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Digital Market Manipulation

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Jon Hanson and Douglas Kysar coined the term "market manipulation" in 1999 to describe how companies exploit the cognitive limitations of consumers. Everything costs $9.99 because consumers see the price as closer to $9 than $10. Although widely cited by academics, the concept of market manipulation has had only a modest impact on consumer protection law.

This Article demonstrates that the concept of market manipulation is descriptively and theoretically incomplete, and updates the framework for the realities of a marketplace that is mediated by technology. Today's firms fastidiously study consumers and, increasingly, personalize every aspect of their experience. They can also reach consumers anytime and anywhere, rather than waiting for the consumer to approach the marketplace. These and related trends mean that firms can not only take advantage of a general understanding of cognitive limitations, but can uncover and even trigger consumer frailty at an individual level.

A new theory of digital *market manipulation reveals the limits of consumer protection law and exposes concrete economic and privacy harms that regulators will be hard-pressed to ignore. This Article thus both meaningfully advances the behavioral law and economics literature and harnesses that literature to explore and address an impending sea change in the way firms use data to persuade.*

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INTRODUCTION

It turns out we like people more who look like us. Researchers at Stanford University conducted a study wherein they subtly blended photos of ex-president George Bush or presidential candidate John Kerry with photos of the subject.[1] Although the change was undetectable, the researchers found their manipulation increased the subject's trust of the politician and receptivity to his message by a margin greater than that of the 2000 election.[2]

Now imagine if a social network were to offer a comparable service, permitting advertisers to blend their spokesperson with the user's own profile picture. Nothing in today's broadly worded privacy policies or terms of service would prevent this practice.[3] There is no specific law against it. And, if the approach proved successful, other platforms might feel compelled to follow suit or risk losing valuable ad dollars.

Other research suggests that willpower is a finite resource that can be depleted or replenished throughout the day.[4] What if an advertiser had a way to count how many decisions you had made, or determine your present emotional state? That advertiser might try to reach you at your most susceptible. An obese person trying to avoid snacking between meals could receive a text on his phone from the nearest donut shop *exactly when* he was least likely to resist.

If this sounds dystopian or far-fetched, consider two recent stories by the same newspaper. The first focuses on how the retail giant Target used customer purchase history to determine who among its customers was pregnant, following which Target apparently hid ads related to babies in direct marketing to those customers.[5] A second article describes the "extraordinary" lengths to which food

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[1] *See* Jeremy Bailenson et al., *Facial similarity between voters and candidates causes influence*, 72 PUB. OPINION Q. 935, 935–61 (2008).

[2] *Id.*

[3] *See, e.g.,* Instragram Terms of Service (January 19, 2013), *online at* http://instagram.com/legal/terms/# ("you hereby grant to Instagram a non-exclusive, fully paid and royalty-free, transferable, sub-licensable, worldwide license to use the Content that you post on or through the Service, subject to the Service's Privacy Policy"); Instragram Privacy Policy, *online at* http://instagram.com/legal/privacy/# (January 19, 2013) ("we may use information that we receive to … provide personalized content and information to you and others, which could include online ads or other forms of marketing"). Instagram adds: "You acknowledge that we may not always identify paid services, sponsored content, or commercial communications as such." *Id.*

[4] See ROY BAUMEISTER & JOHN TIERNEY, WILLPOWER: REDISCOVERING THE GREATEST HUMAN STRENGTH (2012) (collecting studies).

[5] Charles Duhigg, *How Companies Learn Your Secrets*, N.Y. TIMES MAG. (Feb. 16, 2012).

manufactures go to scientifically engineer cravings.[6] Either story alone raises eyebrows. Taken together they bring us closer than comfort to the scenario described in the previous paragraph.[7]

Investigative journalists and academics have explored the art and science of persuasion for decades. Vance Packard famously chronicled the ascension of "depth manipulation," a refocus of marketing fueled by advances in motivational analysis, in the late nineteen-fifties.[8] The notorious subliminal advertising experiments of James McDonald Vicary were debunked,[9] but media coverage reached a fever pitch and the Federal Communications Commission twice condemned the technique as against public interest.[10] In just the past few years, several scholars and commentators, notably Joseph Turow and Eli Pariser, have explored the explosion of online marketing and its costs to privacy and other values.[11] Others refer to the growing influence of

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[6] Michael Moss, *The Extraordinary Science of Addictive Junk Food*, N.Y. TIMES (Feb. 20, 2013). *See also*, John Tierney, *Do You Suffer From Decision Fatigue?*, N.Y. TIMES (Aug. 17, 2011) ("When people fended off the temptation to scarf down M&Ms or freshly baked chocolate-chip cookies, they were less able to resist other temptations.")

[7] As of this writing, researchers at Carnegie Mellon are testing whether face morphing could render advertising more effective. *See* Sonam Samat et al., *Visceral Targeting: Using Personalized Face Composites for Implicit Targeted Marketing*, 32nd Annual Advertising and Consumer Psychology Conference (June 2013).

[8] VANCE PACKARD, THE HIDDEN PERSUADERS: AN INTRODUCTION TO THE TECHNIQUES OF MASS-PERSUASION THROUGH THE UNCONSCIOUS 11-16 (1957) (describing the ascension of the "depth approach").

[9] *See* Stuart Rogers, *How a Publicity Blitz Created the Myth of Subliminal Advertising*, 37 PUB. REL. Q. 12, 12-17 (1992-93) (discussing James Vicary's work).

[10] Federal Communications Commission, *Use of Subliminal Advertising by Television Stations*, FCC 57-1289 (Nov. 27, 1957); Federal Communications Commission, *Public Notice Concerning the Broadcast of Information By Means of "Subliminal Perception" Techniques*, 44 FCC 2d 1016, 1017 (1974). The controversy resurfaced just a few years ago when two United States Senators wrote a letter to the FCC saying they had "reason to believe that broadcasters are airing television advertisements that contain subliminal messages." Press Statement of Commissioner Gloria Tristani, *Re: Enforcement Bureau Letter Dismissing a Request by Senators Ron Wyden and John Breaux for an Investigation Regarding Allegations of the Broadcast of Subliminal Advertising Provided by the Republican National Committee* (Mar. 9, 2001). More specifically, the Senators believed the Republic National Committee had created ads attempting subliminally to associate the face of Vice President Al Gore with the word "RATS." *Id.* The Commission investigated but ultimately dismissed the allegation. *Id.*

[11] *E.g.*, ELI PARISER, THE FILTER BUBBLE: WHAT THE INTERNET IS HIDING FROM YOU (2011); JOSEPH TUROW, THE DAILY YOU: HOW THE NEW ADVERTISING INDUSTRY IS DEFINING YOUR IDENTITY AND YOUR WORTH (2010); JOSEPH TUROW, NICHE ENVY: MARKETING DISCRIMINATION IN THE DIGITAL AGE (2006). *See also* Lior Jacob Strahilevitz, *Toward A Positive Theory of Privacy Law*, 126 HARV. L. REV. 2010, 2022-33 (2013) (analyzing the discriminatory effect of big data on some consumers).

companies over consumers without sustained analysis.[12]

What remains conspicuously missing from the literature is a rigorous account of when and why *leveraging data* to convince someone is a problem worthy of legal intervention. How does using your face to advertise to you differ from using the face of a celebrity? What is the difference between placing impulse items by the counter and texting an offer to consumers when they are at their most impulsive? When does personalization, in other words, become an issue of consumer protection? Legal academics and officials in particular are going to require such an account if they are to develop laws and policies in response to some practices and not others.[13]

This Article advances two novel arguments. The first is that the digitization of commerce dramatically alters the capacity of firms to influence consumers at a personal level. A specific set of emerging technologies and techniques will empower corporations to discover and exploit the limits of each, individual consumer's ability to pursue his or her own self-interest. Firms will increasingly be able to trigger irrationality or vulnerability in consumers—leading to actual and perceived harms that challenge the limits of consumer protection law, but which regulators can scarcely ignore.

The second argument is that behavioral economics, once it integrates the full relevance of the digital revolution, furnishes the best framework by which to understand and evaluate this emerging challenge. The interplay between rational choice and consumer bias that is at the heart of behavioral economics helps show how information and design advantages might translate into systematic consumer vulnerability. This Article thus both meaningfully advances the behavioral law and economics literature and harnesses that literature to understand and address the future of selling.

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[12] *E.g.,* Neil Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1955 (2013) (noting that "[s]urveillance also gives the watcher increased power to persuade"); *see also id.* at 1955-56. Tal Zarsky devotes a few paragraphs to the relationship between profiling and persuasion in a short book chapter, but without offering an account of its mechanics, contours, or harms, beyond to note that personalized persuasion is "manipulative." Tal Zarsky, *Online Privacy, Tailoring, and Persuasion*, in PRIVACY AND TECHNOLOGY OF IDENTITY: A CROSS-DISCIPLINARY CONVERSATION 209-24 (2006) (Katherine Strandburg and D. Stan Raicu, eds.).

[13] Richard Craswell and others have explored the line between deceptive and non-deceptive advertising. *See, e.g.,* Richard Craswell, *Interpreting Deceptive Advertising*, 65 B.U. L. REV. 657 (1985); Richard Craswell, *Regulating Deceptive Advertising: The Role of Cost-Benefit Analysis*, 64 S. CAL. L. REV. 549 (1991). David Hoffman has developed a comprehensive account of "puffery," meaning the practice of exaggerating the quality of goods and services. David Hoffman, *The Best Puffery Article Ever*, 91 IOWA L. REV. 1395 (2006). These and other accounts do not take into account the mediating effects of contemporary technology.

The project takes as its starting point the work of Jon Hanson and Douglas Kysar who, in a pair of articles from 1999, developed a concept they call "market manipulation."[14] Market manipulation is best understood as one possible move within the broader conversation around behavioral law and economics. Championed by Christine Jolls, Cass Sunstein, Richard Thaler, and others, the movement supplements and challenges law and economics with the extensive evidence that people do not always behave rationally in their best interest as traditional economic models assume.[15] Rather, humans are "predictably irrational," to borrow a phrase from Dan Ariely.[16] Accordingly, regulations that assume rational behavior may be doomed to fail,[17] whereas appreciating the cognitive limitations and biases citizens and officials face can better predict legal outcomes and improve policymaking overall. Thus, proponents of "debiasing" believe we can use the law to counter known biases and improve decision-making.[18] Advocates of "libertarian paternalism," colloquially known as "nudging," believe we should acknowledge and even exploit irrational human tendencies in order to nudge citizens toward better outcomes while leaving them technically able to resist government intervention if strongly inclined.[19]

Market manipulation is, essentially, nudging for profit. "Once one accepts that individuals systematically behave in nonrational ways,"

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[14] *See* Jon Hanson & Douglas Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630 (1999) (hereinafter *Taking Behavioralism Seriously I*); Jon Hanson & Douglas Kysar, *Taking Behavioralism Seriously: Some Evidence of Market Manipulation*, 112 HARV. L. REV. 1420 (1999) (hereinafter *Taking Behavioralism Seriously II*).

[15] *See* Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471 (1998).

[16] DANIEL ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR BEHAVIOR (2008).

[17] This is particularly true of the many regimes that rely on mandatory disclosure. *See, e.g.,* Ryan Calo, *Against Notice Skepticism (In Privacy And Elsewhere)*, 87 NOTRE DAME L. REV. 1027, 1031-32 (2012) (privacy); Matthew A. Edwards, *Empirical and Behavioral Critiques of Mandatory Disclosure: Socio-Economics and the Quest for Truth in Lending*, 14 CORNELL J.L. & PUB. POL'Y 199, 242 (2005) (lending); Lauren Willis, *Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price*, 65 MD. L. REV. 707 (2006) (same); Geoffrey Manne, *The Hydraulic Theory of Disclosure Regulation and Other Costs of Disclosure*, 58 ALA. L. REV. 473 (2007) (securities).

[18] Christine Jolls & Cass Sunstein, *Debiasing Through Law*, 35 J. LEGAL STUD. 199 (2006). *See also* Richard Larrick, *Debiasing*, in BLACKWELL HANDBOOK OF JUDGMENT AND DECISION MAKING (Derek Koehler and Nigel Harvey, eds. 2004).

[19] *E.g.*. RICHARD THALER & CASS SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS (2008) (hereinafter "NUDGE"); Cass Sunstein & Richard Thaler, *Libertarian Paternalism Is Not An Oxymoron,* 70 U. CHI. L. REV. 1159 (2003); Richard Thaler & Cass Sunstein, *Libertarian Paternalism*, AMER. ECON. REV. 93, 175-79 (2003).

argue Hanson and Kysar, "it follows from an economic perspective that others will exploit those tendencies for gain."[20] The idea is that companies and other firms will use what they know about human psychology to set prices, draft contracts, minimize perceptions of danger or risk, and otherwise attempt to extract as much rent as possible from their consumers. The result, according to the authors, is an entirely new source of market failure grounded in the behavioral turn.[21] Importantly, firms not only have the capability to engage in market manipulation, but also an economic incentive: if some market actors leverage bias, those that do not could be edged out of the market.[22]

Fifteen years have passed since Hanson and Kysar developed the concept of market manipulation. It remains an elegant way to think about a range of consumer problems and the theory is widely cited by academics. Yet market manipulation has had a modest impact on regulatory policy.[23] Just last year, the Federal Trade Commission brought its first negative option marketing (which exploits status quo bias) as unfairness case against an egregious website with content that bordered right up against fraud.[24] Very few enforcement proceedings specifically refer to the exploitation of cognitive bias, and there are several instances where the FTC and other agencies have all but ignored it.[25] If anything, regulators have themselves developed a taste for nudging citizens toward policy goals.[26] One reason why market manipulation has not received sustained scrutiny is that its effects, while pervasive, are limited. Maybe a consumer pays a little extra for a product, for instance, or purchases an item on impulse. Thus, both the downside for consumers and, importantly, the upside for firms, have

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[20] *Taking Behavioralism Seriously I*, at 635.

[21] *Taking Behavioralism Seriously II*, at 1555.

[22] *Taking Behavioralism Seriously I*, at 726.

[23] The difference between the academic and policy reception is dramatic. A recent Westlaw search revealed that *Taking Behavioralism Seriously I* has been cited 227 times. Of those, 225 documents were secondary sources such as law review articles. Only one court has cited the piece and no official regulatory source has done so. The story is virtually identical with *Taking Behavioralism Seriously II*—217 cites, 213 of which are to secondary sources.

[24] FTC v. Jesse Willms et al., Case No. 21:11-cv-00828 (U.S. Dist. W.D. Wa. 2012). *See also* 16 CFR § 425 (2005) (imposing requirements on negative option marketing).

[25] One example is bid-to-pay auctions, which leverage the endowment effect and optimism bias to generate as high as 800 percent profits on average consumer goods. *See* Tyler Cowen, *"Profitable until deemed illegal,"* MARGINAL REVOLUTION (Dec. 14, 2008), at http://marginalrevolution.com/marginalrevolution/2008/12/profitable-unti.html.

[26] *See* Adam Burgess, *'Nudging' Healthy Lifestyles: The UK Experiments with Behavioral Alternatives*, 1 EJRR 3, 4 (2012); Michael Grunwald, *How Obama Is Using The Science of Change*, TIME MAG. (Apr. 2, 2009).

proven marginal to date.

Several trends, each intimately related to data, could dramatically accelerate market manipulation in the coming years. The consumer of the future is a *mediated* consumer—she approaches the marketplace through technology designed by someone else. As a consequence, firms can generate a fastidious record of their transaction with the consumer and, importantly, personalize every aspect of the interaction. This permits firms to surface the specific ways each individual consumer deviates from rational decision-making, however idiosyncratic, and leverage that bias to the firm's advantage.[27] Whereas sellers have always gotten a "feel" for consumers, and while much online advertising today is already automatic, this new combination of interpersonal manipulation with large-scale data presents a novel challenge to consumers and regulators alike.

My argument proceeds as follows. Part I anticipates the future of market manipulation in the digital age, describing how the mediation of consumers, and the various techniques it allows, stand to generate dramatic asymmetries of information and control between firms and consumers. Part II responds to the skepticism that often accompanies claims about the evolution of selling, including: (1) the claim that the "new" technique is functionally indistinguishable from marketing that already exists, (2) the view that there is no real harm to markets or consumers, and (3) the assertion that the technique, even if new and harmful, cannot be regulated consistent with the First Amendment. Part III follows the prevailing wisdom of law and economics, behavioral and otherwise, in asserting that the way to address the problem is to alter corporate incentives. The Part offers two novel interventions—imposing research ethics on companies and forcing firms to offer a paid version of their service that comes with added privacy protections—as examples of the regulatory or self-regulatory path consumer protection law might follow to address the coming challenge.

A final Part IV describes the import of this Article's insights for behavioral economics as a whole, and lays out an empirical and theoretical agenda for others or future work. There is some limited recognition of the importance of data to behavioral economics already. Cass Sunstein has recently explored the power of more personalized nudges.[28] Lior Strahilavitz and Ariel Porat, following expressly on the

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[27] Another consequence, developed in Part I, is that firms do not have to wait for consumers to enter the marketplace. Rather, constant screen time and more and more networked or "smart" devices mean that consumers can be approached anytime, anywhere.

[28] *See* Cass Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1399 (2011) ("Other default rules are *personalized*, in the sense that they draw on

work of Sunstein, Ian Ayer (in 1993), and George Geis, discuss setting legal defaults that vary by citizen and with context.[29] Hanson and Kysar (in 1999) offered in passing that disclosures could be targeted based on demographics.[30] These limited forays into the personalization of behavioral economics yield valuable insights, but in a sense barely scratch the surface. Certain phenomena remain entirely unexplored. Others are not taken to their logical extension. The availability of data about people, coupled with the power to make sense of this data and apply the insights in real time, will lend the behavioral turn an even greater relevance to law and daily life.

I. THE FUTURE OF SELLING

Today's consumer is a mediated consumer. He or she purchases products or services *through* some interactive or networked device—a kiosk, vending machine, laptop, tablet, or phone designed by someone else. A credit card company or a bank facilitates payment. Brick and mortar stores, outdoor billboards, even our everyday appliances, are beginning to have interfaces and connect to a network.[31]

That consumers are mediated has several consequences. The first is that technology captures and retains intelligence on the consumer's interaction with the firm. Consumer interactions leave a record of their behavior. A conservative list of information a commercial website might collect could include how many times the consumer has been to the website before; what website the consumer was immediately before arriving; what pages the consumer visited, and for how long; what items the consumer purchased; what items the consumer almost purchased; where the consumer physically was; and what computer or browser the consumer was using.[32] Firms might combine the data with public or private information purchased from a third-party.[33] Firms store and compare the data they collect, and run complex algorithms

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available information about which approach best suits individuals, and potentially even each individual, in the relevant population.") (emphasis in original).

[29] *See* Ariel Porat & Lior Strahilevitz, *Personalizing Default Rules With Big Data*, 112 MICH. L. REV. (forthcoming 2014) (observing that variable legal defaults may be more effective in changing citizen behavior) (internal cites omitted).

[30] *Taking Behavioralism Seriously I*, at 1562-64.

[31] A report by the Swiss mobile device company Ericsson and the Alexandra Institute estimates about fifty billion devices will be networked by 2020 into an "Internet of Things." *See* Mirko Presser & Jan Holler, *Inspiring The Internet of Things!* 2 (2011).

[32] *See* Steven Bennett, *Regulating Online Behavioral Advertising*, 44 J. MARSHALL L. REV. 899, 901-04 (2011).

[33] *Id.* at 901.

against it to convert mere behavior into insight (and value).[34]

A second, less-studied consequence of mediation is that firms can and do design every aspect of the interaction with the consumer. I refer here not merely to the legal expectations of the transaction—embodied in terms of use, warranties, or other document sounding essentially in contract—but to the very physical of virtual interface where the activity takes place. The digital content giant Apple does not travel to a website *you* designed from scratch to sell you music. In their discussion of market manipulation, Hanson and Kysar at one point refer to the resources firms pour into "atmospherics," meaning the layout and presentation of retail space.[35] Atmospherics as a term fails to capture the exquisite control that firms increasingly exert over virtual and physical place.

A third consequence of mediation is that firms can increasingly choose when to approach consumers, rather than wait until the consumer has decided to enter a market context. The Federal Trade Commission has long recognized the distinct issues raised by in-person solicitation.[36] The difference is said to lie in the inability to adopt a critical frame of mind prior to entering the marketplace, as well as the difficulty of escaping without rudeness.[37] In an age of constant "screen time," however, in which consumers carry or even wear devices that connect them to one or more companies, an offer is always an algorithm away.[38] This trend will only accelerate as our thermometers, appliances, glasses, watches and other artifacts become networked into an "Internet of Things."[39]

There is an extensive upside to mediation. The fact of a record, for instance, makes it easier to detect interpersonal fraud and reverse its

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[34] *See, generally,* Ira Rubenstein et al., *Data Mining and Internet Profiling: Emerging Regulatory and Technical Approaches*, 75 U. CHI. L. REV. 261 (2008) (describing the capabilities of data mining). *See also* Tal Zarsky, *Mine Your Own Business!: Making the Case for the Implications of the Data Mining of Personal Information in the Forum of Public Opinion*, 5 YALE J.L. & TECH. 1, 6-8 (2006).

[35] *Taking Behavioralism Seriously II*, at 1446.

[36] *See* Project, *The Direct Selling Industry, An Empirical Study*, 16 UCLA L. Rev. 883, 895-922 (1969). The FTC promulgated regulations in 1972, for instance, by imposing a "cooling off" period for door-to-door sales. 37 FED. REG. 22934, 22937 (1972).

[37] *Id.*

[38] *Id.* at 22939 ("The door to door selling technique strips from the consumer one of the fundamentals in his role as an informed purchaser, the decision as to when, where, and how he will present himself to the market place). *Cf.* James G. Webster, *User Information Regimes: How Social Media Shape Patterns of Consumption*, 104 NW. U. L. REV. 593, 598 (2010) (describing the difference between the "pull" method of audience building and the "push" or "interruption" method).

[39] *See* Dave Evans, *The Internet of Things: How the Next Evolution of the Internet is Changing Everything*, Cisco White Paper (Apr. 2011). *See also supra*, note 31.

effects. Firms often use what they learn about consumer habits in order to personalize and otherwise improve their services. Mediation can empower consumers to protect themselves and police the market.[40] Scott Peppet argues that "augmented reality"—i.e., adding a layer of mediation to everyday interactions—will permit consumers to more easily compare prices or terms.[41] "Use your phone's camera to scan the bar code on a potential purchase," Peppet points out, "and Amazon or Consumer Reports will instantly return price comparisons and consumer reviews."[42]

But there are also dangers. Even general knowledge of consumer psychology, coupled with clever design, can lead to abuse.[43] Busy consumers who purchase digital content on their computer, tablet, or phone presumably care about how long it takes for the content to download. Researchers showed how an "upgrade" to the Apple operating system changed the appearance of the download progress bar to create the impression that downloading was occurring faster.[44] Similarly, faced with complaints about cell service coverage in a previous version of the popular iPhone, Apple reportedly changed the size of the signal bars so that one bar of coverage in the new interface appeared similar in overall size to two bars in the old one.[45] Chances are Apple is using what it understands about the psychology of design to substitute illusion for greater quality.[46] Others have explored how

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[40] *See* Calo, *supra* note 17, at 1041-44 (describing the disclosure technique of "showing" consumers how their data is used, instead of merely telling them how it might be).

[41] Scott Peppet, *Freedom of Contract in an Augmented Reality: The Case of Consumer Constracts*, UCLA L. REV. 676, 679 (2012).

[42] *Id.* at 679-80. *See also* Strahilevitz, *supra* note 11, at 2029 (arguing that "protecting privacy seems to thwart price and service discrimination while fostering statistical discrimination on the basis of race and gender and lowering production costs").

[43] Westpoint computer scientist Gregory Conti refers to "malicious interfaces" that are the opposite of usable or user-centric. *E.g.*, GREGORY CONTI & EDWARD SOBIESK, MALICIOUS INTERFACE DESIGN: EXPLOITING THE USER 271 (2000). British user experience designer Harry Brignull refers to user interface designs that work against the user as "dark patterns." He assembles examples at http://darkpatterns.org.

[44] Chris Harrison et al., *Faster Progress Bar: Manipulating Perceived Duration with Visual Augmentations*, CHI 2010 (Apr. 10-15, 2010) (finding new progress bar reduces perceived duration by 11% in subjects).

[45] Jesus Diaz, *This is How Much the New iPhone 4 Signal Bars Have Grown*, Gizmodo (Jul. 15, 2010), available at http://gizmodo.com/5587535/this-is-how-much-the-new-iphone-4-signal-bars-have-grown. The author adds: "Free tip: If you paint flames on the back of your iPhone 4, it runs 2.3x faster." *Id.*

[46] At the extremes, the ability to design an interface from scratch means slot machines at a casino that create "near wins" to trigger the release of dopamine by the gambler's brain. *See* Luke Clark et al., *Gambling Near-Misses Enhance Motiviation to Gamble and Recruit Win-Related Brain Circutry*, NEURON 61(3) 481-90 (Feb. 2009).

contemporary practices of matching the content Internet users see on the basis of their perceived interests may lead to largely inadvertent side effects such as virtual redlining or increased political polarization.[47]

It may be tempting to believe that we have seen the full downside of mediation already—that mediation, as a phenomenon, has run its course. The truth is that we are only beginning to understand how vast asymmetries of information coupled with the unilateral power to design the legal and visual terms of the transaction could alter the consumer landscape. Three phenomenon, all intimately related to data, threaten to dramatically accelerate data-informed marketing, and hence the potential for market manipulation. The first phenomenon is the "mass production of bias" through big data; the second, the possibility of far greater consumer intelligence through "disclosure ratcheting"; and the third, the move from ends to means-based ad targeting and interface design. Together, these phenomena begin to leverage the full potential of consumer mediation in ways that consumers and regulators can scarcely ignore.

A. The Mass Production of Bias

Herbert Simon coined the term "bounded rationality" in the nineteen fifties to describe the limits people face in making consistently rational decisions.[48] Researchers in various disciplines have toiled for decades to describe those limits in precise detail, testing and retesting for bias in a variety of contexts. The basic structure of their toil is that of any experimental study. First, the experimenter will form a hypothesis as to how subjects are likely to behave in response to a particular manipulation. Second, the experimenter will test that hypothesis on some number of subjects in a controlled study and, third, perhaps publish the results. Early pioneers—Tversky, Kahneman, Thaler, and so forth—generated their hypotheses from luck or intuition, revealing one or two at a time the basic building blocks for behavioral economics.[49] Many later studies merely reproduced their results in new contexts,[50] while others tested richly novel hypotheses.[51]

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[47] *E.g.*, CASS SUNSTEIN, REPUBLIC.COM (2001). *See also supra,* note 11.

[48] HERBERT A. SIMON, MODELS OF MAN, SOCIAL AND RATIONAL: MATHEMATICAL ESSAYS ON RATIONAL HUMAN BEHAVIOR IN SOCIAL SETTINGS 196, 200 (1957).

[49] *E.g.*, Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, SCIENCE 211(4481), 453-58 (1981); Amos Tversky and Daniel Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, SCIENCE 185(4157), 1124-31 (Sep. 27, 1974); Amos Tversky & Daniel Kahneman, *Believe in the Law of Small Numbers*, PSYCH. BULLETIN 76(2) 105-10 (1971).

[50] *See* Amitai Etzioni, *Behavioral Economics: Toward a New Paradigm*, AM. BEHAV.

The result of behavioral economic research has been to generate several dozen well-documented ways that people deviate from the rational pursuit of self-interest. They include optimism bias, information overload, anchoring, confirmation, framing, and others.[52] Standard recitations of known biases tend to number them in the dozens.[53] Virtually every bias, meanwhile, comes with a fairly neat (if sometimes contested) explanation of what is the doing the work, i.e., why is the person is making the "mistake" or deviation described. Explanatory candidates include everything from prospect theory, involving the ways people tend to weigh probability and assess risk,[54] to dual process theory (thinking "fast" and "slow"),[55] to evolutionary biology. Cliff Nass and colleagues explain why we are "wired" to treat computers as social actors when we know they are just machines by noting that, when humans initially evolved, it was socially advantageous to partner with other people and anything that presented like a human likely was a human.[56]

Big data could change this equation. Less a specific technique than a way of conceiving of problems and their solutions, big data's methods involve parsing very large data sets with powerful and subtle algorithms in an effort to spot patterns.[57] Here is a classic, often-cited

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SCI. 55(8), 1099-1119, 1100 (2001) ("The effect demonstrated by [Tversky and Kahneman,] which the scholars labeled *anchoring and adjustment*, has been replicated using a wide variety of stimuli and participants.").

[51] *E.g.*, Dan Ariely, *Controlling the Information Flow: Effects on Consumers' Decision Making and Preferences*, 27 J. CONSUMER RES. 233 (Sep. 2000); George Loewenstein, *Out of Control: Visceral Influences on Behavior*, ORGANIZATIONAL BEHAVIOR & HUMAN PROCESSES 65(3) 272-92 (1996) (exploring effect of "visceral factors" such as hunger, thirst, and sexual desire on decision-making).

[52] *See Taking Data Seriously I*, at 643-87 (reviewing the literature).

[53] The number of biases consistently discussed by the literature has remained relatively stable since the field began. *Compare* Tversky & Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, *supra* note 49 (discussing approximately twenty biases) *to* RÜDIGER F. POHL, COGNITIVE ILLUSIONS: A HANDBOOK ON FALLACIES AND BIASES IN THINKING, JUDGMENT, AND MEMORY 1 (2004) (surveying twenty-one "cognitive illusions"). Varying definitions of "bias," as well as differing systems of categorization, could lead to very different estimates as to the absolute number of know irrational tendencies. Still, we are talking about the difference between dozens and a hundred or so, not the *many thousands* this Section contemplates. *See infra.*

[54] *See* Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision under Risk*, ECONOMITERICA 47(2), 263-91 (Mar. 1979). *See also* Richard Thayer, *Toward a Positive Theory of Consumer Choice*, J. ECON. BEHAV. & ORG. 1, 39-60 (1980).

[55] *See, generally,* DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011).

[56] BYRON REEVES & CLIFF NASS, THE MEDIA EQUATION: HOW PEOPLE TREAT COMPUTERS, TELEVISION, AND NEW MEDIA LIKE REAL PEOPLE AND PLACES 12 (1996). *See also* CLIFFORD NASS & SCOTT BRAVE, WIRED FOR SPEECH: HOW VOICE ACTIVATES AND ADVANCES THE HUMAN-COMPUTER RELATIONSHIP 4 (2005).

[57] For a more detailed definition of big data and an optimistic account of its impact

example: imagine a hospital system were to input all of its patients' records in a huge database, including demographic information, what medications they were taking, and their health outcomes.[58] An academic researcher with access to this data could surface situations in which particular populations—say, black men over thirty-five—were experiencing the same adverse symptoms while taking a certain combination of medicines. Armed with this information, the hospital could recommend to its physicians to prescribe something else to this population, thereby improving health outcomes.[59]

Importantly, the hospital need not know *why* outcomes for thirty-five-year-old black men on both drug A and B were poor to justify investigating alternatives. Maybe later tests will reveal the cause, but in the interim, a significant enough negative correlation is likely to speak for itself. Author and technology expert Chris Anderson refers to this phenomenon as "the end of theory"; he sees a sea change in the way science is conducted having to do with the ability to point to raw numbers to advance research and policy goals, even in the absence of a theoretical explanation.[60] It turns out that the hospital needs all of its data, not just the data about youngish black men, in order to see the contours of the pattern. Big data does not merely tune out noise, it *needs* noise in a sense from which to make sound.[61]

Firms have scientists, too. A recent article in *The Atlantic* reports that Microsoft employs the second most anthropologists after the United States government.[62] Many corporate scientists will probably continue to be tasked with the old way of looking at consumer behavior:

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on society, see VIKTOR MAYER-SCHONBERGER & KENNETH CUKIER, BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK (2013). For a more critical account, see danah boyd and Kate Crawford, *Critical Questions for Big Data: Provocations for a cultural, technological, and scholarly phenomenon*, INFO. COMM. & SOC. 15:5 662-79 (June 2012).

[58] *See, e.g.,* Omer Tene & Jules Polonetsky, *Big Data for All: Privacy and User Control in the Age of Analytics*, 11 NW. J. TECH. & INTELL. PROP. 239, 245-46 (2013).

[59] *Id. But see* Paul Ohm, Response, *The Underwhelming Benefits of Big Data*, 161 PA. L. REV. ONLINE 339, 345 (2013), at http://www.pennlawreview.com/online/161-U-Pa-L-Rev-Online-339.pdf (urging caution in overestimating the benefits of big data, relative to the potential harms). *See also* infra, note 166.

[60] *See* Chris Anderson, *The End of Theory: The Data Deluge Makes the Scientific Method Obsolete*, WIRED MAGAZINE (Jun. 23, 2008), online at http://www.wired.com/science/discoveries/magazine/16-07/pb_theory. *But see* Julie E. Cohen, *What Privacy is For*, 128 HARV. L. REV. 1920, 1922 (2013) ("Considered more soberly, the claim that Big Data will eliminate the need for scientific modeling simply does not make sense."). Cohen's concerns are largely ethical. *Id.* at 1922-27.

[61] What I mean is that certain methods of analyzing data require a baseline against which to measure deviation, as when spam filters look at normal email to identify junk.

[62] *See* Graeme Wood, *Anthropology Inc.*, THE ATLANTIC (Feb. 20, 2013), online at http://www.theatlantic.com/magazine/archive/2013/03/anthropology-inc/309218/.

controlled studies or focus groups that leverage the existing state of the behavioral sciences. Presumably Microsoft uses its anthropologists to design better software and hardware. But increasingly, firms are turning to big data to help them monetize the enormous volume of information their business collect, generate, or buy. And one of the datasets to which firms have access is consumer behavior.

The trouble comes when firms start looking for vulnerability. Emerging methods of big data presents a new, vastly more efficient way to surface cognitive bias by trying to surface profitable anomalies. Rather than hypothesize and then test a promising deviation, as a lab experimenter would, firms (and, of course, academics) can work backward from raw data.[63]

At least two steps would be needed—both admittedly involved. The first step is to model what rational choice would look like in a given context: consumers taking every realistic opportunity to maximize their own welfare. The second step is to analyze consumer transactions by the millions to spot the places where consumers have deviated from the rational model in small and big ways. The firm can then watch for those factors to align again. Unless we think a few hundred researchers working in increments of months to years have managed to spot every bias, then this process will yield many (many) more ways consumers are not rational. Big data means never having to ask Ariely.[64]

I spoke to several experts about the feasibility of these two steps.[65] The consensus was that modeling "rational" behavior would be difficult, if likely achievable in the long run, because what is rational for one consumer may not be rational for another. For instance, because a young investor should tolerate more risk than an older one, you would have to know the age of the investor, and likely many other exogenous factors, to see if she her investments were welfare maximizing.[66] But

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[63] *See, e.g.,* MAYER-SCHONBERGER & CUKIER, *supra* note 56, at 15, 54-61 (describing advances in correlation analysis), 123-24 (describing how Decide.com spots and predicts deviations in pricing).

[64] Why call it the "mass production" of bias if, as the remainder of this Part makes clear, the result is highly individualized? Sometimes personalization is the upshot of mass production, as when Henry Ford's assembly lines displaced public transportation in favor of a car for each family.

[65] Frank Easterbrook took the occasion of an inaugural cyberlaw conference to point out that lawyers risk dilettantism when they talk about technology. Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207, 207 (1996). "I regret to report that no one at this Symposium is going to win a Nobel Prize any time soon for advances in computer science." *Id.* What Easterbrook misses, of course, is that lawyers can and do consult with professionals (e.g., expert witnesses) and colleagues in other disciplines.

[66] I owe this point to data scientist Joshua Blumenstock.

several experts pointed out that anomaly (sometimes "outlier") detection would permit firms to (1) spot deviations from typical consumer behavior and (2) code the deviation as helpful or harmful to the firm.[67] The firm could also generate individual models, i.e., small models of *each consumer*, and take a snapshot of the circumstances in which the consumer behaved unexpectedly, and to the firm's advantage.

Not only can these techniques spot profitable deviations more efficiently than laboratory studies, the methods can spot other significant information such as context-dependency. Perhaps the deviation only occurs at particular times, in particular places, or to particular consumers. Thus, there may be a bias or profitable deviation that only occurs in the morning, in an airport, in the South, or another that for some reason happens only when the background of a website is orange.[68] These techniques can also spot overall prevalence; results are interesting to scientists when they pass the threshold of statistical significance;[69] they are interesting to firms when they can make money. Note again that the algorithm that identifies the bias need not have to yield a theory as to *why* it is happening to be useful. No psychologist or philosopher need speculate as to why people are willing to pay more for silver jewelry when there has been a recent power outage. The firm will not care, as long as the firm can exploit the deviation for its benefit.

B. Disclosure Ratcheting

Information has played various parts over the years in the story of behavioral economics. It has been cast as a *villain*. As alluded to above, too much or extraneous information is said to underlie a host of departures from rational decision-making. "Information overload" causes consumers to rely on heuristics or rules of thumb, which are sometimes faulty.[70] The phenomenon of "wear out," which suggests

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[67] *See* Varun Chandola et al., *Anomaly Detection: A Survey*, ACM Computing Surveys 41(3) art. 15, 1 (Jul. 2009) ("Anomaly detection finds extensive use in a wide variety of applications such as fraud detection for credit cards, insurance, or health care, intrusion detection for cyber-security, fault detection in safety critical systems, and military surveillance for enemy activities."); Animesh Patcha & Jung-Min Park, *An overview of anomaly detection techniques: Existing solutions and latest technological trends*, COMPUTER NETWORKS 51, 3448-70 (2007) (surveying the anomaly detection literature in computer security context).

[68] *Cf.* Quentin Hardy, *Bizarre Insights From Big Data*, N.Y. TIMES BITS BLOG (Mar. 28, 2012), at http://bits.blogs.nytimes.com/2012/03/28/bizarre-insights-from-big-data/ (listing revelations from pattern spotting in large datasets).

[69] For better or for worse. *See* STEPHEN T. ZILIAK & DEIRDRE N. MCCLOSKEY, THE CULT OF STATISTICAL SIGNIFICANCE: HOW THE STANDARD ERROR COSTS US JOBS, JUSTICE, AND LIVES (2008).

[70] *See* Howard Latin, *"Good" Warnings, Bad Products, and Cognitive Limitations*,

consumers tune out messages they see too often, renders product warnings less effective.[71] Consumer perceptions also change with the insertion of information that should be irrelevant but is not treated as such by the mind. Thus, as discussed above, early experiments in behavioral economics show how a subject can be anchored to a particularly high or low set of digits—say, a social security number—affecting later estimates by the subject that are entirely unrelated to the anchor.[72]

Information has also been cast as a *hero*. Better information, delivered at the right time, may counteract bias and help consumers make more rational choices.[73] A doctor might correct against optimism bias, for instance, in the context of breast cancer by accompanying the relevant statistic with an anecdote that renders the information more salient.[74] Many behavioral critiques of law end up recommending information-based interventions. A recent, exhaustive indictment of the regulatory strategy of mandatory disclosure, though firmly grounded in the limitations of consumer, firms, and officials to perform effective cost benefit analyses, nevertheless ends on a positive note about the power of "advice."[75] In previous work, I develop a concept of "visceral notice"—notice that is experienced instead of heard or read—as a viable alternative to today's inadequate disclosure regimes.[76] The authors of the best-selling book *Nudge*, Thaler and Sunstein, also rely heavily on information strategies—particularly "feedback" and "mapping"—in their bid to find middle ground between paternalism and laissez-faire.[77]

Most recently, information has begun to be cast as the *victim*. Researchers and others have realized that people's biases lead them to

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41 UCLA L. REV. 1193, 1211-15 (1994) (describing information overload).

[71] *See* Christine Jolls & Cass Sunstein, *Debiasing Through Law*, 35 J. LEGAL STUD. 199, 212 (2006) (describing "wear out" as a phenomenon "in which consumers learn to tune out message[s] that are repeated too often").

[72] Tversky & Kahneman, *Judgment under Uncertainty: Heuristics and Biases*, *supra* note 49.

[73] *See, generally*, Jolls & Sunstein, *supra* note 66.

[74] Optimism bias refers to the belief that one is somehow at less risk of experiencing a negative outcome as the general population. (In Lake Wobegon, everyone is above average.) The example of breast cancer risk comes from the work of law and behavioral economics pioneers. *See id.*, at 210.

[75] Omri Ben-Shahar & Carl Schneider, *The Failure of Mandated Disclosure*, 159 U. OF PENN. L. REV. 647, 746 (2011).

[76] *See, generally,* Calo, *supra* note 17.

[77] According to the authors, "[t]he best way to help Humans improve their performance is to provide feedback," NUDGE, at 90-94, where "Humans" refers to actual people, as opposed to the perfectly rational "Econs" that populate traditional economic models, *id.* at 6-8.

give up more personal information than they would absent the manipulation. A simple example is defaults: if consumers must opt out of data collection instead of opt in, more data will end up being collected as consumers hold to the status quo. (There is a revealing set of graphs in a 2012 communications paper showing how personal disclosure on the social network Facebook was trending fairly sharply downward until, around 2009, the company changed some of its privacy defaults.[78] From that point on, disclosure began steadily to climb again.[79]) The endowment effect furnishes a more complex example: people value their privacy more if they already have it than if they must acquire it, and will pay more to protect information from a third-party than they will accept to sell it.[80]

Behavioral economists of privacy—particularly Alessandro Acquisti and colleagues at Carnegie Mellon—chronicle how knowledge of bias and design psychology make it possible to modulate the amount of information that people are willing to disclose during experimental studies. One experiment suggests that making a website more casual in appearance, as opposed to formal, leads subjects to be more willing to admit to controversial behavior such as cheating or drug use.[81] Another shows, ironically, that giving consumers more apparent control over how their information is used will lead to more promiscuous disclosure behavior (just as seat belts have been alleged to lead to more aggressive driving).[82] Others have evidenced the way reciprocity makes it more likely that a subject will answer a personal question if the questioner offers up the information first, even where the questioner is a computer.[83] The computer might say, "I was made in 2007; when were you born?"

If you look closely at the data of any of these studies, however, you will see that there are subjects for whom the effect is nil. Not everyone is more likely to admit to cheating on a test if the website is casual in appearance; others are very likely to do so. We all have cognitive

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[78] See Fred Stutzman et al., *Silent Listeners: The Evolution of Privacy and Disclosure on Facebook*," J. OF PRIVACY & CONFIDENTIALITY: VOL. 4: ISS. 2, ARTICLE 2 (2012).

[79] *Id.*

[80] *See* Alessandro Acquisti and Jans Grossklags, *What Can Behavioral Economics Teach Us About Privacy?*, in ALESSANDRO ACQUISTI ET AL., EDS., DIGITAL PRIVACY: THEORY, TECHNOLOGIES, AND PRACTICES 363-79 (2007).

[81] *See* Leslie K. John et al., *Strangers on a Plane: Context-Dependant Willingness to Divulge Sensitive Information*, 37 J. CONSUMER RES. 858, 858-89 (2011).

[82] Laura Brandimarte et al., *Misplaced Confidences: Privacy and the Control Paradox*, SOC. PSYCH. & PERSONALITY SCI. 4(3), 340-47 (May 2013).

[83] *E.g.*, Salvatore Parise et al., *Cooperating with life-like interface agents*, COMP. IN HUM. BEH. 15(2), 123-42 (1999); B.J. Fogg & Cliff Nass, *How users reciprocate to consumers: an experiment that demonstrates behavior change*, CHI 97 (1997).

biases, but not the same ones, or to the same degrees. Anchoring may have a great effect on you and none on me. I may be abnormally intolerant of information overload whereas you can read an entire law review article like this one in one sitting.

All this is testable. A study could prime the subject with a high number and then ask for an estimate of the population of France; later, the same study could prime the subject with a low number and ask for an estimate of the population of England (which is similar). The study would, with proper controls, reveal the extent of the subject's anchoring bias relative to other participants. But experiments could also attempt to use *general* biases to get at *specific* bias more directly. One of the things we might be nudged into disclosing about ourselves, perhaps inadvertently, is the set of biases that most profoundly afflict us. Imagine that our friendly computer poses this question instead: "I tend to be optimistic about life; how about you?" Or imagine if the casual design condition of an experiment eschewed controversial behavior such as cheating or illegally downloading music in favor of the subject's fears or impulsivities.

A large company, meanwhile, is not limited by the forms and formalities of laboratories. Companies operate at scale. Companies can—through A/B testing—experiment on thousands of consumers at once.[84] A company might have the resources to try to incentivize consumers to answer questions about themselves (e.g., through sweepstakes) and the capacity to track those consumers over time. Such a company might treat the possibility of leveraging consumer bias to increase self-disclosure as only the first step in the process of cultivating information. The next step would be to use what it learned as a means to discover more. Or the firm could sell a list of consumers with a particular bias to the highest bidder.[85] This is what I mean by disclosure "ratcheting," and it could spell even greater data promiscuity than what we see today.

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[84] A/B testing refers to the iterative method of using randomized controlled experiments to design user interfaces, produces, and ads. The idea is to present the subject-consumer with the existing design (control) and a variation (treatment) and measure any differences in behavior. Multivariate or "bucket" testing presents subject-consumers with several iterations at once. For an in-depth look at the rise of A/B testing, see Brian Christian, *The A/B Test: Inside the Technology that's Changing the Rules of Business*, WIRED MAG. (Apr. 25, 2012).

[85] You can already buy so-called "sucker lists" on the open market. These are people—the elderly, for instance—who are determine to be vulnerable. *See* Karen Blumenthal, *How Banks, Marketers Aid Scams*, WALL ST. J. (Jul. 1, 2009). I owe this point and citation to Chris Hoofnagle.

C. Means-Based Targeting

You may be asking yourself: do we not already have "behavioral targeting"? Reading the headlines and op-eds, it would seem that companies are tracking a web user's every click, and using this information, alone or in combination, to serve eerily personalized online ads already.[86] Not just online: increasingly, companies are making connections between online behavior and offline, building interest profiles that combine both.[87] Less noticed is how the techniques that were developed to make the Internet more competitive relative to larger markets such as television—specifically, the ability to target ads coupled with better analytics—have filtered to the offline world. Now some offline businesses follow consumers around the mall using their cell phone signal or other methods the way online business track users.[88] Television commercials differ by household; billboards change with the radio habits of drivers.[89]

For all its talk of *behavior*, however, digital advertising today is really about *relevance*—matching the right advertisement with the right person. Online advertising networks have an inventory of ads and, especially given competition from other media, they want to make sure each "impression" (display of an ad) is not wasted on a person who would never click on it.[90] The bulk of the tracking that you read about goes in service of determining the likely preferences of a given consumer (which is why industry calls it "online preference marketing"[91]) so as to show her the product or service, the ad for which is already in inventory, that seems mostly like to resonate. In other words, the "behavioral" in behavioral tracking refers to the previous behavior of the user online, which then serves to sort that user into a

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[86] The "What They Know" series from the Wall Street Journal has, in particular, evidenced the extent of online tracking. *What They Know*, WALL ST. J. (2010-2012) at http://online.wsj.com/public/page/what-they-know-digital-privacy.html.

[87] *See* TUROW, NICHE ENVY, *supra* note 11, at 18 ("Major developments in the use of database marketing at the retail level are paralleling the developments in digital media…").

[88] *See, e.g.*, Keith Wagstaff, *Will Your Mall Be Tracking Your Cellphone Today?*, TIME MAG. (Nov. 25, 2011), online at http://techland.time.com/2011/11/25/will-your-mall-be-tracking-your-cellphone-today/.

[89] *See, e.g.*, Robert Salladay, *High-tech Billboards Tune In to Drivers' Tastes*, SAN FRAN. CHRON. (Dec. 22, 2002).

[90] *See* Richard Warner & Robert Sloan, *Behavioral Advertising: From One-Sided Chicken to Informational Norms*, 15 VAN. J. ENT. & TECH. L. 49, 60 (2012).

[91] *See, e.g.*, Network Adver. Initiative, Self-regulatory Principles for Online Preference Marketing by Network Advertisers (2000).

particularly category for ad-matching purposes.[92]

But relevance is turning out to be a mere phase in advertising's evolution. Researchers like Maurits Kaptein look beyond matching the right ad to the right person.[93] Rather, for any given ad, the techniques they are investigating would find the exact right *pitch* for that person. This new research starts from the premise, discussed above, that consumers differ in their susceptibility to various forms of persuasion. Some consumers, for instance, respond to consensus. Others bristle at following the herd but instead find themselves reacting to scarcity or another frame. Kaptein and his colleagues show that companies can discover what motivates a given consumer and dynamically change the advertisement accordingly in real time—a technique they call *persuasion profiling*.[94] Thus, for the natural follower, the ad for toothpaste will refer to it as a "best selling" item.[95] Whereas, for the scarcity-phobic, the same ad will read ominously "while supplies last."[96]

A distinct line of research recognizes that consumers have different "cognitive styles" or ways of thinking and engaging with the world. Some of us are "adapters," for instance, others "innovators." Some think visually whereas others really need to read text. Accordingly, most websites will resonate more with some users than with others. These researchers—among them John Hauser and Glen Urban—find ways to test the subject's cognitive style and then dynamically alter the layout of the test website accordingly—a technique they call "morphing."[97] The research looks at various factors such as when to morph and whether repeated morphs are worthwhile.[98] There is, of course, an argument that this is just good web design—websites that morph to each user are likely to be more "usable." The trouble is that the measure of success is not widespread accessibility. Success is measured, again, by the likelihood of a sale.[99]

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[92] *See generally* Julia Angwin, *The Web's New Gold Mine: Your Secrets*, WALL ST. J. (Jul. 30, 2010).

[93] *E.g.*, Maurits Kaptein & Steven Duplinsky, *Combining Multiple Influence Strategies to Increase Consumer Compliance*, INT. J. OF INTERNET MARKETING & ADVERTISING (forthcoming); Maurits Kaptein & Dean Eckles, *Heterogeneity in the Effects of Online Persuasion*, J. OF INTERACTIVE MARKETING 25, 176-88 (2012); Maurits Kaptein et al., *Means Based Adaptive Persuasive Systems*, CHI 2011 (May 7-12, 2011). *See also* Ying Cheng et al., *The effect of companion's gender on impulsive purchasing: The moderating factor of cohesiveness and susceptibility to interpersonal influence*, J. APPLIED SOC. PSYCH. 43(1), 227-236 (2013).

[94] *See*, Kaptein & Eckles, *supra* note 93.

[95] *Id.*

[96] *Id.*

[97] *E.g.*, John Hauser et al., *Website Morphing*, MARKETING SCI. (May 2008).

[98] *Id.*

[99] *Id.*

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In short, the consumer of the future will be increasingly mediated, and the firm of the future increasingly empowered to capitalize on that mediation in ways fair and suspect. A firm with the resources and inclination will be in a position to surface and exploit how consumers tend to deviate from rational decision making on a previously unimaginable scale. Firms will increasingly be in the position to *create* suckers, rather than waiting for one to be born everyone minute. But is this really a problem? And if so, what do we do about it? The next two Parts tackle these questions in turn.

II. A RESPONSE TO SKEPTICS

In his 1997 book *Fear of Persuasion*, John Calfee offers "a new perspective on advertising and regulation."[100] His perspective is actually an old one: we should not regulate it.[101] Indeed, skeptics have met each wave of persuasion panic with a variety of often sensible and compelling critiques.[102] They might ask whether a change has readily occurred—either because the new technique does not work "as advertised," or because it is actually indistinguishable from accepted practice. (Some question whether contemporary advertising is effective at generating demand at all—though this claim seems to be in tension with its purported benefits and the sheer amount of money that is spent on marketing.[103]) Skeptics also question whether there is any real harm to how marketing has evolved, while noting that regulation will not be possible without hurting the economy or offending free speech.[104]

This Part anticipates and addresses skepticism against digital market manipulation. Section A responds to the argument that digital market manipulation represents at an most quantitative change from the practices already described by Hanson, Kysar, and others. Maybe the new techniques will be a little more effective, and therefore occur more often, but what is happening is not different in kind. Section B deals with the claim that, even if we believe digital market

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[100] JOHN CALFEE, FEAR OF PERSUASION: A NEW PERSPECTIVE ON ADVERTISING (1998).

[101] Calfee is a proponent of self-regulation by industry. *Id.* at 87-95.

[102] *E.g.*, [string cite].

[103] *See* Tamara Piety, *"A Necessary Cost of Freedom"? The Incoherence of Sorrell v. IMS*, 64 ALA. L. REV. 1, 19 n.102 (2012).

[104] *E.g.,* CALFEE, *supra* note 100, at 110 ("Hence advertising regulation has an inherence tendency to go too far—just like censorship of political and artistic speech does."). *See also infra* Part II.C.

manipulation differs from what came before, that does not mean that it generates any real harm. Address this critique is particularly important because harm tends to be a threshold question for consumer regulation (e.g., under an FTC unfairness standard) and litigation.[105] Section C ends with a detailed analysis of whether, new or not, harmful or not, digital market manipulation can actually be regulated consistent with the First Amendment's protection of free speech. These are serious arguments, which is why this is a long Section. The proverbial converted should feel free to proceed to Part III where I discuss what society might do on behalf of the consumer of the future.

There is a more basic threshold question, however, before addressing any of the enumerated critiques: Will firms actually engage in digital market manipulation in the first place? Will the existing state of technology, coupled with evolving techniques of data mining and design, actually translate into the practices I have described? Hanson and Kysar accompanied their work with an article devoted to evidencing the phenomenon of market manipulation.[106] I confess up front that I am speculating to a degree.

But there are early signs. A recent patent filed by Pitney Bowes—a 5.3 billion dollar company with 29,000 employees—describes a "Method and system for creating targeted advertising utilizing behavioral economics marketing experts."[107] Some researchers involved in experiments like the ones described in this Part have since been hired by companies whose lifeblood is digital advertising.[108] And unscrupulous firms already trade "sucker" lists of vulnerable consumers, although they had no hand in rendering them so. But if I am right about the basic feasibility of the techniques in Part I, then the

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[105] *See* Federal Trade Commission Policy Statement On Unfairness, appended to International Harvester Co., 104 F.T.C. 949, 1070 (1984). ("To justify a finding of unfairness the injury must satisfy three tests. It must be substantial; it must not be outweighed by any countervailing benefits to consumers or competition that the practice produces; and it must be an injury that consumers themselves could not reasonably have avoided."); Danielle Keats Citron, *Law's Expressive Value in Combating Cyber Gender Harassment*, 108 MICH. L. REV. 373, 392–95 (2009) (discussing how emotional distress torts often founder on damages).

[106] *See Taking Behavioralism Seriously II.*

[107] Method and Sys. for Creating Targeted Adver. Utilizing Behav. Econ. Mktg. Experts, U.S. Patent Publ'n No. 2012/0246010 A1 (filed Jan. 19, 2012).

[108] For instance, Dean Eckles, co-author of several papers on persuasion profiling, now works on the "data science team" of the social network Facebook. Of course, this does not mean that Facebook is using the technique, nor that the motivation behind Eckles' academic work is in any way suspect. Eckles appears aware of the potential for unethical use of the techniques he helped pioneer. *See* Martius Kaptein & Dean Eckles, *Selecting Effective Means to Any End: Future and Ethics of Persuasion Profiling*, Proceedings of Persuasive Tech. 2010, Lecture Notes in Computer Science.

strongest argument has to do with economic motivation. Traditional market manipulation affects transactions only incrementally, so the incentives on the part of firms to adopt it are limited. It serves to reason that, as it becomes more powerful, digital market manipulation will also be more attractive to firms, particularly where they face competition from those with fewer qualms.[109]

A. There Is Nothing New Here

> *"What has been is what will be,*
> *and what has been done is what will be done,*
> *and there is nothing new under the sun."*[110]

People have been denouncing selling for generations. Sometimes violently: In letter dated November 20, 1905, Mark Twain wrote a letter to a snake oil salesman expressing his hope that the "patent medicine assassin[]" would "take a dose of [his] own poison by mistake."[111] Every decade or so a popular book or study, or an article like this one, sounds the alarm over developments in marketing.[112] Whatever the particular state of art or science, sellers are going to do what they have always done: try to persuade. Digital market manipulation is a problem, if it is, because it constitutes a form of persuasion that is dangerous to consumers or society. A skeptic may say that digital market manipulation presents no greater danger. It does not differ from other marketing practices that, for instance, leverage what firms think they know about consumer psychology—at least not in a way the law can operationalize.

Here is my case for exceptionalism: digital market manipulation combines, for the first time, a certain kind of *personalization* with the

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[109] *See Taking Behavioralism Seriously I*, at 726 (noting that "manipulation of consumers by manufacturers is not simply a possibility in light of behavioral research but … an inevitable result of the competitive market").

[110] ECCLESIASTES 1:4-11.

[111] Mark Twain, Letter of Nov. 20, 1905, *available at* http://www.lettersofnote.com/2010/01/youre-idiot-of-33rd-degree.html. "When I hear the word culture," writes artist Barbara Kruger eighty years later, "I reach for my checkbook"—paraphrasing a Nazi playwright and Poet Laureate. The reference is to a quote from the 1933 play *Schlageter* by Hanns Johst: "When I hear [the word] culture… I unlock my Browning," a then-popular type of gun.

[112] *See* PACKARD, *supra* note 8 (criticizing the ascendance of "depth marketing"); WILSON BRYAN KEY, SUBLIMINAL SEDUCTION (1974) (describing subliminal techniques of advertising); WILLIAM BRYAN KEY & BRUCE LEDFORD, THE AGE OF MANIPULATION: THE CON IN CONFIDENCE, THE SIN IN SINCERE (1992) (same); TUROW, DAILY YOU, *supra* note 11 (criticizing the sorting of consumers into "targets" or "waste"); PARISER, *supra* note 11; SUSAN LINN, CONSUMER KIDS: THE HOSTILE TAKEOVER OF CHILDHOOD (2004).

intense *systemization* made possible by mediated consumption. Obviously some pitches are personalized today. A good salesperson will get a sense of her customer. The brand of the customer's watch may tell her what he can afford to pay and his way of talking may reveal his level of intelligence. The salesperson can alter her presentation accordingly. An aggressive salesperson may even detect a certain bias or vulnerability in the customer and attempt to exploit it.[113] Meanwhile, much marketing is heavily systematized. Automated or semi-automated commercial speech dwarfs regular and electronic mail.[114] Robots call at all hours.[115] Today's online advertising platforms match hundreds of thousands of ads with millions of Internet users on the basis of complex factors in a fraction of a second.[116]

What we have not seen, at least not at scale, is the combination of both—the systemization of the personal. The salesperson faces limits. She can only control certain facets of the interaction, for instance. She cannot change the environment to conform to the consumer's particular cognitive style. Lacking a digital interface, she cannot spontaneously alter her own appearance to increase trust. She has access to limited information—often what the consumer consciously and unconsciously reveals through appearance and speech. Today's online advertising platforms also face limits. Being primarily "ends-based," online advertisers hope they have matched the right ad to the right person. The content of the ads can leverage only what firms know about consumer frailty *in general* (e.g., that many perceive $9.99 as closer to $9 to $10),[117] or at most about a particular segment (e.g., that children prefer bulbous to angular shapes).[118] Online retailers can change the digital environment of transactions but, absent the emerging

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[113] *See* Jessica M. Chopin et al.*, A Psychology of Consumer Vulnerability to Fraud: Legal and Policy Implications*, 35 L. & PSYCH. REV. 61, 62 (2001) ("We hypothesize that when unscrupulous salespeople, including mortgage brokers and lenders, reassure consumers and explain away "problematic" contract terms (i.e., terms inconsistent with what was previously promised and against the consumer's interest), many consumers will acquiesce to the problematic terms."); Guo Wenxia & K.J. Main, *The vulnerability of defensiveness: The impact of persuasion attempts and processing motivations on trust*, MARKETING LETTERS 23(4), 959-971 (2012) (describing how a clever salesperson can exploit a consumer's very defensiveness to increase the likelihood of a sale).

[114] *See* Debin Liu, *The Economics of Proof-of-Work*, 3 I/S: J. L. & POL'Y FOR INFO. SOC'Y 337, 338 (describing prevalence and mechanisms of spam).

[115] *See* Jason C. Miller, *Regulating Robocalls: Are Automated Calls the Sound of, or a Threat to, Democracy?* 16 MICH. TELECOMM. TECH. L. REV. 213, 216 (2009) (describing the prevalence and mechanisms of automated or "robo" calls).

[116] *See supra*, note 92 (describing the industry).

[117] Hanson and Kysar call this phenomenon "price blindness." *Taking Data Seriously II*, at 1441-42.

[118] *See* Linn, *supra* note 114 (describing the use of child psychology in advertising).

techniques I've been describing, must do so all at once and for everyone. Accordingly, every change loses some set of people whose cognitive style, bias, reservation price, or other idiosyncrasy is not represented.[119]

The systemization of the personal may prove different enough that regulators or courts seek limits on digital market manipulation, even if they would be hesitant to curtail age-old sales practices like interpersonal flattery. Or digital market manipulation may just *feel* different enough to justify intervention.[120] But even if one accepts that the systemization of the personal differs in kind than what preceded, we still may not know what practices the law should constrain. It would be strange to say, for instance, that a website that changed on the basis of the language or visual acuity of the individual user in order to make the website more accessible should be penalized. Firms have incentives to look for ways to exploit consumers, but they also have powerful incentives to look for ways to help and delight them.

This concern calls for a limiting principle: regulators and courts should only intervene where it is clear that the incentives of firms and consumers are not aligned.[121] It is the systemization of the personal *coupled with divergent interests* that should raise a red flag. There are several areas of law from which to draw analogies. Consider a simple example: so-called "buyer agents" in real estate.[122] People selling houses typically employ agents who are paid a commission. Those agents often work with other agents to help find buyers and will split the commission. Buyer agents hold many advantages relative to buyers: they know the overall housing market; they know detailed financial information about the buyer, including the price they can afford; and they know more about the seller's situation than the buyer through interacting directly with the seller agent.[123] Meanwhile, his

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[119] This is not to say that there cannot be abuses. As alluded to above, the Federal Trade Commission has brought a complaint against a company that coupled misleading website design with techniques of negative option marketing. *See supra*, note 22 and accompanying text.

[120] Jolls, Sunstein, and Thaler discuss how a "severe departure from the reference transaction" can lead to official intervention even if such intervention does not maximize welfare. Jolls et al., *supra* note 15, at 1510-17. They use the practice of scalping tickets to an event as one example. *Id.* at 1513. *See also* Ryan Calo, *The Drones As Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29 (2011) (arguing that society's visceral reaction to surveillance drones may change privacy law in ways that previous, readily analogous technologies did not).

[121] *Cf.* Hoffman, *supra* note 13, at 1443-44 (discussing the role of incentives in the context of puffery).

[122] *See* Brent J. White, *Walking Away Scot-Free: Trust, Expert Advice, and Realtor Responsibility*, 40 REAL EST. L.J. 312, 316-320 (2011) (describing the role of a buyers agent in detail).

[123] *Id.* at 318-19.

incentives and those of the buyer are in a critical sense opposite: the buyer wants to pay as little as possible, whereas the buyer agent wants the buyer to pay as much as possible in order to maximize his commission. In the face of this imbalance and incentive structure, some jurisdictions impose upon buyer agents a duty of fair dealing toward the buyer.[124]

Of course, this begs yet a further question: when are incentives between firms and consumers "aligned" and when are they not? The incentives of healthcare providers and patients, for instance, are fairly clearly aligned where analyzing drug prescriptions yield previously unknown counter-indications. Few hospitals or patients want patients to suffer or die. What about the incentives of consumers and a website when the website displays ads that are more relevant to the consumer's interests? Some would say yes, others no. But true digital market manipulation, like market manipulation in general, deals strictly in divergent incentives. The entire point is to leverage the gap between how a consumer pursuing her self-interest would behave leading up to the transaction, and how an actual consumer with predictable flaws does behave when pushed, specifically so as to extract social surplus. You change the price of flowers because you know *this* purchaser will pay more after a fight with his husband. He would rather pay less.

There will undoubtedly exist plenty of border cases or *de minimis* infractions with which regulators and courts will have to grapple. Still, this is nothing the law has not seen. Courts or legislatures have to decide what makes a contract term "unconscionable,"[125] what kinds of enrichments are "unjust,"[126] when influence is "undue,"[127] what constitutes "fair" dealing,[128] where strategic behavior becomes "bad faith,"[129] when interest rates becomes "usury" or higher prices "gauging,"[130] and on and on. Such line drawing is endemic to consumer protection and other areas of the law concerned with basic notions of fair play.

B. No Harm, No Foul

Business techniques and patterns of consumption change all of the

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[124] *See* Paula C. Murray, *The Real Estate Broker and the Buyer: Negligence and the Duty to Investigate*, 32 VILL. L. REV. 939, 957 (1987).

[125] *Black's Law Dictionary* 16c (9th ed. 2009).

[126] *Black's Law Dictionary* 1897 (9th ed. 2009).

[127] *Black's Law Dictionary* 18c (9th ed. 2009).

[128] *Black's Law Dictionary* 17c (9th ed. 2009).

[129] *Id.*

[130] *Black's Law Dictionary* 14c (9th ed. 2009).

time; not every change occasions regulation. The market also has winners and losers. The mere fact of *advantage*, without more, does not justify intervention. One way to sort which changes deserve scrutiny and which do not is to look for harm.[131] Courts look for harm routinely—damages being an element of almost all tort and some crime.[132] Regulators look for harm as well, as when the FTC requires harm to proceed with a claim of unfairness under Section V of its animating statute.[133] What, exactly, is the harm of serving an ad to a consumer that is based on her face or that plays to her biases? The skeptic may see none. This Section makes the case that digital market manipulation, as defined in this Article, has the potential to generate economic and privacy harms, and to damage consumer autonomy in a very specific way.

1. Economic harm

Hanson and Kysar argue that market manipulation should be understood as a novel source of market failure, in the sense of leading to inefficient or otherwise objectionable economic outcomes.[134] The authors explore product liability as a case study.[135] In this context, Hanson and Kysar point to the example of a consumer who has been manipulated to underestimate the risks of a given product, and to the harder case of the consumer who has been manipulated to demand more of a risky product than is optimal.[136] Thus, for example, the

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[131] The idea that harm should be a threshold question in law is a staple of Western political thought. *See, e.g.*, JOHN STUART MILL, ON LIBERTY 21-22 (1859) ("The only purpose for which power can be rightfully exercised over any member of civilized community, against his will, is to prevent harm to others.").

[132] *E.g.,* Computer Fraud and Abuse Act of 1986, 18 U.S.C. § 1030(a)(5)(C) ("… and as a result of such conduct, causes damage and loss."). *See also* Doe v. Chao, 540 U.S. 614, 625-26 (2004) (remarking on the intent of Congress to "avoid[] giveaways to plaintiffs with nothing more than 'abstract injuries'").

[133] *See* Federal Trade Commission Policy Statement On Unfairness, appended to International Harvester Co., 104 F.T.C. 949, 1070 (1984). ("To justify a finding of unfairness the injury must satisfy three tests. It must be substantial; it must not be outweighed by any countervailing benefits to consumers or competition that the practice produces; and it must be an injury that consumers themselves could not reasonably have avoided.").

[134] *Taking Behavioralism Seriously II,* at 1425 ("We believe that this problem of market manipulation represents a previously unrecognized threat to markets' allocative efficiency—a new source of market failure.").

[135] *See generally Taking Behavioralism Seriously I. See also Taking Behaviorism Seriously I*, at 1425 (noting that the paper provides evidence that "manufacturers do manipulate consumer perceptions and preferences, consistent with the hunches of products liability scholars").

[136] *Taking Behavioralism Seriously II,* at 1460 ("We could provide more examples.

authors suggest that gun manufacturers may be playing down the dangers of accidental shooting while playing up the risks of attack, particularly to segments of the population who feel vulnerable.[137] In reality, they maintain, accidental death by shooting is the greater threat.[138]

Digital market manipulation accelerates Hanson and Kysar's concerns. Generally speaking, the techniques described in the Introduction and previous Part may lead to excessive consumption of junk food, cigarettes, and other so-called demerit goods—a reasonably well-theorized harm.[139] The harder question, perhaps, is what happens where digital market manipulation merely results in the greater extraction of rent during transactions the consumer would have made anyway, or else results in the additional purchase of a good like bottled water that is not intrinsically harmful. The intuition of many economists around dynamic price discrimination (and perhaps persuasion profiling) will be to remark that these techniques are not inefficient merely because the party with the greater information and power extracts the social surplus.[140]

Relatively mainstream economic arguments also point the other way, supporting the case that digital market manipulation leads to or exacerbate economic harms. In his 2012 book *Seduction by Contract: Law, Economics, and Psychology in Consumer Markets*, for instance, Oren Bar-Gill explores the systematic application of behavioral economics to the drafting of contracts.[141] Using various case studies (credit cards, mortgages, and cell phones), Bar-Gill concludes that behaviorally-informed drafting techniques, largely by virtue of the complexity they introduce, hinder or distort competition and impose outsized burden on the least sophisticated consumers.[142] Russell

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In each case, manufacturers are apparently attempting to dull consumer perceptions of the environmental risks posed by their products.").

[137] *Id.,* at 1463.

[138] *Id.,* at 1464.

[139] *E.g.*, Richard A. Musgrave, *Merit Goods*, in THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS (John Eatwell et al. eds., 1987). Merit goods are goods authorities want to see greater consumption of; demerit goods are goods that should be consumed less.

[140] *See, e.g.*, LOUIS PHLIPS [sic], THE ECONOMICS OF PRICE DISCRIMINATION 1 (1983) (noting that, generally speaking, "discriminatory prices [are] required for an optimal allocation of resources in real life situations").

[141] *See generally* OREN BAR-GILL, SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMERS MARKETS (2012).

[142] *Id.* Several techniques of digital market manipulation, particularly disclosure ratcheting, would also tend to exacerbate information asymmetries that can distort terms or even preclude mutually beneficial transactions from taking place. Writing around the same time as Bar-Gill, however, Scott Peppet sees the advent of "augmented reality" as providing something of a corrective to the problems Bar-Gill identifies:

Korobkin similarly argues that courts should expand the role of unconscionability in contract where drafts exploit bounded rationality.[143] The work of mathematician Andrew Odlyzko strongly suggests unhealthy effects of dynamic price discrimination.[144] Digital market manipulation could even lead to regressive distribution effects—another recognized symptom of market failure—by systematically leveraging knowledge about the sophistication and resources of each consumer.[145]

Of course, the picture will be mixed: some consumers could in theory be charged less because of a lesser willingness to pay. Let us postulate for a moment that there is nothing inefficient *per se* in mass-producing biases, ratcheting up personal disclosure, and using the resulting data to alter user experiences in ways advantageous to the firm. There are nevertheless likely to be costs associated with avoiding this process.[146] It stands to reason that a subset of consumers will eventually become aware of the possibility of digital market manipulation and develop strategies to avoid or even game its constituent techniques. Such behavior generates transaction costs—otherwise unnecessary expenditures of resources.[147] Consumers may spend time and money, for instance, hiding their identity or browsing the same website at different times or with different browsers in order to compare price or even to avoid creepy ads.[148] Thus, at a minimum, digital market manipulation would occasion behavior by one or more market participants that generates externalities and decreases overall market

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consumers are increasingly able to compare price, quality, and other terms in real-time, leading to potentially greater freedom in contracting. *See* Peppett, *supra* note 41.

[143] *E.g.,* Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1234-35 (2003) *See also* Woodrow Hartzog, *Web Design as Contract*, 60 AMER. U. L. REV. 1635 (2011) (noting that the very design of a website might be frustrating enough to consumer choice as to be deemed unconscionable).

[144] *See, e.g.*, Andrew Odlyzko, *Privacy, Economics, and Price Discrimination on the Internet*, in ECONOMICS OF INFORMATION SECURITY (L. Jean Camp & S. Lewis, eds. 2004).

[145] *Cf.* Laura Moy & Amanda Conley*, Paying the Wealthy for Being Wealthy: The Hidden Costs of Behavioral Marketing*, Privacy Law Scholars Conference 2012, draft on file with author (arguing that price and offer discrimination may exacerbate economic inequality). Moy and Conley arguably go too far; economic inequality is complex phenomenon with many causes. Still, the authors make an interesting point.

[146] *Cf. infra*, note 164 and accompanying text (discussing avoidance of surveillance as a cost of privacy); Strahilevitz, *surpa* note 11, at 2030 (describing steps sophisticated consumers may take to thwart price discrimination). This point came out in conversation with Christopher Yoo and Alessandro Acquisti.

[147] *See generally* Jan Whittington & Chris Jay Hoofnagle, *Unpacking Privacy's Price*, 90 NORTH CAROLINA L. REV. 1327 (2012).

[148] *See, e.g., Caveat Emptor.com*, THE ECONOMIST (Jun. 30, 2012) (canvassing steps consumers can take to avoid dynamic price discrimination).

efficiency.

2. Privacy harm

Say you travel to Amazon.com for the first time. Amazon, the online retailing giant, places a file on your computer of which you are not aware in order to keep track of how many times you visit the website.[149] Each time you visit, the fact of your visit (among other things) gets stored in an Amazon server. When you reach a certain number of visits, and again unbeknownst to you, Amazon decides you must be a regular customer. As a consequence, they start to charge you higher prices for the same products.[150] You can choose to buy the goods or not at the new price. But what is the impact on your privacy?

Distilling privacy harm is famously difficult.[151] Privacy harm reduces, on most accounts, to whatever negative consequence flow from a privacy violation.[152] The question of what constitutes a privacy violation is generally tied to control over personal information, with the logical consequence that greater collection and processing of data is usually linked in the literature to a greater threat to privacy.[153] From this perspective, a practice such as disclosure ratcheting will be problematic to the extent it is capable of overcoming consumer resistance to self-disclosure. The ability to extract more data from consumers exacerbates whatever one thinks of as the consequence of lack of control over information.[154]

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[149] *See* Amazon.com Privacy Notice (April 6, 2012), at http://www.amazon.com/gp/help/customer/display.html?nodeId=468496 ("We receive and store certain types of information whenever you interact with us. For example, like many Web sites, we use "cookies," and we obtain certain types of information when your Web browser accesses Amazon.com or advertisements and other content served by or on behalf of Amazon.com on other Web sites.").

[150] This actually happened for a time in 2000. *See* JONATHAN ZITTRAIN, THE FUTURE OF THE INTERNET AND HOW TO STOP IT 204 (2008). Amazon abandoned the practice. More recently, the Wall Street Journal has uncovered extensive evidence of offers and prices changing from user to user by other companies. *See* Jennifer Valentino-Devries, Jeremy Singer-Vine, & Ashkan Soltani, *Websites Vary Prices, Deals Based on Users' Information*, WALL ST. J. (Dec. 24, 2012).

[151] *See generally* Daniel Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087 (2002) (canvassing theories of privacy harm and finding every single one either over or under-inclusive).

[152] *See* Ryan Calo, *The Boundaries of Privacy Harm*, 86 IND. L.J. 1131, 1132 (2011).

[153] *See* Michael Froomkin, *The Death of Privacy*, 52 STAN. L. REV. 1461, 1468 (2000) ("Privacy-destroying technologies can be divided into two categories: those that facilitate the acquisition of raw data and those that allow one to process and collate that data in interesting ways.").

[154] *See* Paul Schwartz, Commentary, *Internet Privacy and the State*, 32 CONN. L.

In previous work, however, I offer a relatively rigorous theory of privacy harm that, while idiosyncratic, captures the privacy issues that arise at the intersection of behavioral economics and big data.[155] My theory holds that privacy harm is comprised of two distinct but interrelated categories. The first is subjective in the sense of being internal to the person experiencing the harm.[156] I describe subjective privacy harm as the perception of unwanted observation, i.e., unwelcome mental states such as anxiety or embarrassment that accompany the belief of an individual (or group) that he is being watched or monitored.[157]

The second element is objective in the sense of involving external forces being brought to bear against a person or group because of information about them.[158] I define this category as the unanticipated or coerced use of personal information in a way that disadvantages the person.[159] A classic, unanticipated use is where a consumer provides an email to sign up for a service only to find that email has been sold to spammers. A well-known, coerced use appears in *Schmerber v. California* where officers draw a drunk-driving suspect's blood without his consent and introduce it at trial.[160] Note that by "personal," I mean only that it relates specifically to the person harmed, not that it can be used to identify them. The subjective and objective categories are related, I argue, in much the same way as the tort of assault relates to that of battery: the first involves the anticipation of the second, but each represents a separate and distinct harm with independent elements.[161]

Digital market manipulation creates subjective privacy harms insofar as the consumer has a vague sense that information is being collected and used to her disadvantage, but never knows exactly how and when. The consumer does not know whether the price she is being charged is the same as the one charged to someone else, or whether she would have saved money by using a different browser or purchasing the item on a different day. The consumer does not know whether updating his social network profile to reflect the death of a parent will later result in advertisements with a heart-wrenching father and son theme. She does not know whether the subtle difference in website layout

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REV. 815, 830 ("The leading paradigm on the Internet and in the real, or offline world conceives of privacy as a person right to control the use of one's data.").

[155] *See generally* Calo, *supra* note 151.

[156] *Id.* at 1144-47.

[157] *Id.* at 1144.

[158] *Id.* at 1147-52.

[159] *Id.* at 1148.

[160] 384 U.S. 757 (1966).

[161] Calo, *supra* note 151, at 1143.

represents a "morph" to her cognitive style aimed at upping her instinct to purchase, or is just a figment of her imagination. Daniel Solove has labeled the contemporary experience of the data subject as Kafkaesque.[162] I agree. But whatever you call it, the experience is not a comfortable one.

Digital market manipulation also creates objective privacy harm where a firm uses personal information to extract as much rent as possible from the consumer. Even if we do not believe the economic harm story at the level of the market, the mechanism of harm at the level of the consumer is rather clear: the consumer is shedding information that, without her knowledge or against her wishes, will be used to charge her as much as possible, to sell her a product or service she does not need or needs less of, or to convince her in a way that she would find objectionable were she aware of the practice. Given the state of contemporary privacy notice, it seems unlikely most consumers will catch on to digital market manipulation in the short run, let alone consent to it.[163] The firm would not even have to change its written policies: they are general enough *even today* to accommodate most of the practices identified in Part I.[164] And, as described above, even were the consumer eventually to be become aware of digital market manipulation, she would be harmed to the extent she is forced to expend resources to guard against these techniques.[165]

Knowing specifically who the subject of digital market manipulation happens to be—their name, for instance—may facilitate information sharing between firms or across contexts such as online and offline. But being able to personally identify the consumer is largely unnecessary. All that is necessary to trigger either category of privacy harm is the belief or actuality that the person is being disadvantaged, i.e., that their experience is changing in subtle and material ways to their disadvantage. A firm does not need to know specifically who I am to extract rent by exploiting my biases or creating a persuasion profile, only that the observed behavior is that of the same person buying the good or visiting the website. Hence, the ongoing anonymization wars may end up having less relevance when it comes to digital market manipulation.[166]

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[162] Daniel Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 STAN. L. REV. 1393, 1419 et seq. (2001).

[163] *See* Calo, supra note 17, at 1050-55.

[164] *See, e.g.*, supra note 2 and accompanying text.

[165] Peter Swire makes an analogous point where he includes the costs associated with self-protection, which he calls "cloaking costs," in his description of privacy harms. *See* Peter P. Swire, *Financial Privacy and the Theory of High Tech Government Surveillance*, 77 WASH. U. L. REV. 461, 475 (1999).

[166] *Compare* Paul Ohm, *Broken Promises of Privacy: Responding to the Surprising*

At least two concessions here are important. The first is that, where the consumer does not have any idea that her information will be used to tailor prices, pitches, or other aspects of her experience, she does not suffer subjective privacy harm.[167] I think the chances are very good that consumers will *eventually* sense, hear, or read that something is amiss, but if not, I concede she has not been harmed in this specific way. Similarly, where the unanticipated use of information rebounds to the consumer's benefit—as when a consumer's room has a hypoallergenic pillow anytime he stays within a particular hotel network; where his use of a particular brand of computer leads to a lower price; or where a doctor changes his prescription to reflect an insight from big data—then he cannot be said to suffer objective privacy harm.[168] I imagine many of the ways firms tailor content or experiences are aimed at delighting consumers. But it would be highly surprising were every use to which a company placed intimate knowledge of its consumer in fact a win-win.

3. Vulnerability as autonomy harm

Digital market manipulation, at least in the hands of firms, is not tantamount to massive surveillance by the government. Firms do not have a monopoly on coercion and their motive—profit—is discernible, stable, and relatively acceptable when compared with the dangers that attend tyranny.[169] But to the extent that digital market manipulation influences individuals subliminally, or else depletes limited resources of willpower, our instinct may still lead us to speak in terms of harms to individual or collective autonomy. We might say, with Julie Cohen, that aspects of digital market manipulation encroach upon "play," i.e., "the modality through which situated subjects advance their own contingent goals, constitute their communities, and imagine their possible future."[170] We might echo Neil Richards' recent stance that corporate no less than government surveillance "affects the power

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Failure of Anonymization, 57 UCLA L. REV. 1701 (2010) (arguing that de-anonymizing is too routine for privacy statutes to exempt anoynymized data from their ambit) *to* Jane Yakowitz [Bambauer], *Tragedy of the Data Commons*, 25 HARV. J.L. & TECH. 1 (2011) (arguing that the dangers of de-anoynimzation are overstated, and the benefits of data mining understated).

[167] *See* Calo, *supra* note 151, at 1159-61 (discussing the problem of the "hidden Peeping Tom").

[168] *Id.* at 1150-51.

[169] *Cf.* Robert Cover, *Violence and the Word*, 95 YALE L.J. 1601, 1601 (1986) ("Legal interpretation takes place on the field of pain and death.").

[170] JULIE COHEN, CONFIGURING THE NETWORKED SELF: LAW, CODE, AND THE PLAY OF EVERYDAY PRACTICE 57 (2012).

dynamic between the watcher and the watched."[171] Or we might agree with Tal Zarsky that tailored content provides third parties with "powerful tools of persuasion" that implicate autonomy in some sense.[172]

We can say all this, but the notion of digital market manipulation, and particularly its grounding in behavioral economics, lets us say something more concrete. The trouble with autonomy arguments, which pervade the privacy literature, is that drawing lines around the concept of autonomy is very difficult.[173] It is difficult in at least two ways. First, there is no stable, much less uncontroverted, definition of autonomy in moral or political theory.[174] Some reject the notion of autonomy altogether.[175] Second, not every incursion on human will is problematic. Not every impulse purchase, upsell, or emotional pitch threatens consumer autonomy in any deep sense. Not even a widespread campaign of persuasion necessarily does so. This line drawing problem has led some to conclude that whereas it may be appropriate to regulate affirmatively misleading marketing as deceptive practice, there is often no effective way to regulate unfair persuasion.[176]

Behavioral economics, however, is not concerned with autonomy as a political concept so much as the more material construct of irrationality, i.e., measurable departures from the self-interested course autonomous subjects generally follow.[177] It is not clear why firms would

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[171] Richard, *supra* note 12, at 1935.

[172] Zarzky, *supra* note 12, at 3.

[173] *See id.* at 3 n.19 ("Autonomy, somewhat like privacy, eludes a clear definition.").

[174] *See* John Christman *Autonomy in Moral and Political Philosophy*, THE STANFORD ENCYCLOPEDIA OF PHILOSOPHY 1.2 (Edward N. Zalta, ed. 2001) ("The variety of contexts in which the concept of autonomy functions has suggested to many that there are simply a number of different conceptions of autonomy, and that the word simply refers to different elements in each such of contexts.").

[175] *E.g.*, JEROME B. SHNEEWIND, THE INVENTION OF AUTONOMY: A HISTORY OF MODERN MORAL PHILOSOPHY 3-5 (1998) (arguing that Immanuel Kant "invented" rather than "discovered" the concept of autonomy in political philosophy from disparate, constituent parts). Others question autonomy as a subordinating value. *E.g.*, Marina Oshana, *How Much Should We Value Autonomy?*, 20 SOC. PHIL. & POL. 99, 99 ("the focus of this essay is on the phenomenon … of being "blinded" by the ideal of autonomy. What happens if we value autonomy too much?").

[176] *See, e.g.*, Richard Craswell, *Interpreting Deceptive Advertising*, 65 B.U. L. REV. 657, 678 (1985). Craswell proposes the following standard for deceptive advertising: "*An advertisement is legally deceptive if and only if it leaves consumer holding a false belief about a product, and the ad could be cost-effectively changed to reduce the resulting injury.*" *Id. See also* Hoffman, *supra* note 13, at 1404 ("Almost every scholarly discussion of false-advertising puffery cases bemoans the doctrine's incoherent aspects.").

[177] *See* Etzioni, *supra* note 50, at 1100 (describing behavioral economics and its

ever want to confront the fully autonomous consumers capable of maximizing her own self-interest, potentially at the cost of the firm's bottom line. Thus, the concern is that hyper-rational actors armed with the ability to design most elements of the transaction will approach the consumer of the future *at the precise time* and *in the exact way* that tends to guarantee a moment of (profitable) irrationality.

In this way, systematic influence of the sort described in this Article tends to collapse the ethical and legal distinction between the ordinary and vulnerable consumer. What do we mean by vulnerable, after all, in the consumer context except that the relevant population will not act in its best interest? In its highest form, digital market manipulation recognizes that vulnerability is contextual and a matter of degree, and specifically aims to render all consumers as vulnerable as possible at the time of purchase.[178] A given consumer may not be vulnerable most of the time, and will act rationally in his own interest. But under very specific conditions—say, when confronted with scarcity by a trusted source after a long day at work, or upon making her hundredth decision of a day—he may prove vulnerable for a short window.[179] A firm with the capacity and incentive to exploit a consumer could, for instance, monitor the number of decisions she makes on her phone and target the customer most intensely at the moment she is most depleted.

My argument, to be clear, is predicated on two commitments. First, that what we mean by autonomy in the consumer context is the absence of vulnerability, i.e., the capacity to act upon the market in our self-interest. And second, that consumer vulnerability is something the law should care about—an assumption for which there is much support.[180] The move here is to observe that intervention may be justified not only where a consumer is already vulnerable, and firms are taking

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challenge to the dominant assumptions of traditional economics, i.e., "assumptions that focus on rational actors, seeking to optimize their utility").

[178] Part III deals with solutions, but note that a more contextual understanding of vulnerability could help curb abuse this context. Florencia Luna defends "layers" of vulnerability over labels: "[A] way of understanding this proposal is not by thinking that someone *is* vulnerable, but by considering a particular situation that *makes or renders* someone vulnerable." *See* Florencia Luna, *Elucidating the Concept of Vulnerability: Layers Not Labels*, 2 INT. J. FEMINIST APPROACHES TO BIOETHICS 121, 129 (2009).

[179] Recent work speaks of will power as a finite resource, one that can be exhausted by a hard day of decision-making. For a recent and accessible review of the literature, see generally BAUMEISTER & TIERNEY, *supra* note 4.

[180] There are special protections in place, for instance, for the elderly, children, pregnant women, and for other "vulnerable" populations. *E.g.*, 42 PA. CONS. STAT. ANN. § 9711(d)(17) (2012) (enhancing criminal penalties if victim is pregnant); Family and Medical Leave Act of 1993, 29 U.S.C.A. § 2612 et seq; Children Online Privacy Protection Act of 1998, 15 U.S.C. §§ 6501 et seq.

advantage, but also—and indeed *a fortiori*—where the firm is leveraging what it knows about the consumer in order purposefully to render her vulnerable.

C. Free Speech Trump Card?

I have argued against the ideas that digital market manipulation is not new and not harmful. Skeptics are likely to make a third observation: firms have a free speech right to select and execute their message. Thus, while the nature of persuasion may be changing, and while some might see one or more harms in the new approach, it will not be possible to curtail this activity consistent with the First Amendment. Any such interference by the government will necessarily require telling firms they may not make certain true statements such as "while supplies last" or interfering with design decisions on the basis of their psychological impact. Such regulations would be akin to telling a painter that she may not use perspective because it tricks the mind into seeing depth where it does not exist.

As an initial matter, my subject here is commercial marketing, not political speech. The application of big data to politics and electioneering is a major engine behind the changing face of persuasion, as recent reporting tends to evidence.[181] But political speech as such will be subject to strict scrutiny, whereas I am assuming that all facets of digital market manipulation will be considered commercial speech.[182] (The skeptic may find this a big assumption in its own right.[183]) Some of the arguments that follow—especially the discussion around the difference between the act of information collection and the content of speech—would of course relate to data-driven electioneering as well.

Is it possible, then, to curtail digital market manipulation without offending the First Amendment? One strategy is to cut the practice off at the source. After all, each of the techniques and harms I describe rely on personal (if not personally identifiable) information about

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[181] *See, e.g.*, Jim Rutenberg, *Data You Can Believe In*: *How The Precision Targeting of "Persuadable" Voters That Put Obama Over the Top in 2012 Could Revolutionize the Advertising Industry*, N.Y. TIMES MAG. 22 (Jun. 23, 2013) (chronicling the rise of data-driven campaigning and the migration of campaign staffers to advertising firms following the election).

[182] *See* Central Hudson Gas & Elec. Corp. v. Public Serv. Comm'n of N.Y., 447 U.S. 557 (1980) (distinguishing commercial from political speech and laying out the standard of review).

[183] The Supreme Court had the chance to expand or narrow the definition of commercial speech in *Nike v. Karsky*, a case involving a corporation coming to its own defense against allegations of labor abuse. 539 U.S. 654 (2003). The Court declined over several dissents. *Id.* at 665-84.

consumers.[184] By limiting or conditioning the collection of information, regulators can limit market manipulation at the activity level.[185] As Neil Richards observes, "[a] wide variety of rules operate, directly or indirectly, to restrict access to information without raising First Amendment issues."[186] A simple example is trespass: even the press, mentioned by name in the Constitution, cannot break into your house to investigate an important story.[187] Another is anti-wiretapping laws, one of which the Supreme Court upheld against a First Amendment challenge in *Bartnicki v. Vopper*.[188] We could imagine the government fashioning a rule—perhaps inadvisable for other reasons—that limits the collection of information about consumers in order to reduce asymmetries of information.

It turns out not everyone agrees that limits on collection, where the purpose behind the collection is speech, can avoid First Amendment scrutiny. In 2008, for instance, the Newspaper Association of America filed comments with the Federal Trade Commission in which it asserted a First Amendment right on behalf of news outlets to track consumers for the purpose of targeting ads to them.[189] A variety of prominent academics make this case in one form or another, among them liberal First Amendment scholars such as Lawrence Tribe and Robert O'Neil.[190]

The most recent and sustained case for the proposition that data is *itself* speech is that of Jane Yakowitz Bambauer.[191] Bambauer's method involves critiquing doctrine that distinguishes gathering information from speech, while highlighting strains in First Amendment law that tend in her view to bolster the case that collecting data for the purpose of speech is itself protectable speech.[192] She

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[184] *See supra*, Part I.

[185] *Cf.* Steve Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980) (classic discussion of the role of "activity level" in tort).

[186] Neil Richards, *Reconciling Data Privacy and the First Amendment*, 52 UCLA L. REV. 1149, 1182 (2005).

[187] *Id.* at 1188.

[188] 532 U.S. 514 (2001).

[189] Comments of the Newspaper Association of America, *In the Matter of Proposed Online Behavioral Advertising Privacy Principles* (Apr. 11, 2008), available at http://www.ftc.gov/os/comments/behavioraladprinciples/080411naa.pdf.

[190] ROBERT O'NEIL, THE FIRST AMENDMENT AND CIVIL LIABILITY 74-90 (2001); Brief for Appellant at 6, U.S. West v. FCC, 182 F.3d 1224 (10th Cir. 1999). *See also* Richards, *supra* note 186, at 1161-62 (listing these and other examples).

[191] Jane Yakowitz Bambauer, *Is Data Speech?*, 66 STAN. L. REV. (forthcoming 2013), available online at http://ssrn.com/abstract=2231821.

[192] Bambauer also engages with First Amendment theory more generally, and her stated aim is to create "a satisfying analytical framework for the variety of data collection practices that will give rise to First Amendment questions." *Id.* at *7. But

criticizes *Dietermann v. Time, Inc.*,[193] for instance, wherein the Ninth Circuit ruled against a reporter who used deceit to gain access to an office and secretly record a therapy session to expose the plaintiff as a medical fraud, on the basis that the court arbitrarily favored an older technology (written notes) over a new one (video and audio recording).[194] She offers *U.S. West v. FCC*[195] from the Tenth Circuit and the recent Supreme Court case of *IMS v. Sorrell*[196] as examples of cases in which a court properly recognized that data can be speech.[197] *U.S. West* involved a successful challenge by carriers to a rule that limited how they could use customer information they hold by virtue of providing a communications service to market to those customers,[198] whereas *Sorrell* involved how pharmaceutical companies could use prescription data to market to doctors.[199]

Bambauer's argument is lucid, novel, and engaging. And yet it has the feel of a zoetrope, spinning static case law in a certain light to create the illusion of forward motion. *Dietermann* is not well written, but that does not make it wrongly decided. The best reading of *Dietermann* is that it is a case about the scope of consent—a well-understand concept of tort law.[200] A land owner may consent to entry for one purpose, such as therapy or discussion, but not to another, such as video or audio recording.[201] The Supreme Court says this almost exactly in the Fourth Amendment context in *Florida v. Jardines*, the recent dog-sniffing case. The Court held that the officers intruded upon the defendant's property by virtue of bringing along a surveillance technology (the dog), even though the officers have a right to approach

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she goes on to adopt Seanna Shiffrin's "thinker-based" approach for triggering free speech scrutiny "nearly verbatim," *id.* at *34, and declines to comment on the level of scrutiny that should apply to data as speech, *id.* at *45.

[193] 449 F.2d 245 (9th Cir. 1971).

[194] Bambauer, *supra* note 191, at *25-26, *30.

[195] 182 F.3d 1224 (10th Cir. 1999).

[196] 131 S.Ct. 2653 (2011).

[197] Bambauer, *supra* note 191, at *6 n.10, *18-20, *46.

[198] U.S. West, 182 F.3d at 1229.

[199] Sorrell, 131 S.Ct. at 2659.

[200] *See* Jack K. Levin & Lucas Martin, *Scope of Consent—Conditional or Restricted Consent*, 75 AM. JUR. 2D TRESPASS § 75 (2nd Ed. 2013) ("One may become a trespasser by exceeding the scope of the consent, such as by intentionally conducting oneself in a manner differing from that allowed.") (citations omitted).

[201] Alternatively, we might say that society is prepared to accept Dietermann's expectation of privacy against recording technology as reasonable and compensate him accordingly. Bambauer seems to acknowledge as much in other work. *See* Jane Yakowitz Bambauer, *The New Intrusion*, 88 NOTRE DAME L. REV. 205, 235 (2012) ("The tort of intrusion reinforces norms by tracking social consensus, which means that most people will recognize what is and is not seclusion, even in new contexts. This makes the tort especially flexible and appropriate for application to new technologies.").

the house to knock on his door.[202] *U.S. West* and *Sorrell*, meanwhile, involved information already in the possession of the speaker,[203] or subject to discriminatory conditions that trigger scrutiny even for unprotected speech.[204] They and other examples clarify free speech doctrine in small ways, but do not justify the conclusion that limits on the collection of data necessarily implicate the First Amendment. The most powerful line of cases Bambauer marshals involves the right to photograph a government official.[205] These precedents deal with true collection of information. The issue in such cases, however, is not private commercial speech but photographing government activity in public, implicating deeper values than those at play in digital market manipulation.[206]

Assume, however, that we answer the "coverage" question in the affirmative and say that all aspects of digital market manipulation are subject to the same commercial speech analysis that applies to other advertisements.[207] Short of viewpoint discrimination, the Court has repeatedly clarified that no protection attaches to misleading speech in this context.[208] We are not talking about outright fraud here—in the sense of a material misrepresentation of fact—but only a tendency to mislead.[209] Digital market manipulation presents an easy case: firms purposefully leverage information about consumers to their disadvantage in a way that is designed not to be detectable to them. A

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[202] Florida v. Jardines, 133 S.Ct. 1409, 1415-16 (2013); *id.* at 1416 ("The scope of a license—express or implied—is limited not only to a particular area but also to a specific purpose.").

[203] U.S. West, 182 F.3d at 1229.

[204] Sorrell, 131 S.Ct. at 2663-64 ("Given the legislature's expressed statement of purpose, it is apparent that [the law] imposes burdens that are based on the content of speech and that are aimed at a particular viewpoint. … It follows that heightened judicial scrutiny is warranted."). *See also* R.A.V. v. City of St. Paul, Minn., 505 U.S. 377, 382-85 (1992) (prohibiting viewpoint discrimination even for otherwise proscribable categories of speech such as "fighting words").

[205] *E.g.*, Glik v. Cunniffe, 655 F.3d 78 (1st Cir. 2011) (videotaping the police in public); Pomykacz v. Borough of West Wildwood, 438 F.Supp.2d 504 (D. N.J. 2006) (photographing the mayor in public).

[206] *Cf.* Richards, *supra* note 186, at 1220 ("The critics' attempt to clothe economic rights with the garb of political rights would destroy the basic dualism on which the edifice of modern rights jurisprudence is built.").

[207] *See* ROBERT POST, DEMOCRACY, EXPERTISE, AND ACADEMIC FREEDOM: A FIRST AMENDMENT JURISPRUDENCE FOR THE MODERN STATE 1 (2012) (distinguishing between "coverage," i.e., whether the First Amendment applies at all, from "protection," i.e., the level of scrutiny free speech then requires).

[208] *E.g.*, Cent. Hudson Gas & Electric Corp. v. Pub. Serv. Comm'n of N.Y., 447 U.S. 557, 566 (1980).

[209] *See* Robert Post, *The Constitutional Status of Commercial Speech*, 48 UCLA L. REV. 1, 38-40 (2000).

consumer who uploads a picture of herself to a social network is unlikely to associate the disclosure with a later advertisement that uses the picture to persuade her. A consumer who receives an ad highlighting the limited supply of the product will not usually understand that the next person, who has not been associated with a fear of scarcity, sees a different pitch based on her biases. Such a practice does not just tend to mislead; misleading is the entire point.

But let us even stipulate further that marketing informed by personalized appeals to irrationality is not misleading as such. Lesser protection even than commercial speech may still be appropriate by analogy to *Ohralik v. Ohio State Bar Association*.[210] In 1977, the Supreme Court struck down an Arizona law prohibiting advertising by lawyers on commercial speech grounds in famous case called *Bates v State Bar of Arizona.*[211] The *Bates* Court expressly reserved the question of whether in-person solicitation would be subject to the same scrutiny.[212] In *Ohralik*, a year later, the Court decided that it would not: "In-person solicitation is as likely as not to discourage persons needing counsel from engaging in critical comparison of the 'availability, nature, and prices' of legal services."[213] As such, in-person solicitation "may disserve the individual and societal interest, identified in *Bates,* in facilitating "informed and reliable decisionmaking."[214] The Court thought "it hardly need be said that the potential for overreach is significantly greater when a lawyer, a professional trained in the art of persuasion, solicits an unsophisticated, injured, or distressed lay person."[215]

Lawyers are probably more persuasive than the average population; it is one skill we teach in law school. But we should ask ourselves if lawyers are more persuasive than firms engaged in digital market manipulation. Firms have increasingly intimate knowledge of their customers, which they turn over to a team of people with letters after their name (including J and D). The *Ohralik* Court also noted that people in need of legal services can be vulnerable.[216] But the very point

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[210] 436 U.S. 447 (1978).

[211] 433 U.S. 350 (1977).

[212] *Id.* at 366 (declining to "resolve the problems associated with in-person solicitation of clients at the hospital room or the accident site, or in any other situation that breeds undue influence…").

[213] Ohralik, 436 U.S. at 457-58. I read Robert Post to suggest that a better way to conceive of misleading speech is be reference "not to the content of speech, but to the structural relationship between a speaker and audience." Post, supra, note 209, at 38. Either way, the protection afforded commercial speech will not apply.

[214] Ohralik, 436 U.S. at 458 (internal citation omitted).

[215] *Id.* at 464-65.

[216] *Id.* at 465.

of digital market manipulation is to render consumers vulnerable by fostering irrational behavior.[217] And, in any event, the *Ohralik* Court did not draw the line at attorneys *or* vulnerable populations, referring repeatedly to their "agents" as well as simply "abuses inherent in the direct-selling industry."[218]

Perhaps the difference lies not in the seller's credentials, but the fact that the lawyer or salesman is there in person.[219] A hospital room is neutral territory, one that the lawyer cannot much influence. The firm's encounter with the mediated consumer takes place in an environment the firm designed from scratch for that very encounter. Also of interest to the *Ohralik* Court was "one of the fundamentals in the [the consumer's] role as a purchaser, the decision as to when, where, and how he will present himself to the marketplace."[220] But this role too is on its way out. Firms can and do interrupt the consumer who is not shopping—for instance, by texting her on her phone as she passes by the storefront of a client.[221] This reality will only accelerate in a world of "wearable" computers, or in which our appliances and other objects have interfaces and Internet connections.[222]

The final difference is that, notwithstanding *Citizens United v. Federal Elections Committee*,[223] firms are not people. One of the weapons in the arsenal of the in-person solicitor is ordinary social mores against rudeness and the way we are hardwired or socialized to react to one another. Mediating technologies such as computers, the argument runs, cannot engage in this sort of social persuasion and hence present less of a danger. It turns out the opposite is true: research by, for instance, design psychologist B.J. Fogg shows that people react to social persuasion by computers the same as real people.[224] We respond to virtual flattery, for instance, and feel the need

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[217] *See supra*, Part II.B.

[218] 436 U.S. at 464 n.22, n.23.

[219] *See* Shapero v. Ky. Bar Assn'n 486 U.S. 466, 475 (1988) "In assessing the potential for overreaching and undue influence, the mode of communication makes all the difference.")

[220] 436 U.S. at 464 n.23 (internal quotation omitted).

[221] *See* Tanzina Vega, *AT&T Begins Service to Text Users in Certain Locations*, N.Y. TIMES (Feb. 11, 2011), available at mediadecoder.blogs.nytimes.com/2011/02/27/att-begins-service-to-text-users-in-certain-locations/.

[222] *See* Mark Prigg, *Samsung confirms it is 'investing heavily' in wearable computers to take on Google Glass and Apple's rumoured iWatch*, DAILY MAIL (Jul. 9, 2013), available at http://www.dailymail.co.uk/sciencetech/article-2358924/Samsung-confirms-investing-heavily-wearable-computers-takes-Google-Glass-Apples-rumoured-iWatch.html.

[223] 558 U.S. 310 (2010) (finding inter alia that corporations constitute associations of individuals for purposes of the First Amendment).

[224] B.J. FOGG, PERSUASIVE TECHNOLOGY: USING COMPUTERS TO CHANGE WHAT WE

to return the kindness of software.[225] As Fogg describes at length in his book *Persuasive Computing*, technology has, if anything, additional advantages over people in that it never tires, has a nearly limitless memory, and can obscure or change its identity at will.[226]

In short, the potential for regulators to focus on the collection of data for an unexpected purpose, the potential of digital market manipulation to mislead, or the possibility of undue influence, mean that our skeptic probably overstates the free speech rights of firms in this context.

III. BREAKING THE CYCLE

If history is any guide, we should expect advancements in the art and science of persuasion to continue to trigger periodic concern. Whether the change involves subliminal advertising, "neuromarketing,"[227] or digital market manipulation, it seems selling cannot evolve without sitting poorly in some quarters. And sometimes there is real harm associated with new ways to sell. The question is what to do.

One choice is, of course, to do nothing. *Caveat emptor*, as the saying goes. But this colorful bit of Latin—of recent vintage, incidentally, and deeply at odds with Roman consumer protection law itself[228]—is not sustainable. Doing nothing will continue to widen the trust gap between consumers and firms[229] and, depending on your perspective, could do irreparable harm to consumer and the marketplace. Another possibility is to prohibit certain practices outright. The problem with this approach—and command-and-control generally in the context of

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THINK AND DO (2002).

[225] *Id.*

[226] *Id.*

[227] For a definition of nueromarketing, as well as a clever discussion of its intersection with commercial speech doctrine, see Marisa E. Main, *Simply Irresistible: Neuromarketing and the Commercial Speech Doctrine*, 50 DUQ. L. REV. 605 (2012).

[228] Roman law imposed wide-ranging duties of good faith (*bonae fidei*). BARRY NICHOLAS, AN INTRODUCTION TO ROMAN LAW 176 (1962). Signs of duress (*metus*) and or bad faith, broadly defined (*dolus*) could negate a transaction. *Id.* Even the failure of one party to correct a misapprehension of the other party constituted bad faith. *Id.* I have Hugh Spitzer to thank for this point.

[229] The most recent Edelman Trust Barometer shows that only nineteen percent of respondents (n=31,000) trust business leaders to make ethical and moral decisions. Edelman Trust Barometer: Executive Summary (2013), available at http://www.scribd.com/doc/121501475/Executive-Summary-2013-Edelman-Trust-Barometer. Twenty-three percent of respondents cited "wrong incentives for driving business decisions" as a reason for trusting business less (second only to "corruption or fraud" at twenty-seven percent).

emerging technology—is the high risk of unintended consequences.[230] Poorly drafted restrictions could slow innovation by imposing unmanageable risk and could serve to select technologic winners and losers.[231] As discussed in Part II.C, outright bans or aggressive restrictions could face serious First Amendment headwinds.

One of the more obvious paths to domesticate digital market manipulation is to strengthen privacy protections. As described above, the trends that constitute digital market manipulation rely for their vitality on individual information about consumers. The mass production of bias, disclosure ratcheting, persuasion profiling and morphing all require access to large consumer data sets or specific consumer details. The information has to come from somewhere (or someone). Requiring better anonymization or security is no fix, since the harms of digital market manipulation do not rely on the person being identified or their information stolen. "Obscurity" mostly protects peer interactions—the mediated consumer is never really hidden from the firm.[232] But placing limits like those suggested by the fair information practice principles—best practices that provide for data minimization, for instance, and limits on secondary use—could help stem the flow of information that makes abuses possible.[233]

Cutting data off at its source with stronger privacy law faces its own set of issues. Obviously manipulating consumers is not the only—nor, for many, the primary—use to which firms will put consumer data. Data helps firms improve existing products and develop the indispensable services of tomorrow. Data is necessary to combat various kinds of fraud and sometimes to police against one set of consumers abusing another.[234] Regulators are rightfully concerned about the effects of cutting off data flows on innovation.[235] Telling services what data they

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[230] *See* Cass Sunstein, *Administrative Substance*, 1991 DUKE L.J. 607, 627 (1991) (critiquing command-and-control regulation); See Kenneth A. Bamberger & Deirdre K. 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."); Dennis D. Hirsch, *Protecting the Inner Environment: What Privacy Regulation Can Learn from Environmental Law*, 41 GA. L. REV. 1, 9, 10-11, 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).

[231] *See* Hirsch, *supra* note 203, at 33-37.

[232] *See generally* Woodrow Hartzog & Fred Stuztman, *The Case for Online Obscurity*, 101 CAL. L. REV. 1 (2013) (formalizing the concept of obscurity as a means to minimize the risk that information will find its way to unintended recipients).

[233] *See Fair Information Practice Principles*, Fed. Trade Comm'n, available at http://www.ftc.gov/reports/privacy3/fairinfo.shtm.

[234] For instance, the online auction eBay uses data to police against shill bidding, i.e., where an auctioneer bids on their own items in order to drive up other bids.

[235] *See* Hirsch, *supra* note 203, at 33-37.

can and cannot collect, meanwhile, creates pragmatic line-drawing problems that regulators may not be well-suited to answer.[236]

These issues are not limited to privacy. The Federal Trade Commission, through enforcement of the FTC Act, polices against all manner of offensive business practices.[237] Significant, perhaps infeasible changes would be needed to the agency's authority to tackle digital market manipulation. Hanson and Kysar in passing,[238] and Matthew Edwards at length,[239] argue that unfairness and deception are not today well-suited to domesticating the problem of market manipulation. Even invigorated for the digital age, the practice may not be deceptive in the classic sense (despite being misleading for commercial speech purposes) because it neither makes a false statement nor omits any single material fact. The practice is not unfair because, with effort, it might be avoided, and because the harm is not of the variety usually countenanced by agencies or courts.[240] The FTC has limited resources and reliably pursues complaints only against very bad or very big players.[241] Firms can also approach the mediated consumer anytime and anywhere, such that regulators would have to protect or empower the consumer at all times and everywhere.

Mandatory disclosure may have a role. Some of the very same techniques described in Part I might be pressed into the service of better, more efficient notice. And, as Richard Craswell most recently argues, the optimal level of disclosure is usually greater than none.[242] Yet there are also reasons to doubt the efficacy of notice is the context of digital market manipulation. The same incentives that lead firms to leverage cognitive bias to disadvantage consumers could lead them to comply with the letter of notice regulations while minimizing its

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[236] *See* Hoffman, *supra* note 13, at 1440.

[237] *See* Federal Trade Commission Act of 1914, 15 U.S.C. §§ 41-58.

[238] *See Taking Behavioralism Seriously I*, at 1556 (expressing skepticism that the FTC would be able to police against market manipulation with its existing tools).

[239] *See generally* Matthew Edwards, *FTC and the New Paternalism*, 60 ADMIN. L. REV. 323 (2008) (illustrating the various challenges the FTC would encounter were it to try to bring claims based on behavioral economics).

[240] *Id.*

[241] Peter Swire has helpfully distinguished between "elephants," i.e., companies too big to avoid scrutiny, and "mice," who can hope to ignore the law. Peter Swire, *Elephants and Mice Revisited: Law and Choice of Law on the Internet*, 153 UNIV. PENN. L. REV. 1975 (2005). Indeed, the FTC tends to seek consent orders with large companies with arguably mild privacy or security infractions, and smaller companies engaged in more flagrant behavior. For a regularly updated summary of FTC privacy enforcement, see Marcia Hofmann, *Federal Trade Commission Enforcement of Privacy*, *IN* PROSKAUER ON PRIVACY § 4:1 (Christopher Wolf, ed. 2008).

[242] *See* Richard Craswell, *Static Versus Dynamic Disclosures, And How Not to Judge Their Success or Failure*, 88 WASH. L. REV. 333, 347 (2013).

efficacy.[243] (A class action once accused a handset provider off hiring a consultant to design its envelopes containing disclosures in the way least likely to be read by consumers.[244]) Moreover, to the extent notice is about changing behavior,[245] some studies suggest that telling a subject about a manipulation does not necessarily reduce its impact, and might even increase it.[246]

Here again we may want to take a page from economics. One place traditional and behavioral law and economics converge is around this question of *incentives*. Personalization becomes problematic when the incentives of the consumer and the firm are not aligned.[247] Hanson and Kysar, writing in the specific context of product warnings, argue for enterprise liability as a way to realign the incentives of firms and consumers as way to head off abuse.[248] Here again, the real problem with digital market manipulation is that firms enjoy both information and design advantages over consumer and, at least sometimes, divergent incentives. This Part does not argue for any specific solution. Rather, what follow are two unusual examples of ways of leveraging internal or external forces to help change incentives and help interrupt the cycle of abuse and suspicion.

A. Internal: Consumer Subject Review Boards

Scientists don't just spontaneously 'try things'; they are forced to think through the social and political consequences of their work, often well before entering the lab. What institutional research board would approve Google's quixotic plan to send a fleet of vehicles to record private data floating through WiFi networks or the launch of Google Buzz?[249]

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[243] *See* Calo, *supra* note 17, at 1065-68.

[244] *See* Pollard v. Ericsson, Inc., 22 Cal. Rptr. 3d 496, 498 (2004). The court eventually found against the plaintiffs. *Id.* at 501.

[245] Arguably notice is about conveying information, whereas nudging is about changing behavior. *See* Ryan Calo, *Code, Nudge, or Notice?*, 99 Iowa L. Rev. (forthcoming 2013).

[246] I have Lauren Willis to thank for this point. One example is the tendency of patients to trust doctors more who have disclosed a conflict of interest. [cite]

[247] *See supra,* notes 121-27 and accompanying text.

[248] *See Taking Behavioralism Seriously II*, at 1553-57. *See also* Hoffman, *supra* note 13, at 1443-45 (endorsing an incentive-based approach to puffery regulation).

[249] EVGENY MOROZOV, TO SAVE EVERYTHING, CLICK HERE: THE FOLLOW OF TECHNOLOGICAL SOLUTIONISM 148 (2013). There are several flaws with technology critic Evgeny Morozov's analogy as presented. There is little evidence, for instance, to suggest that Google recorded personal WiFi data on purpose, and ample evidence that the company routinely thinks through ethical dilemmas such as when and how to report

In the nineteen seventies, the United States Department of Health, Education, and Welfare commissioned twelve individuals, including two law professors, to study the ethics of biomedical and behavioral science and issue detailed recommendations.[250] The resulting Belmont Report, so named after an intensive workshop at the Smithsonian Institute's Belmont Conference Center, is a statement of principles that aims to assist researchers in resolving ethical problems around human-subject research.[251] The Report emphasizes informed consent—a mainstay of privacy, healthcare, and other legal contexts.[252] In recognition of the power dynamic between experimenter and subject, however, the Report highlights additional principles of "beneficence" and "justice."[253] Beneficence refers to minimizing harm to the subject and society while maximizing benefit—a kind of ethical Learned Hand Formula. Justice prohibits unfairness in distribution, defined as the undue imposition of a burden or withholding of a benefit. The Department of Health, Education, and Welfare published the Belmont Report verbatim in the Federal Register and expressly adopted its principles as a statement of Department policy.[254]

Today, any academic researcher who would conduct experiments involving people is obligated to comply with robust ethical principles and guidelines for the protection of human subjects, even if the purpose of the experiment is to benefit those people or society. The researcher must justify her study in advance to an institutional, human subject review board (IRB) comprised of peers and structured according to specific federal regulations. Whereas a private company that would conduct experiments involving thousands of consumers using the same basic techniques, facilities, and personnel faces no such obligations, even where the purpose is to profit at the expense of the research subject.[255]

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government requests for censorship or user data. The problem with Google Buzz—a social network that lead to a privacy law suit—was *not enough* consumer testing. But let us take the observation in a different direction. When firms study consumers scientifically for gain, why should scientific norms not apply?

[250] Nat. Comm. Prot. of Human Subjects of Biomedical and Behavioral Research, *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*, DHEW Pub. No. (OS) 78-0012 (Sept. 30, 1978).

[251] *Id.*

[252] *See* Ben-Shahar & Schneider, *supra* note 75, at 658-64 (listing several dozen examples of health, privacy, and other laws that require informed consent).

[253] *See The Belmont Report*, supra note 250.

[254] 44 Fed. Reg. 23,192 (Apr. 18, 1979).

[255] *Cf.* MOROZOV, supra note 259, at 148; Ohm, supra, note 58, at 345 (suggesting that medical research should be conducted in accordance to the "Common Rule" and other human subject guidelines); Main, supra note 227, at 625 (observing that "[t]raditional methods of marketing research have not been subject to Institutional

Subjecting companies to the strictures of the Belmont Report and academic intuitional review would not be appropriate. Firms must operate at speed and scale, protect trade secrets, and satisfy investors. Their motivations, cultures, and responsibilities differ from one another, let alone universities. And that is setting aside the many criticisms of IRBs in their original context as plodding or skewed.[256] Still, a largely internal way to realign incentives between firm-scientists and consumer-subjects would be to follow path of the behavioral and social science community facing in the wake of twentieth century abuses.

The thought experiment is simple enough: the Federal Trade Commission, Department of Commerce, or industry itself commissions an interdisciplinary report on the ethics of consumer research. The report is thoroughly vetted by key stakeholders at an intensive conference in neutral territory. As with the Belmont Report, the emphasis is on the big picture, not any particular practice, effort, or technology. The articulation of principles is incorporated in its entirety in the Federal Register or an equivalent. In addition, each company that conducts consumer research at scale creates a small internal committee comprised of employees and operated according to predetermined rules.[257] Initiatives clearly intended to benefit consumers could be fast-tracked whereas, say, an investigation of how long moviegoers will sit through commercials before demanding a refund will be flagged for further review.

B. External: The Paid-Option Regime

In 2010, I was part of a Stanford Law School delegation to Beijing, China. The topic was Internet law and I was there to cover consumer privacy. I gave a fairly typical talk about the tension between the firm's need to gather data in order to deliver quality goods and services for free and the consequences to consumers of giving up so much privacy. Attendees included major Chinese Internet companies such as Tencent and Baidu. It turns out that the tension I described did not resonate

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Review Board [] oversight, because they are not usually viewed as experimentation").

[256] *See* Charles W. Lidz & Suzanne Garverich, *What the ANPRM Missed: Additional Need for IRB Reform*, J.L. MED. & ETHICS 390, 390 (2013) ("IRBs have always come under considerable scrutiny. Some have critique IRBs for using important resources inefficiently. … Others have critique the inconsistency of review… of multi-site projects.") (citations omitted).

[257] Without delving into issues of standards or structure, Viktor Mayer-Schönberger and Kenneth Cukier briefly suggest that firms employ "internal algorithmists" akin to ombudsman that vet big data projects for integrity and societal impact. *See supra*, note 57, at 181-82.

with major Chinese platforms or their regulators for the simple reason that these platforms make their money by charging subscription and other fees. Thus, they did not perceive a need to leverage the data they held on consumers beyond what it took to deliver the service.[258]

Imagine if major platforms such as Facebook and Google were obligated, as a matter of law or best practice, to offer a paid version of their service. For, say, ten dollars a month or five cents a visit, users could opt out of the entire marketing ecosystem. Not all services would be amenable to such an arrangement. There would be losers—for instance, some set of third-party advertisers or data brokers that deliver little value directly to consumers in the first place. But where applicable, such an arrangement could reorient the consumer from being a product to being a client.[259] This in turn would interrupt the incentive for market manipulation, digital or otherwise—assuming the arrangement were adequately policed by the government or the market.

Some research suggests that few would take a firm up on this opportunity.[260] For the consumers that stick with the "free" option, some level of protection may nevertheless be necessary. Moreover, this approach could exacerbate the so-called "digital divide," the concern that not everyone has access to the Internet or other resources due to economic and educational constraints.[261] Services such as Facebook, Twitter, and LinkedIn have become arguably indispensable economic, social, and civic tools for many citizens. We would have to address, perhaps through subsidy or another expedient, the needs of the set of people who value privacy highly but cannot afford to pay for each service they believe necessary. These concerns already exist today with the advent of paid services that help protect the affluent from reputational harm, but could be augmented in paid-option regime.

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[258] Of course, these companies have other problems. *See* Anupam Chander, *How Censorship Hurts Chinese Internet Companies*, THE ATLANTIC (Aug. 12, 2013) at http://www.theatlantic.com/china/archive/13/08/how-censorship-hurts-chinese-internet-companies/278587/.

[259] *Cf.* Webster, *supra* note 38, at 598 (distinguishing between markets in which media is sold to audiences and markets where audiences are sold to advertisers), *citing* PHILIP N. NAPOLI, AUDIENCE ECONOMICS: MEDIA INSTITUTIONS AND THE AUDIENCE OF MARKETPLACE 2-3 (2003). A recent study by Juniper Networks found that free apps were between 300 and 400 percent more likely to track users that paid ones. *See* Daniel Hoffman, *Exposing Your Personal Information: There's An App For That*, Juniper Networks Blog (Oct. 30, 2012), available at http://forums.juniper.net/t5/Security-Mobility-Now/Exposing-Your-Personal-Information-There-s-An-App-for-That/ba-p/166058.

[260] *See, e.g.*, [cite].

[261] *See, e.g.*, JAN A.G.M. VAN DIJK, THE DEEPENING DIVIDE: INEQUALITY IN THE INFORMATION SOCIETY (2005).

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Again, I do not offer these examples of internal or external realignment on the view that they are somehow the "right" solution, let alone a panacea. The point is that we should take a page (*the* page) from law and economics consider a solution set aimed at changing the underlying incentives.

IV. TAKING DATA SERIOUSLY

The field of behavioral economics is now decades old. Yet it continues to yield novel insights. A handful of scholars have begun to focus in on the possibility that consumers and citizens do not have the exact same biases, or to the same degree. For instance, in a contemporaneous article, Lior Strahilavitz and Ariel Porat discuss how the government might vary default rules by person to make for more effective nudges.[262] Yet the few forays into the personalization of behavioral economics have barely uncovered the tip of the iceberg. In this Article, I have explored how and why data and design could change the face of market manipulation to the point that it strains consumer protection law. The impact of systematic personalization on behavioral economics is broad indeed.

This Article has focused exclusively on the fate of the consumer of tomorrow. There is also the citizen of the future to consider. How will the same emerging techniques affect the government's ability to influence citizen belief or conduct? This is an especially salient consideration given the traction libertarian paternalism has enjoyed in the United States and abroad and the pivot of a central proponent toward greater personalization.[263] Sunstein and Thayer respond to the general concern that exploiting citizen bias is manipulative by invoking the "publicity principle" of John Rawls, i.e., the notion that officials should not engage in an activity that they would not be comfortable discussing in public.[264] Setting aside the problem with this argument, it seems unlikely to hold up in the face of "digital nudging." Gathering information about individual citizens so as better to persuade them comes very close to the sort of Orwellian propaganda we have collectively rejected—including by statute.[265] A related critique of nudging is that it tends to infantalize the citizen by removing the habit

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[262] *See* Portat & Strahilevitz, *supra* note 29.
[263] *See* Sunstein, *supra* note 28.
[264] *See* NUDGE, at 244, citing JOHN RAWLS, A THEORY OF JUSTICE (1971).
[265] *E.g.*, Smith-Mundt Act of 1948, 22 USC § 1461 (limiting domestic propaganda).

of choice.[266] Again, the constant mediation of the citizen by technology could accelerate this effect.

The discussion in Part II.C carves out individualized political speech. But what about it? How should law or society treat political ads by candidates or causes that leverage individual biases to make their campaigns more effective? Such techniques portend an arguably greater threat to autonomy. At the same time, their restriction will sensibly occasion more serious pushback from the First Amendment. Striking the right balance, meanwhile, is important: political campaigns appear to be at the forefront of persuasion profiling and other phenomena I have described in this Article (although its architects are moving into commercial advertising).[267]

I have noted that the effect of standard market manipulation has been marginal. The same is said of behavioral economics generally: Proponents argue that behavioral economics helps explain seemingly outlier behavior by judges that otherwise attempt to maximize social or economics welfare.[268] But detractors—especially those working with more traditional economic models—try to paint consumer irrationality as modest or even self-cancelling.[269] The potential to manufacture bias and the greater incentive by firms to encourage irrationality would change this picture (if ever it were true), bolstering the case for law and economics to take behavior seriously.

CONCLUSION

Vance Packard, author of *The Hidden Persuaders*, assumed marketing science would evolve well beyond what he had documented in 1957.[270] Near the end of his book, he remarks: "Eventually, perhaps all this depth manipulation of the psychological variety will seem amusingly old-fashioned."[271] Packard also acknowledges that the marketers of the late 1950s were "mostly decent, likeable people" who

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[266] *See* Luc Bovens, *The Ethics of Nudge*, in PREFERENCE CHANGE (T. Yanoff-Grune and S. Hansson, eds., 2009).

[267] *See* Jim Rutenberg, *Data You Can Believe In*: *How The Precision Targeting of "Persuadable" Voters That Put Obama Over the Top in 2012 Could Revolutionize the Advertising Industry*, N.Y. TIMES MAG. 22 (Jun. 23, 2013) (chronicling the rise of data-driven campaigning and the migration of campaign staffers to advertising firms following the election).

[268] *See* Jolls et al., *supra* note 15, at 1511-12.

[269] *E.g.*, Richard Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 U. CHI. L. REV. 111, 114-16 (2006) (arguing that market forces tend to correct consumer mistakes); Richard Posner, *Rational Choice, Behavioral Economics and the Law*, 50 STAN. L. REV. 1551 (1998).

[270] *See* Packard, *supra* note 8, at 195.

[271] *Id.*

"want to control us just a little bit"; they might be appalled, he suggests, by the technologies and techniques of the future.[272] But Packard closes on what amounts to a *legal* question: "when you are manipulating, where do you stop? Who is to fix the point at which manipulative attempts become socially undesirable?"[273] Packard's parting question has gotten no easier over the past fifty years, and no less pressing.

This Article takes Packard's question seriously. With the concept of market manipulation, two giants of behavioral law and economics supply us with an elegant way to think about a range of consumer problems. But even giants are only so tall. This Article updates the work of Jon Hanson and Douglas Kysar for the digital age, expanding on their framework by layering in the important role of personalization and the power of design. The Article diagnoses several trends that stand to change the face of marketing, consumer privacy, and perhaps behavioral economics as a whole. The Article explains what is different and distinct about digital market manipulation, and why the difference is harmful. And it offers a novel solution space that recognizes the crucial role of incentives. My hope is that this Article will get consumers, firms, and regulators thinking about the future of selling, and perhaps even prove the Packards of the world, for once, wrong.

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[272] *Id.* at 196.
[273] *Id.*