to avoid—one that can be easily grasped but that is not immediately obvious—and can be ineffective otherwise.⁸⁸

Warnings are generally short and location, product, or event-specific. A “high voltage” warning should obviously appear near the dangerous source of electrical energy. A product warning should appear on the product or at least its packaging.⁸⁹ A warning related to the possibility of a computer virus in a given download should occur immediately prior to the download.

Sources for a warning requirement vary. A state law may require automated teller machine (ATM) operators to warn against taking out money alone and at night,⁹⁰ whereas *Tarasoff* “warnings” flow from the California state supreme court’s interpretation of duty in tort law.⁹¹ Often a warning is “required” only in the sense that, without it, a defendant will have one less defense against a legal action.

2. Notification

A notification alerts an individual or group fitting particular characteristics of an obligation to act lest they forgo a right or opportunity. Ignoring a notification that a library book is overdue could lead to a fine.

⁸³ See, generally, Latin, *supra* note 2.

⁸⁴ Food Allergen Labeling and Consumer Protection Act of 2004, 21 U.S.C. §§ 321, 343 (2000).

⁸⁵ See *Tarasoff v. Regents of University of California*, 551 P.2d 334 (Ca. 1976) (holding that therapist who knows or should know that her patient poses a real danger to a third party must warn that person).

⁸⁶ See, e.g., Mandatory HIV Partner Notification Act, N.Y. Pub. Health Law §§ 2130, 2133 (2000). Despite New York’s use of “notification,” this is best thought of as a warning to take precautions.

⁸⁷ See Missouri SB 714 § 589.426 (requiring registered sex offenders to post “No candy or treats as this residence” on Halloween).

⁸⁸ See *supra* Part I.

⁸⁹ See Latin, *supra* note 2 at 1208-09.

⁹⁰ Automated Teller Machine Security Act, 205 ILCS §695/15.

⁹¹ See *Tarasoff* 551 P.2d 334, 340.

Service of process notifies the recipient that she is to appear in court or risk a default judgment.⁹² Class certification may require notifying the potential class.⁹³ Bankruptcy law can require notifying potential creditors.⁹⁴ Federal law provides that victims be notified of relevant criminal proceedings.⁹⁵

Notifications differ from warnings in that, whereas warnings are addressed to anyone in a given context, the intended audience of notifications is particular individuals—even if not yet identified by name at the time the notification was issued. And whereas warnings generally seek to inform people of physical risks, notifications seek to inform particular people of a risk to opportunity or another obligation to act.

Notifications can be purely instrumental but tend to be grounded in considerations of fairness.⁹⁶ It follows that the obligation to notify is often stronger where the stakes are higher. Notifications can vary in length and format and can be accompanied by—or appear nested within—other forms of notice.⁹⁷ They are effective when coupled with a sensible plan to reach the target audience.⁹⁸

3. Reporting

Warnings and notifications each differs significantly from reporting—an obligation to release one or more kinds of information about a person or firm’s relationships or practices. The source of a reporting requirement is almost always a statute. Examples include disclosure requirements for

⁹² BRIAN GARNER, ED., *BLACK’S LAW DICTIONARY* 573 (1996) (defining service of process).

⁹³ For a discussion of the pitfalls of class action notification, see DEBORAH R. HENSLER ET AL., *CLASS ACTION DILEMMAS* 3-4, 68, 117-18 (2000).

⁹⁴ *See, e.g.*, 11 U.S.C. § 923 (requiring notification of a municipal bankruptcy).

⁹⁵ Crimes Victims’ Rights Act, 18 U.S.C.A § 3771 (2004).

⁹⁶ *See, e.g.*, *Mullane v. Central Hanover Bank & Trust Co.*, 339 U.S. 306, 314 (1950) (“An elementary and fundamental requirement of due process in any proceeding which is to be accorded finality is notice reasonable calculated, under all the circumstances, to apprise interested parties of the pendency of action...”). *Cf. Padilla v. Kentucky*, 130 S.Ct. 1473, 1483 (2010) (granting relief in habeas corpus for ineffective assistance of counsel for failure to explain consequences of a plea agreement).

⁹⁷ Pleadings accompanied by service of process are one example. Opt outs—that is, notifications of some right to limit how a company uses information or where disputes will be handled—that appear in privacy policies or terms of service are another. *See Ben-Shahar & Schneider, supra* note 2 at 195-96 (describing Comcast opt out).

⁹⁸ *See supra* notes 36-38 and accompanying text (discussing why notices do not reach their intended audience).

DRAFT

public companies under Sarbanes-Oxley⁹⁹ and the Securities Act;¹⁰⁰ requirements that employers provide information about the risks of on-premises chemicals;¹⁰¹ requirements that energy companies file environmental impact statements;¹⁰² and the requirement that universities report crime statistics.¹⁰³

Although reporting appears directed at times to a particular entity, the basic idea behind reporting is to make extensive information available to anyone—investors, regulators, litigants, political activist—who might be interested.¹⁰⁴ Reporting's intended purpose is a matter of debate. Lawmakers may pass a given reporting requirement with an avowed goal of information consumers on to make claims of effectiveness on the basis of changes in the behavior of the regulated entity.¹⁰⁵

In that they often need to describe complex practices, reporting tends to involve longer, more technical documents. SEC filings, for instance, can span hundreds of pages.¹⁰⁶ The chief drawbacks of reporting involves this complexity. Commentators note that even experienced stakeholders, let alone ordinary consumers or citizens, have trouble digesting certain disclosures, creating the potential for serious problems to hide in plain sight.¹⁰⁷

4. Terms

A fourth type of notice is terms. This category includes terms of service, privacy policies, and similar, consumer-facing or boilerplate

⁹⁹ Sarbanes-Oxley Act of 2002, 15 U.S.C. § 7264-65 (Supp. 2004) (requiring disclosure around auditing and ethics).

¹⁰⁰ *E.g.*, Securities Act of 1933, 15 U.S.C. § 77e; Securities and Exchange Act of 1934, 15 U.S.C. §§ 78m, 78n (2000).

¹⁰¹ *E.g.*, 29 C.F.R. § 1910.1200 (2006) (OSHA Hazard Communication Standard).

¹⁰² *E.g.*, 42 U.S.C. § 11023 (2000).

¹⁰³ Jeanne Clery Disclosure and Campus Security Policy and Campus Crime Statistics Act, 20 U.S.C.A. § 1092(f); 34 C.F.R. 688.46.

¹⁰⁴ *Cf.* Hillman, *supra* note 69 at 849 (noting that certain forms of disclosure are “intended to influence business to write reasonable terms on the theory that ... watchdog groups will publicize adverse terms.”).

¹⁰⁵ *See* Dalley, *supra* note 1 at 1119 (“So, for example, restaurant hygiene improved in Los Angeles after enactment of an ordinance that required hygiene scores to be posted, and the output of toxic waste declined after the institution of the Toxic Release Inventory (TRI), which required firms to disclose the amount of certain named pollutants they produced.”) (internal citations omitted).

¹⁰⁶ *See* Schwartz, *supra* note 2 at 16; Ripken, *supra* note 2 at 161.

¹⁰⁷ *See, e.g.* Ripken, *supra* note 2 at 160-63.

documents. Terms are generally addressed to consumers;¹⁰⁸ their purpose is to set expectations and establish ground rules in the event of a conflict. They are, in this way, a kind of one-sided, quasi-contract. Like warnings, terms can result from a variety of sources, including a statute or fear of litigation. But, like reports or disclosures, terms tend to be lengthy and technical.

Terms face every drawback of the preceding three forms of notice. They are everywhere and thus, like warnings, tend to be ignored; they do not always reach their intended recipient who throw them out or, if online, mindlessly clicks on them; and they tend to be written in such a way that many cannot understand them. Despite these and other drawbacks, terms are absolutely ubiquitous in consumer-facing transactions.

B. On The Possibility Of Selection Error

That there are different categories of notice turns out to be important for addressing policy questions. Consider the various concerns with so-called d orders—administrative subpoenas for user information under section 2703(d) of the Stored Communications Act.¹⁰⁹ One concern is that law enforcement may delay the service provider from telling the user that her records are under subpoena.¹¹⁰ This makes it impossible for the user to mount a defense—even where she might have a very strong one. Thus, there is a specific, identified target who stands to lose an opportunity. Law enforcement may object to it on the basis of the need for secrecy in some types of investigations, but an obvious remedy for this problem is mandating immediate notification.

Or consider the distinct concern that law enforcement is abusing its subpoena power, not in the individual instance, but by issuing too many requests overall. We might reasonably worry as a society about the net amount of surveillance. Indeed, the overuse of National Security Letters,

¹⁰⁸ Although the Supreme Court calls them “warnings,” *Miranda* rights may constitute “terms” because they dictate the ground rules within which an interrogation can take place. See *Miranda v. Arizona*, 384 U.S. 436, 478-79 (1966). This possibility of overlap of imperfect fit does not detract from the underlying point: notice is not a monolithic phenomenon.

¹⁰⁹ 18 U.S.C. § 2703(d). The Stored Communications Act (SCA) is part of an omnibus electronic surveillance law, the Electronic Communications Privacy Act of 1986, codified at 18 U.S.C. §§ 2701-2711 (2000 & Supp. I 2001). For a comprehensive discussion of the SCA, see Orin Kerr, *A Users Guide to The Stored Communications Act, And A Legislators Guide to Amending It*, 72 GEO. WASH. L. REV. 1208 (2004).

¹¹⁰ See 18 U.S.C. § 2705.

DRAFT

once discovered, lead to calls for reform.¹¹¹ The remedy for an overall volume of surveillance concern could be general reporting of the number of subpoenas issued each year, just as the Department of Justice does with respect to wiretaps.¹¹²

Yet another issue is that consumers do not understand the due process ramifications of storing information in the “cloud,”¹¹³ as opposed to a physical file cabinet at home. This is so because terms of use tend to be vague on this point, saying, for instance, that the company will comply with any lawful request for information.¹¹⁴ Here the solution could involve clearer terms or ground rules—ideally in a format that users can digest. Some companies might commit to pushing back against requests and thereby gain consumer trust.¹¹⁵

Finally, it happens that, as a quirk of federal electronic privacy law, communications that are in storage for greater than 180 days get lesser protection than those stored for up to 180 days.¹¹⁶ Users often have no idea how long their information will be stored and we can imagine a preference for deleting, archiving, or encrypting information once it hits that timeframe. Here the best remedy might be a warning: this particular piece of information is about to pass out of warrant and into administrative subpoena territory.¹¹⁷

¹¹¹ 18 U.S.C. § 2709. *See, e.g.* National Security Letters Reform Act of 2009, H.R. 1800 (Cong. 111) (“To establish reasonable procedural protections for the use of national security letters, and for other purposes.”).

¹¹² The Omnibus Crime Control and Safe Streets Act of 1968 requires the Administrative Office of the United States Courts to report applications for wiretap orders.

¹¹³ That is, in a remotely located server, instead of on the computer or other hardware device, often called the “client.”

¹¹⁴ *See, e.g.*, AT&T, Privacy Policy, online at <http://www.att.com/gen/privacy-policy> (providing it may share personal information “to comply with court orders, subpoenas, lawful discovery requests and other legal or regulatory requirements ...”); Sears, Privacy Policy, online at http://www.sears.com/shc/s/nb_10153_12605_NB_CSprivacy (“We also may provide information to regulatory authorities and law enforcement officials in accordance with applicable law or when we otherwise believe in good faith that the law requires it.”) (last visited March 14, 2011).

¹¹⁵ One genetics company commits to “use reasonable and lawful efforts to limit the scope of any such legally required disclosure, and we will make every attempt to notify you in advance insofar as we are legally permitted to do so.” Navigenics, Privacy Policy, online at http://www.navigenics.com/visitor/what_we_offer/our_policies/privacy/#disclosure (last visited March 14, 2011).

¹¹⁶ ¹¹⁷ The government has also taken the position in litigation that merely opening an email takes it out of warrant territory. [cite] Should this position become the law of the

That notice comes in various, policy-relevant forms presents a challenge to notice skepticism. Specifically, it raises the question of whether the failure of notice meaningfully to address a problem stems from a selection error. If lawmakers can select the wrong form of notice for a given context, it may not always be appropriate to jump immediately to an alternative such as substantive regulation or otherwise throw in the towel of mandated information.

Consider several examples. Proposition 65 in California requires that firms and individuals post a warning at any premises or alongside any product that may contain any of a list of hundreds of chemicals “known to the state of California” to cause birth defects or cancer.¹¹⁸ Presumably the legislature was interested in all of the typical benefits of notice over substantive regulation related to cost and autonomy.¹¹⁹ The decision to use notice is, again, easy to criticize. There are so many of these notices that many are likely to tune them out.¹²⁰ Those that do not often have no way to operationalize the information.¹²¹ As such, individuals experience a “cascade of fears” with no apparent recourse.¹²²

Does this mean that California should abandon notice as a means to domesticate the problem of potentially toxic chemicals? Perhaps, but perhaps not. Proposition 65 did manage to drive down the impact of these chemicals, but not by warning Californians away. The law forced manufacturers and premises owners to take stock of whether they were using the Proposition 65 chemicals in the first instance.¹²³ Some realized that they were and, further, that doing so was not necessary. This led firms to abandon the chemical in favor of a presumably less toxic one.¹²⁴

Californians could not put Proposition 65 warnings into practice. And yet a requirement that businesses disclose to the state and/or make available

land, we could imagine a warning prior to opening the first email on a service that it could change the level protection.

¹¹⁸ Safe Drinking Water and Toxic Enforcement Act, Cal. Health & Safety Code § 25249.6 (West 1999).

¹¹⁹ See *supra* notes 24 to 25 and accompanying text (discussing why notice is popular).

¹²⁰ See *supra* notes 58 to 59 and accompanying text (discussing notice fatigue).

¹²¹ Cf. THAYLER & SUNSTEIN, *NUDGE* at 90 (making this point about the Homeland Security Terror Threat Alert).

¹²² Dalley, *supra* note 1 at 1123.

¹²³ *Id.* at 1123-24.

¹²⁴ Manufacturers of Liquid Paper, for instance, reformulated its product to avoid having to affix a warning label. Viscusi, *supra* note 42 at 650.

DRAFT

to the public a list of chemicals they use might have accomplished the same goal of without crowding out other warnings or creating a sense of helpless unease. Reporting was arguably the better move here than warning, further the regulatory goal with fewer unintended consequences. Reporting is, of course, still mandatory notice.

Privacy law, being notoriously notice-dependant, furnishes additional examples. As discussed, the California Privacy Protection Act (CPP) requires websites to describe their practices in conspicuously posted privacy terms.¹²⁵ No one reads these policies¹²⁶ and, worse still, their mere existence leads a majority of adults to assume better practices than generally exist.¹²⁷ Similarly, federal law requires terms around financial privacy. Regulated entities must disclose, among other information, the categories of information it collects and what it discloses to third parties.¹²⁸ The law requires disclosure on an initial and annual basis at an estimated cost of hundreds of millions of dollars—costs presumably passed along to the consumer who likely never saw them.¹²⁹

CPPA and the Gramm-Leach-Bliley Act (GLB) have, understandably, faced intensive criticism.¹³⁰ But as Peter Swire argues, notice requirements such as those present in the GLB “work surprisingly well as privacy legislation.”¹³¹ They work well not because consumers will actually read and act on them. They fail as terms. Rather, they improve privacy because of the behavior they trigger in companies. It turns out that the requirement to describe practices led companies to self-examine and professionalize.

As Swire explains:

[A] principal effect of the notices has been to require financial institutions to inspect their own practices. In this respect, the detail and complexity of the GLB notice is actually a virtue. In order to draft the notice, many financial institutions undertook an extensive process, often for the first time, to learn just how data is and is not shared between

¹²⁵ Bus. & Prof. Code §§ 22575-22579 (2004).

¹²⁶ See *supra* note 32 (compiling evidence).

¹²⁷ See *supra* notes 5.

¹²⁸ Gramm-Leach-Bliley Act of 1999, 15 U.S.C. § 6809

¹²⁹ Peter Swire, *The Surprising Virtues of the New Financial Privacy Law*, 86 MINN. L. REV. 1263, 1313-14 (2002).

¹³⁰ See *id.* at 1314-15 (“Consumer groups, privacy advocates, and members of Congress have also harshly criticized the GLB notices.”).

¹³¹ *Id.* at 1263.

different parts of the organization with third parties.¹³²

The “process of self-examination” lead to a “detailed roadmap for privacy compliance” and, ultimately, a salutary “institutionalization of privacy” complete with a class of privacy professionals.¹³³

Many of these same goals might have been accomplished through an alternative notice regime—one that preserves the advantages of notice as a regulatory mechanism (for instance, political palatability or business autonomy) but reduced the costs to businesses and to consumer time. A requirement that financial institutions create a report of its practices and furnish it to the government and other stakeholders upon request would also lead to self-examination and may police firm behavior in other ways.

To the extent consumers have choices within the context—to opt out of tracking or sharing, for instance—we should be thinking neither of reporting nor of terms. What is required is narrowly targeted notification (in the form of an email, text, or a phone call, for instance) that, absent user action, their data will be collected by or transmitted to third-parties. Reporting and notification are, again, still notice.

What these and similar examples show is that domesticating a problem using mandatory notice requires understanding what notice is appropriate to a given context. Selecting the wrong form of notice—or omitting a necessary, concurring notice strategy—can lead to failure. Skeptics of notice must show not only that the notice strategy selected does not work, but that no notice strategy could work. Critics have not, in the main, discharged this burden.¹³⁴

¹³² *Id.* at 1316.

¹³³ *Id.* at 1316-17. Kenneth Bamberger and Deirdre Mulligan make a similar point about how uncertain regulation led to the professionalization of privacy and, in turn, consumer-friendly privacy innovation. *See* Bamberger & Mulligan, *supra* note 24 *passim*.

¹³⁴ In privacy, the context of these latter examples, Fred Cate examines the enforcement of two principles—notice and choice—through the mandatory provision of terms. He does not examine whether warnings, notifications, reporting, or some combination thereof might be effective, instead calling for “substantive restrictions on data processing designed to prevent specific harms.” Cate, *supra* note 2 at 345.

Writing about securities regulation, Susanna Kim Ripken examines what amounts to reporting requirements and concludes that “[r]ather than avoiding the merits of difficult questions, it may be time for regulators to lay aside the gospel of disclosure in favor of more substantive laws that regulate conduct directly.” Ripken, *supra* note 2 at 147. Ripken does not assess whether terms, notifications, or warnings may be of use in this context. *See also* Ben-Shahar & Schneider, *supra* note 2 at *105 (“Our task is *not* to propose an alternative. ... We believe commentators and lawmakers must instead

DRAFT

Officials, in turn, should carefully examine the advantages and disadvantages of each form of notice prior to selecting one to regulate a particular context. Warnings are not likely to be appropriate where no action can avoid the danger the warnings has identified. Lawmakers should consider whether general disclosure could accomplish the same result—for instance, by forcing self-examination. Where consumers or citizens have choices, they should receive them as notifications instead of—or in addition to—nested within length terms. Mandatory notices have many potential advantages.¹³⁵ A thorough, context-dependant consideration of options may mean that one of those advantages is efficacy.

III. EXPERIENCE AS NOTICE

Regulators can select the wrong form of notice for a given context—a possibility for which notice skepticism does not adequately account. Of course, failures of notice cannot all be explained through selection error. In many instances, selecting the best form of notice may at most improve the situation. And, as Part I suggests, each form of notice has its drawbacks. Too many warnings can lead to fatigue. Notifications can fail to reach their intended recipient. Terms and reporting are either overly simplistic or too hard to process.

Although forms of notice differ, many of the ways notices fail are similar: they concern failures of language. Using words has its advantages. But it is hard to convey almost any concept in words that some people will not ignore or fail to understand.¹³⁶ Language can be cumbersome and unequal in its impact.¹³⁷ Language of any length requires its own space, which necessarily occurs away from the fun and functionality of the website,

undertake the intellectually burdensome and politically painful work of tailoring solutions to problems.”) (emphasis in original); Latin, *supra* note 2 at 1295 (“Good produce warnings may be useful, indeed necessary ... but their value is inherently limited and they consequently should not be treated as legally a acceptable alternative to safer product designs and marketing strategies.”).

There are even federal statutes that provide agencies with a choice between one type of disclosure and a complete ban. *See* Jolls and Sunstein, *supra* note 42 at 280, citing the Consumer Product Safety Act, 14 U.S.C. §§ 2051-85, and the Toxic Substance Control Act, 15 U.S.C. §§ 2601-92.

¹³⁵ *See supra* note 24 and accompanying text (describing potential advantages to notice). *See also supra* note 25 (describing the disadvantages of some alternative s to mandatory notice).

¹³⁶ *See* Latin, *supra* note 2 at 1222-25. *See also* _____, *Text Anxiety*, 59 S. Cal. L. Rev. 305.

¹³⁷ *See supra* Part I.B.1.

product, or activity. The same is true of symbolic equivalents for language: icons, labels, and tables, for instance.

It turns out, however, that language is not the only means to convey notice. Nor is it always the most efficient. A simple example is pain.¹³⁸ You stub your toe. Seized by pain, you ask: “Why do I have to feel this? Why can’t my body simply *alert me* that I’ve hurt myself?” Such a system, while superficially attractive, would be insupportably inefficient. Moment to moment, pain, pressure, and other physical sensations communicate a great deal of information (location, severity, type, duration, etc.) without recourse to language. Imagine the alternative: a dizzying concatenation of written, symbolic, or aural messages we would quickly tune out.

The principle that we can *experience* information can be, and in cases has been, pressed into the service of legally relevant notice. You can add yet another traffic sign to say “road narrows,” or you can accentuate the roadway with rumble strips. You can post signs throughout a city reminding pedestrians that electric cars are silent, or you can require car manufacturers to introduce an engine sound.¹³⁹ You can write a lengthy privacy policy that few will read, or you can design the website in a way that places the user on guard at the moment of collection or demonstrates to the consumer how their data is actually being used in practice.

Like language, experience has the capability of changing our mental models—that is, our understandings and assumptions about a given product, environment, or system.¹⁴⁰ Yet unlike language, experience can take place in an instant, translate across cultures, and retains its salience over time. In recognition of the importance of form and format, some regulations already require that notices be placed at a particular location or use a particular font.¹⁴¹ Such regulations could be extended to require or encourage specific

¹³⁸ Another example is a game one learns by playing (or a language one learns by speaking).

¹³⁹ See *supra* notes ___ - ___.

¹⁴⁰ A “mental model” is the set of expectations, assumptions, and knowledge individuals bring to their experiences of technology and the world. See D.A. NORMAN, *THE PSYCHOLOGY OF EVERYDAY THINGS* 17 (1988); Abhay Sukumaran & Cliff Nass, *The Role of Social Observation in Understanding Novel Technologies*, CHI 2009 1, 1 (“This literature loosely characterizes mental models as cognitive tools that allow users to make sense of unfamiliar technologies and predict how a system will respond to their actions.”). One common misperception is that well-designed products do not need warnings. In a sense, well-designed product *are* warnings. Cf. D.A. NORMAN, *THE DESIGN OF FUTURE THINGS* 135 (2007) (discussing “self-explaining” objects);

¹⁴¹ See Craswell, *supra* note 55 at 582.

DRAFT

design elements with a well-evidenced significance to consumer understanding.

Again, the thought is not that all notice can be expressed as experience. Much notice likely cannot be. For instance, it is not clear how potential investors might “experience” the sort of complex reporting mandated by securities law¹⁴² or how experience will help reach potential participants in a class action.¹⁴³ Nevertheless, notice skepticism must account for visceral, non-linguistic techniques before it can rule out notices as a viable regulatory mechanism. The critical literature surveyed above does not even attempt to do so.

A. Experience As Notice

This Part explores three viable techniques of non-linguistic notice, each of which is capable of changing an individual’s mental model with a rapidity and consistency that written notice seldom can match. The first technique involves leveraging our familiarity with existing technologies and situations to help consumers understand new ones. The second technique uses psychological responses people share to certain technology, instead of text or symbols, to convey expectations. The third eschews a general description of practices in favor of showing the individual how those practices apply specifically to them. This technique permits the conveyance of a great deal of relevant information in a short, engaging way.

1. Familiarity as notice.

Often what we mean by intuitive is actually familiar. We grow up with particular technologies and acclimate—that is, begin to expect certain behaviors and interactions. One example is the hyperlink: when we come across text on a website that is underlined and a different color from the rest of the text, we know that clicking on it with a cursor will lead somewhere else.

This familiarity breeds a kind of opportunity. Designers can use it to create mental models in consumers of new technology.¹⁴⁴ Consider three

¹⁴² See *supra* note 100 and accompanying text. Even so, securities reporting might be greatly improved in some instances through the third technique of showing. See *infra* Part III.A.3.

¹⁴³ See *supra* note ___ and accompanying text.

¹⁴⁴ Cf. NORMAN, DESIGN OF FUTURE THINGS, *supra* note 140 at 150 (discussing the reintroduction of “natural signals” to new contexts).

interventions based on the principle of familiarity, the second two of which are regulatory in nature. Each intervention leverages the individual's familiarity with a previous technology to realign expectations with reality—a function often reserved for notices or other inefficient forms of communications that people will misunderstand or come to ignore.

The first example involves cell phones and the elderly. Older consumers did not grow up with cell phones and can have trouble using them.¹⁴⁵ Commercially available cell phones come with an owner's manual that explains in detail how the phone works. Presumably this is not enough, however, for the uninitiated: not all consumers, elderly or otherwise, will read or understand these instructions.¹⁴⁶ Even if they do, it will take time and effort to get up to speed on a new technology.¹⁴⁷ Another alternative is to eat up the consumer and provider's time with phone calls to customer service. Again, this is a costly communication with no guarantee of success.

Faced with precisely this dilemma, the handset giant Samsung intervened through design. Samsung created the "Jitterbug," a cell phone that mimics traditional phones in most every respect, down to the dial tone.¹⁴⁸ The dial tone, though completely unnecessary to the operation of the cell phone, signals to the elderly user that he or she may proceed with the call. The Jitterbug's design makes it possible for seniors to begin using cell phones without recourse to a lengthy disclosure or conversation.¹⁴⁹

This basic technique can be—and has been—pressed into the service of mandatory notice. As discussed above, regulators in the United States and Europe became concerned that electric or hybrid vehicles do not emit an engine noise. There is evidence that the absence of such noise leads to more pedestrian collisions.¹⁵⁰ Rather than blanketing the sidewalks with warning signs, however, which could come to be ignored due to "wear out" and could not be read by the people that need them most (the visually

¹⁴⁵ Jesse James Garrett, *A Cell Phone for Baby Boomers*, BUSINESSWEEK, May 29, 2007.

¹⁴⁶ See, generally, Latin, *supra* note 2.

¹⁴⁷ *Id.* at 1215-20 (discussing competing demands for attention in the context of good warning in product liability).

¹⁴⁸ See Garrett, *supra* note 145.

¹⁴⁹ *Id.* Apple also designed its popular iPad book reader to respond to the motion of flipping the page. Yet another example is "Slurp," a "tangible interface for manipulating abstract information as if it water. Taking the form of an eyedropper, Slurp can extract (slurp up) and inject (squirt out) pointers to digital objects."

¹⁵⁰ See *supra* note 14.

DRAFT

impaired), these regulators moved toward another expedient: requiring fake engine noises that change depending on the distance of the car.¹⁵¹

Consider another example involving digital cameras and privacy. Analog cameras make a click and, often, emit a flash when taking a picture. Digital cameras are by default silent and many require very little light (and hence do not use flash as often). They tend to be smaller and come in a wider variety of shapes and sizes. Importantly, digital cameras can be built into devices with other common uses unrelated to capturing an image—most notably, cell phones.

This change creates a new opportunity for surreptitious photography, raising a privacy concern analogous to that discussed by Samuel Warren and Louis Brandeis in *The Right to Privacy*.¹⁵² The subject no longer knows she is being photographed. One way to address this issue is to penalize taking a photo from a cell phone or other digital camera without consent. This imposes an enormous cost on both the photographer and the subject. Another is to post warnings throughout public places. Lawmakers in Japan and the United States instead proposed requiring that digital cell phone cameras reintroduce the shutter sound of sufficiently volume.¹⁵³

In these and other examples, a company or lawmaker has recognized that the previous state of a given technology affords the means to realign expectations with reality with relatively little effort. By hearing the clicking sound issuing from the camera, the subject instantaneously realizes that she is in the presence of a recording technology. She is placed in the same position as before the problem arose. The alternatives—a consent requirement, for instance, or the ubiquitous display of signage—are meanwhile poor and unlikely to be effective.

¹⁵¹ See *supra* notes 12-13.

¹⁵² Samuel Warren & Louis Brandeis, *The Right to Privacy*, 4 HARV. L. REV. 193, 195 (1890) (opening with a concern over the privacy ramifications of “[r]ecent inventions and business methods” such as “instantaneous photography”).

¹⁵³ See *supra* note 16; [article about Japan iPhone]. Another example comes from Microsoft Research. To address the problem of computer cameras and microphones surreptitiously recording user information, the team built a “sensor-access widget” that “provides an animated representation of the personal data being collected by its corresponding sensor, calling attention to the application’s attempt to collect the data.” The researchers choose “virtual blinds” because of users’ familiarity with pulling down blinds for greater privacy. [John Howell and Stuart Schechter, *What You See Is What You Get: Protecting users from unwanted use of microphones, cameras, and other sensors*, Microsoft Research ...]

2. Psychological response as notice.

In addition to bringing a set of intuitions to new technologies or contexts, people share hardwired psychological reactions to certain technology and design. These reactions have, on some accounts, a biological or evolutionary basis.¹⁵⁴ Regardless, there is extensive evidence that people react in specific, predictable ways to certain kinds of visual and audio cues irrespective of their underlying familiarity with technology.¹⁵⁵ Companies and regulators can leverage these techniques to advance policy goals, including consumer or citizen understanding.

Consider the way people react to social technology—that is, interfaces that feature voices, eyes, or other anthropomorphic qualities. It turns out we are hardwired to react to anthropomorphic design as though a person were really there.¹⁵⁶ We know intellectually that what we are seeing is not a real person, but for many purposes our brains are incapable of shutting off these psychological reactions to the perceived presence of another.¹⁵⁷

Among these reactions is the feeling of being observed and evaluated. In one study, people paid more often for coffee on the honor system when a picture of a pair of eyes was present.¹⁵⁸ In another, people skipped sensitive questions on an online questionnaire and engaged in more self-promotion when the interface appeared like a person.¹⁵⁹ In each case, the researchers concluded that the changes to behavior resulted from a feeling of being observed—correct or not.¹⁶⁰ Research shows a similar effect where users

¹⁵⁴ See, e.g., CLIFFORD NASS & SCOTT BRAVE, *WIRED FOR SPEECH: HOW VOICE ACTIVATES AND ADVANCES THE HUMAN-COMPUTER RELATIONSHIP* 12 (2005) (“The human brain evolved in a world in which only humans exhibited rich social behaviors, and a world in which all perceived objects were real physical objects”); BYRON REEVES & CLIFFORD NASS, *THE MEDIA EQUATION: HOW PEOPLE TREAT COMPUTERS, TELEVISION, AND NEW MEDIA LIKE REAL PEOPLE AND PLACES* 3 (1996); (“[O]ver the course of 200,000 years of evolution, humans have become voice-activated with brains that are wired to equate voice with people and to act quickly on that identification ... In fact, humans use the same parts of the brain to interact with machines as they do to interact with humans.”).

¹⁵⁵ Reeves & Nass, *supra* note 156 at 252 (observing no difference in the effect of anthropomorphism on trained technologists).

¹⁵⁶ See Nass & Brave, *supra* note 155 at 4.

¹⁵⁷ *Id.* See also *infra* notes 159-61.

¹⁵⁸ Melissa Batson *et al.*, *Cues of Being Watched Enhance Cooperation in a Real-World Setting*, *BIOLOGY LETTERS*, 2(3):412-14 (2006).

¹⁵⁹ Lee Sproull *et al.*, *When the Interface is a Face*, 11 *HUM.-COMPUTER INTERACTION* 97-124, 112-16 (1996).

¹⁶⁰ See, e.g., Roaul Rickenberg & Byron Reeves, *The Effects of Animated Characters on Anxiety, Task Performance, and Evaluations of User Interfaces*, 2 *CHI LETTERS* 49 (2000). Perhaps paradoxically, this study found that social interfaces increase user trust—

DRAFT

are reminded of themselves, for instance, through presentation of their image in a mirror.¹⁶¹

The same turns out to be true of formal, as opposed to casual, frames or interfaces. Researchers at Carnegie Mellon experimented with how interface formality might interact with user response to a personal survey.¹⁶² The casual format of the survey used vivid colors (red, yellow) and began with the header “How BAD R U???” and an emoticon devil. The formal format used more subdued colors (blue, black), a somber title, and an official looking seal.¹⁶³ The study found that subjects responded to personal questions more honestly where the interface was casual than in the control or formal condition.¹⁶⁴

These studies are generally organized to measure subject behavior, not expectation or belief. But not out of necessity. There is evidence that, in addition to altering participant behavior, hardwired psychological responses to technology can change the user’s mental model or understanding. Another study on formality out of Stanford University, for instance, examined how changing the formality of a photo-sharing interface changed people’s stated expectations about the purpose and norms of the website.¹⁶⁵ An ongoing study seeks to determine whether design can improve over terms of service with respect to consumer understanding of a search engine.¹⁶⁶

These and other hardwired responses to design could be pressed into the service of a kind of visceral notice. Returning again to the context of online privacy: one of the central problems is that people are routinely being

often cited as a key component of e-commerce. Thus, the subjects of a study that used animated characters to create the appearance that the individual was being monitored actually rated the website higher on trust than subjects where the character was absent.

¹⁶¹ See, e.g., Charles Carver and Michael Scheier, *Self-focusing effects of dispositional self-consciousness, mirror presence, and audience presence*, J. OF PERSONALITY AND SOCIAL PSYCH., 36(3), Mar 1978, 324-332.

¹⁶² Leslie K. John, Alessandro Acquisti, and George Loewenstein, *Strangers on a Plane: Context-dependent Willingness to Divulge Sensitive Information*, J. OF CONSUMER RESEARCH (Feb. 2011).

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ Abhay Sukumaran and Cliff, *Socially Cued Mental Models*, PROC. CHI 2010, p. 3379-3384 (2009).

¹⁶⁶ Victoria Groom and M. Ryan Calo, *User Experience as a Form of Privacy Notice: An Experiment*, Working Paper, Privacy Law Scholars Conference 2011 (experimental study on the efficacy of various techniques of non-linguistic notice on consumer privacy expectations).

tracked by a variety of companies and other parties, but do not realize that they are.¹⁶⁷ Enter privacy policies, the purpose of which is ostensibly to realign users' understanding with the realities of web use—various forms of collection from websites and their advertising partners—through a general description. But, of course, no one wants to take the time away from their web experience to read these policies.¹⁶⁸ Worse yet, many are falsely reassured by the existence of a link labeled “privacy”—a poor heuristic in that such notices are required by law and can say just about anything.¹⁶⁹

The introduction of an anthropomorphic cue, a reminder of awareness, or a similar design element could drive home the fact of tracking in a way that privacy policies cannot. In certain sensitive collection environments, such as websites aimed at children, regulators could impose a requirement that data collection forms achieve a sufficient degree of formality to place children on guard. (Today, design incentives tend to be the opposite. Children's websites tend to be the most casual, despite that lawmakers are concerned enough with youth privacy to pass a law specifically requiring enhanced notice for websites aimed at those under the age of thirteen.¹⁷⁰)

Or consider the context of website comment etiquette and cyberbullying. One of the central problems of online etiquette appears to be that children and other users do not experience their communications as face-to-face conversations with an attendant set of expectations and mores.¹⁷¹ This can lead to anti-social conduct, whether or not coupled with the quasi-anonymity of a username.¹⁷² Websites attempt to police against such discourtesy through written notice—generally, terms of service or community guidelines that few take the time to read—coupled with selective enforcement.

Clever design leveraging hardwired reactions to technology could

¹⁶⁷ See Editorial, Enter Search Term Here, Forever, N.Y. TIMES, Aug. 21, 2006, at A16 (“When people search the Internet in their homes, it feels like a private activity.”). For a detailed discussion of the dangers of tracking, see generally Daniel Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 STAN. L. REV. 1393 (2001), and Michael Froomkin, *The Death of Privacy*, 52 STAN. L. REV. 1461 (2000).

¹⁶⁸ See *supra* note 32.

¹⁶⁹ See *supra* note 5.

¹⁷⁰ Children Online Privacy Protection Act, 5 U.S.C. §§ 6501–6506 (1998).

¹⁷¹ Patricia Abril, *Private Ordering: A Contractual Approach to Online Interpersonal Privacy*, 45 WAKE FOREST L. REV. 689, 699 n.74 (forthcoming 2011) (“Psychologists have found that face-to-face interaction and physical feedback help navigate the human brain through social situations, permitting empathy and defining appropriate interpersonal behavior.”).

¹⁷² *Id.* at 699.

DRAFT

improve substantially on terms and guidelines in a few ways. First, the experience of commenting could be made to feel more like an in-person conversation, for instance, by graphically representing that a comment to a post is also a comment directed at the author. Second, users that post content could select the way it is framed—more formally, for instance—in an effort to signal the target community and level of discussion. Such interventions, being embedded in user experience, happen instantaneously and would not require anyone to leave the fun and function of the website by clicking on a link.¹⁷³

3. “Showing” instead of telling.

A final technique of notice as experience involves eschewing reliance on general terms in favor of tailoring notice very specifically to the company’s engagement with the exact individual. Individuals then learn the rules and policies through individually tailored examples.¹⁷⁴ Like traditional notice, these techniques have as their primary content prose or symbolic communication. Perhaps they are not “visceral” in the same sense as the first two. But they do leverage experience in an important way: the difference between showing and telling is the purpose behind, and likely salience of, the narrative.

In the context of “debiasing,” that is, using law to combat known cognitive limitations, Christine Jolls and Cass Sunstein explore the use of anecdote or concrete instance to overcome optimism bias.¹⁷⁵ The idea is that warning a patient of the numerical risk of breast cancer, for instance, will not lead to an accurate assessment because people tend to discount the possibility a given negative event will occur to them.¹⁷⁶ The authors concluded that regulators should consider mandating the recitation of a particular negative outcome—a story about a hypothetical woman’s battle with cancer.¹⁷⁷

¹⁷³ Of course, it follows that most of the worse comments—racist or sexist rants, for instance—will not disappear merely because of visceral notice. Many presumably know and intend that their comments will cause harm. The technique is promising only for low-level discourtesy. It may be prove especially powerful, however, in the context of cyberbullying, where the bias is less virulent and perpetrators ostensibly less hardened.

¹⁷⁴ This is not to say that the rules will not be available in advance, or that they cannot be invoked the case of a conflict. No technique of visceral notice is mutually exclusive with written policy.

¹⁷⁵ See Jolls & Sunstein, *supra* note 42 at 210.

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

Technology and clever design create the possibility of tailoring the anecdote to each individual consumer, thereby showing them what is specifically relevant, instead of describing generally what might be. A simple example is a requirement that lenders calculate exactly how much money a loan will cost a borrower each month and overall, as well as the exact amount of time it will take to pay off. This practice is in places routine and, by taking the step of applying specific terms, obviates some of the need to explain them. We can imagine further inputs—for instance, what happens if the borrower misses a payment or if interest rates change—to dramatize other terms of the deal on offer.

The online context, being mediated, again provides strong examples. Consider three. Mozilla, the company (technically, foundation) behind the popular Firefox browser, invites users to test out new features in Mozilla Labs using Test Pilot.¹⁷⁸ Consistent with standard legal practice, Mozilla provides a privacy policy and terms of use that explain, generally, what information Mozilla might collect and how it might use that information. About one study, Mozilla says: “It will periodically collect data on the browser’s basic performance for one week.”¹⁷⁹

Notice skeptics will observe that—given what we know about user behavior toward terms and the impossibility of conveying sufficiently fulsome notice in an easily digestible format—these documents and statements are unlikely to accomplish their avowed goals.¹⁸⁰ But Mozilla does not stop at this general statement. Prior to transmitting user information from the user’s computer to Mozilla’s servers, Mozilla actually shows users a report of what information has been collected and asks them to review. Thus, users actually see a specific, relevant instance of collection and decide to consent on this basis.

One of the first companies to use this general technique was the Internet search giant Google, Inc. Google has dozens of services—for both consumers and advertisers—governed by a complex series of interrelated policies.¹⁸¹ In connection to ad targeting, one of two-dozen product policies, Google explains:

¹⁷⁸ Mozilla Labs, Test Pilot, online at <https://testpilot.mozillalabs.com/> (last visited March 14, 2011).

¹⁷⁹ Mozilla Labs, Test Pilot, Current Test Cases, online at <https://testpilot.mozillalabs.com/testcases/> (last visited March 14, 2011).

¹⁸⁰ Or, as Hillman’s boilerplate example shows, they may do more consumer harm than good. See generally Hillman, *supra* note 69.

¹⁸¹ Google, Privacy Center, online at <http://www.google.com/intl/en/privacy/> (last visited March 14, 2011) (listing services).

DRAFT

To serve ads that are relevant and tailored to your interests, we may use information about your activity on AdSense partner sites or Google services that use the DoubleClick cookie. Some of these sites and services also may use non-personally identifying information, such as demographic data, to provide relevant advertising.¹⁸²

More information is available but, as discussed in detail in Part I, users are not likely to access it. Privacy policies are required under state law.¹⁸³ And they do not work. Far more powerful are the ancillary tools Google created to help users understand what data Google has about them and how it will be used. Thus, for instance, the Google Dashboard permits users to see all in one place what services store any of their information.¹⁸⁴ Google Ads Preferences permits users to see what guesses Google has made about them in order to serve relevant ads.¹⁸⁵ Users may also make changes or delete the profile entirely.

Other companies have followed Google and Mozilla's lead. The Internet company Yahoo! now has an "Ad Interest Manager" that shows even greater detail than that of Google.¹⁸⁶ A more recent example is Facebook's Interactive Tools, one of which permits users to see how their profile looks to those who are not signed in—that is, to cops, teachers, potential employers, and others that might check up.¹⁸⁷ Another permits users to target a pretend ad so that they at least understand what information third-party advertisers see about them.¹⁸⁸ These tools, while imperfect, show users how their information is actually used, as opposed merely to telling them how it might be.

¹⁸² Google, Privacy Policy for Google Ads and the Google Display Network, online at <http://www.google.com/privacy/ads/privacy-policy.html> (last visited March 14, 2011).

¹⁸³ California Online Privacy Protection Act, Bus. & Prof. Code §§ 22575-22579 (2004).

¹⁸⁴ Judy Shapiro, *Google Dashboard Changes Our Thinking About Privacy*, Ad Age Digital, Nov. 10, 2009, online at <http://adage.com/article/digitalnext/digital-privacy-google-dashboard-thinking/140399/> (last visited March 14, 2011).

¹⁸⁵ Google, Ads Preferences, Frequently Asked Questions, online at <http://www.google.com/ads/preferences/html/faq.html> (last visited March 14, 2011).

¹⁸⁶ See Yahoo! Privacy Policy, Yahoo! Privacy Policy, Ad Interest Manager, online at http://info.yahoo.com/privacy/us/yahoo/opt_out/targeting/ (last visited March 14, 2011).

¹⁸⁷ Mike Swift, *Facebook Develops New Privacy Policy*, SAN JOSE MERCURY NEWS, Mar. 9, 2011, online at <http://www.heraldonline.com/2011/03/09/2895296/facebook-develops-new-privacy.html> (last visited March 14, 2011).

¹⁸⁸ *Id.*

Telling employs lengthy prose that no one reads or particularly understands to describe all possible practice. Executed well, showing describes what has actually occurred, thereby embedding information about the company's practices in highly relevant information—similar to how we might learn the rules of a game by playing it.¹⁸⁹

B. Why Experience Undermines Notice Skepticism

For purposes of deciding whether there has been adequate notice under the law, courts and other interpreters will generally look to whether the right words or symbols were articulated in the right way. Thus, for instance, for a warning to count as “good” under product liability law, it should provide users with accurate information as to the level of risk and, if relevant, how to avoid a given danger.¹⁹⁰ For a privacy policy to satisfy the requirements of California law, it must use the word “privacy” in the link and provide information as to what data the company collects, how it is used, and with whom it is shared.¹⁹¹

Assuming the goal of most notice is, at base, to create in users an accurate understanding of the product or activity,¹⁹² requiring a change to user experience instead of—or in addition to—written notice may be more powerful. Experience can create such an understanding instantaneously and without regard to attention or skill with language using the techniques described and, presumably, others. More study is needed, but preliminary evidence suggests that people will not become inured to design over time and that design will not cause wear out or information overload as text is known to do.¹⁹³

Still, various questions remain. Oliver Wendell Holmes

¹⁸⁹ One counter-argument is that consumers need to learn the rules of the game *before they play*. This is true in an ideal world. Showing improves on the world we have by helping consumers understand what is presently going on. This permits them to leave if inclined and at least stop sharing information going forward.

¹⁹⁰ Latin, *supra* note 2 at ____.

¹⁹¹ See *supra* note 185.

¹⁹² As Part II discusses, improving the mental model of a consumer or citizen is not always the goal of notice. A primary goal of a reporting requirement, for instance, appears to be to force the firm to study the issue and create a record for review by various sophisticated stakeholders.

¹⁹³ Thus, for instance, in the study of paying for coffee on the honor system, the effect of the design manipulation remained the same at week nine as in week two. See Bateson et al., *supra* note 12 at 2. Moreover, the effect of computers as social actors does not change for groups who are more familiar with computer technology. Reeves & Nass, *supra* note 156 at 252.

DRAFT

notwithstanding,¹⁹⁴ we may wonder at the capacity of courts or regulators to determine the sufficiency of experience as a form of legally sufficient notice. Anyone can review a privacy policy or product warning; it would appear to require particular expertise in psychology and design to measure how well a non-linguistic notice was working in a given policy context. The task is especially difficult in that people may experience the same situation or product differently. People do not even necessarily see the exact same colors or taste foods in the same way, let alone activities and objects.¹⁹⁵

A related issue involves the possibility of third-party reliance on notices to police against bad practice. A review of Federal Trade Commission enforcement suggests that it may be easiest to prosecute companies for making a claim in their notices that turns out not to be true.¹⁹⁶ Advocates and other third-parties also look to notices for information about company practice. Some scholars see how design and settings can form the basis of legal obligations.¹⁹⁷ But until courts and enforcement agencies catch up, text remains the obvious format for enforceable claims.

These concerns do not necessarily militate against non-linguistic notice, however, for several reasons. As an initial matter, language is also received very differently by different people, as the extensive literature to which Part I cites shows. Jon Hansen and Douglas Kysar have gone so far as to suggest the use of segmentation—an advertising technique that involves breaking people into different groups based on their interests and

¹⁹⁴ OLIVER WENDELL HOLMES, *THE COMMON LAW* 1 (1881) (“The life of the law has not been logic; it has been experience”).

¹⁹⁵ See, e.g., ROBERTA LARSON DUYFF, *AMERICAN DIETETIC ASSOCIATION COMPLETE NUTRITION GUIDE* (3 ed) 308 (2006) (“Even in the same family, people experience taste differently. The intensity of taste depends partly on how many fungiform papillae ... a person has on his or her tongue.”).

¹⁹⁶ See Marcia Hofmann, *The Federal Trade Commission’s Enforcement of Privacy*, in PROSKAUER ON PRIVACY (Christopher Wolf ed., 2008) (reviewing FTC enforcement of online privacy through 2010). See also Cate, *supra* note 2 at 357 (“What is striking about the FTC’s approach is not only its exclusion of most FIPPs, but also its transformation of collection limitation, purpose specification, use limitation, and transparency into mere notice and consent.”).

¹⁹⁷ See, e.g., Woodrow Hartzog, *Promises and Privacy: Promissory Estoppel and Confidential Disclosure in Online Communities*, 82 TEMP. L. REV. 891, 907 (2009) (“Certainly technological remedies for protecting information, such as privacy settings, are useful in not only directly restricting what can be viewed, but also in creating an environment of confidentiality. By closing or locking away information, a community member could be seen as communicating a preference for confidentiality for the information contained within.”). See also Nancy Kim, *Online Contracts: Form As Function*, manuscript on file with author.

demographics—to provide different populations with different notice.¹⁹⁸ In some instances, as when the problem is a lack of familiarity with the language in which the notice was written, experience will be if anything far more universal.

We often rely on agencies to accrue scientific or technical expertise and contemporary administrative law requires deference to agency decisions in part for this reason.¹⁹⁹ Agencies have already engaged outside experts to test the efficacy of notice in, among other places, the context of financial disclosure under GLB.²⁰⁰ Litigants argue over the impact of design—for instance, in the context of trade dress.²⁰¹ And, as discussed, lawmakers have begun tacitly to recognize the promise of experience as notice to address certain simple issues.

Even were regulators never able to assess the efficacy of non-linguistic notice internally, they are free to set goals of consumer understanding that companies can meet to the satisfaction of third-party experts.²⁰² The Federal Trade Commission experimented with this approach in *In re RJR Foods, Inc. v. F.T.C.*, where a consent decree would stay in place until the regulated entity submitted a survey indicating consumers were no longer confused by its product.²⁰³ Finally, there is nothing to say verbal notice could not co-exist with notice as experience, at least where including linguistic notice does not do more harm than good.

Part II argues that notice skepticism should address the possibility that the wrong form of notice—warning, notification, terms, and reporting, to name a few possibilities—has been selected in order to rule out notice as a viable regulatory strategy. Critics of notice must equally address the possibility of supplementing written notice with other, non-verbal forms. Thus, we can imagine a website directed at children with both formally designed web-forms and a link for parents, regulators, or privacy advocates to learn more about the company’s data practice.²⁰⁴ Both the possibility of

¹⁹⁸ Hansen & Kysar, *supra* note 42 at 1561-63.

¹⁹⁹ See *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 865 (1984).

²⁰⁰ See Levy and Manoj Hastak, *supra* note 52 (studying notice on behalf of five federal agencies and recommending the use of tables).

²⁰¹ See, e.g., *Qualitex Co. v. Jacobson Products Co., Inc.*, 514 U.S. 159 (1995) (examining whether the Lanham Act permits the registration of a color as a trademark).

²⁰² See Craswell, *supra* note 55, citing William Wilkie & David Gardner, *The Role of Marketing Research in Public Policy Decision Making*, J. MARKETING 38, 41 (Jan. 1974).

²⁰³ 83 F.T.C. 7, 1973 165237 (F.T.C.).

²⁰⁴ The possibility of using both experience and notice also helps address the concern

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selection error and the availability of non-linguistic notice militate against notice skepticism.

CONCLUSION

Notice happens. There is no avoiding its draw as a regulatory mechanism. The many critiques of notice, meanwhile, tend to be well-researched and accurate. It is true that notices of all kinds fail to accomplish their avowed goal: informing consumers so that they can take informed risks and otherwise act in their best interests. And it may be that, in some circumstances, we are better off moving beyond notice entirely in favor of substantive restriction or another expedient.

But notice skepticism also makes two poor analytic turns and, accordingly, fails to level a complete criticism of notice as a regulatory mechanism. Specifically, notice skepticism generally assumes away the possibility that the wrong notice strategy has been selected by the regulator or court. Those skeptical of notice must rule out all strategies of notice before they can conclude that notice has failed. And it assumes notice must be conveyed in written or symbolic language, whereas notice can also be embedded or experienced. The use of visceral or non-linguistic notice can, in some contexts, attain notice's avowed goals without many of the drawbacks to which notice skeptics cite.

The question of whether and when to use notice as a regulatory strategy remains an important one. One hopes regulators, courts, and companies will continue to innovate when it comes to the use of information to protect consumers and citizens. Of course, it may be that, for all of its advantages, notice is ultimately doomed. But this article shows why reports of its death are, so far, premature.

designing toward a psychological response changes behavior but does not create understanding let alone assent.