Digital Market Manipulation

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Abstract

In 1999, Jon Hanson and Douglas Kysar coined the term "market manipulation" to describe how companies exploit the cognitive limitations of consumers. For example, 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 of the theory to account for the realities of a marketplace that is mediated by technology. Today's companies fastidiously study consumers and, increasingly, personalize every aspect of the consumer experience. Furthermore, rather than waiting for the consumer to approach the marketplace, companies can reach consumers anytime and anywhere. The result of these and related trends is 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

A recent marketing study touched off something of an Internet uproar. The study purported to show that women feel less attractive on Monday mornings.[1] Based on its findings, the study recommended that companies concentrate on these "prime vulnerability moments" to sell beauty products.[2] Or consider reputable psychological research suggesting that willpower is a finite resource that can be depleted or replenished throughout the day.[3] 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 publisher. The first report focuses on how the retail giant Target used customer purchase history to determine who among its customers was pregnant, following which Target apparently directed hidden ads related to babies to those customers.[4] A second article describes the "extraordinary" lengths to which food manufactures go to scientifically engineer cravings.[5] Either story alone raises

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1 *See* Rebecca J. Rosen, *Is This the Grossest Advertising Strategy of All Time?*, ATLANTIC (Oct. 3, 2013, 1:46 PM), http://www.theatlantic.com/technology/archive/2013/10/is-this-the-grossest-advertising-strategy-of-all-time/280242/.

2 *See id.*

3 *See, e.g.*, ROY F. BAUMEISTER & JOHN TIERNEY, WILLPOWER: REDISCOVERING THE GREATEST HUMAN STRENGTH 1–5 (2011) (collecting various studies).

4 Charles Duhigg, *Psst, You in Aisle 5*, N.Y. TIMES MAG., Feb. 19, 2012, at 30, 54–55.

5 *See* Michael Moss, ((*Salt* + *Fat*^{2}) / *Satisfying Crunch*) × *Pleasing Mouth Feel* = *A Food*

eyebrows. Taken together, these accounts bring us closer than comfort to the scenario described in the previous paragraph.[6]

Investigative journalists and academics have explored the art and science of persuasion for decades. Vance Packard famously chronicled the ascension of "depth manipulation," a brand of marketing fueled by advances in motivational analysis, in the late 1950s.[7] Although the notorious subliminal advertising experiments of James McDonald Vicary were debunked,[8] media coverage of the use of subliminal advertising reached a fever pitch, and the Federal Communications Commission twice considered if the technique may be against public interest.[9] Research into various methods of persuading consumers continues. 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.[10]

Designed to Addict, N.Y. TIMES MAG., Feb. 24, 2013, at 34; *see also* John Tierney, *To Choose Is to Lose*, N.Y. TIMES MAG., Aug. 21, 2011, at 32, 34 ("When people fended off the temptation to scarf down M&M's [sic] or freshly baked chocolate-chip cookies, they were then less able to resist other temptations.").

6 Furthermore, companies as ubiquitous as Mondelez International, the brand behind Cadbury chocolates and Trident gum, are investigating how to increase impulse buying with digitally-enhanced shelves that detect and respond to the individual aspects of the shopper. *See* Clint Boulton, *Snackmaker Modernizes the Impulse Buy with Sensors, Analytics*, WALL ST. J. CIO J. BLOG (Oct. 11, 2013, 3:13 PM), http://blogs.wsj.com/cio/2013/10/11/snackmaker-modernizes-the-impulse-buy-with-sensors-analytics/.

7 VANCE PACKARD, THE HIDDEN PERSUADERS 11–17 (rev. ed. 1981) (describing the ascension of the "depth approach").

8 *See* Stuart Rogers, *How a Publicity Blitz Created the Myth of Subliminal Advertising*, PUB. REL. Q., Winter 1992–1993, at 12, 12–17 (discussing James Vicary's work).

9 Public Notice Concerning the Broadcast of Information By Means of "Subliminal Perception" Techniques, 39 Fed. Reg. 3714 (Jan. 29, 1974); Public Notice Concerning the Use of "Subliminal Perception" Advertising by Television Stations, 40 F.C.C. 10 (1957). 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." *See* Press Statement of Gloria Tristani, Comm'r, Fed. Commc'ns Comm'n (Mar. 9, 2001) (on file with The George Washington Law Review) (explaining that the Senators believed the Republic National Committee had created ads attempting subliminally to associate Vice President Al Gore with the word "RATS" and that the Commission investigated but ultimately dismissed the allegation).

10 *E.g.*, ELI PARISER, THE FILTER BUBBLE: WHAT THE INTERNET IS HIDING FROM YOU 14–18 (2011); JOSEPH TUROW, NICHE ENVY: MARKETING DISCRIMINATION IN THE DIGITAL AGE 1–2 (2006) [hereinafter TUROW, NICHE ENVY]; JOSEPH TUROW, THE DAILY YOU: HOW THE NEW ADVERTISING INDUSTRY IS DEFINING YOUR IDENTITY AND YOUR WORTH 1–2 (2011) [hereinafter TUROW, THE DAILY YOU]; *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).

Other academics refer to the growing influence of companies over consumers without sustained analysis.[11]

What remains conspicuously missing from this literature is a rigorous account of why and when *leveraging data* against the consumer becomes a problem worthy of legal intervention. We might bristle were a social network to subtly blend our profile picture with that of a company spokesperson to make online ads more attractive.[12] But how does using the consumer's own face to advertise to that specific consumer 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? In other words, when does personalization 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]

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11 *E.g.*, Neil M. Richards, *The Dangers of Surveillance*, 126 HARV. L. REV. 1934, 1955–56 (2013) (noting that "[s]urveillance also gives the watcher increased power to persuade"). 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 noting that personalized persuasion is "manipulative." Tal Z. Zarsky, *Online Privacy, Tailoring, and Persuasion*, *in* PRIVACY AND TECHNOLOGIES OF IDENTITY: A CROSS-DISCIPLINARY CONVERSATION 209, 219–21 (Katherine J. Strandburg & Daniela Stan Raicu eds., 2006).

12 *See* Conference Program, 32nd Annual Advertising and Consumer Psychology Conference: Consumer Psychology in a Social Media World 11 (June 13–15, 2013), http://www.myscp.org/pdf/ACP%20Final%20Schedule.pdf [hereinafter Conference Program, Consumer Psychology in a Social Media World) (describing panel entitled *Visceral Targeting: Using Personalized Face Composites for Implicit Targeted Marketing*); *see also* Jeremy N. Bailenson et al., *Facial Similarity Between Voters and Candidates Causes Influence*, 72 PUB. OPINION. Q. 935, 935–61 (2008). Nothing in a social network's terms of service or privacy policy would stand in the way of this potentially lucrative practice. *See, e.g.*, *Privacy Policy*, INSTAGRAM (Jan. 19, 2013), http://instagram.com/legal/privacy/# ("[W]e 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 . . . ."); *Terms of Use*, INSTAGRAM (Jan. 19, 2013), http://instagram.com/legal/terms/# ("[Y]ou 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 . . . ."). Moreover, in its Terms of Use, Instagram states, "You acknowledge that we may not always identify paid services, sponsored content, or commercial communications as such." *Terms of Use*, *supra*.

13 Richard Craswell and others have explored the line between deceptive and nondeceptive advertising. *See generally* Richard Craswell, *Interpreting Deceptive Advertising*, 65 B.U. L. REV. 657 (1985) [hereinafter Craswell, *Interpreting Deceptive Advertising*]; 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 A. Hoffman, *The Best Puffery Article Ever*, 91 IOWA L. REV. 1395 (2006). These and other accounts, however, do not account for the mediating effects of contemporary technology.

In response to these growing concerns, 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 illustrate how information and design advantages might translate into systematic consumer vulnerability. Therefore, this Article both meaningfully advances the behavioral law and economics literature and harnesses that literature to understand and address the future of advertising.

To develop these two arguments, Part I of this Article discusses the origins and basic implications of market manipulation theory. Part II anticipates the future of market manipulation in the digital age, describing how the mediation of consumers, and the various techniques it allows, stands to generate dramatic asymmetries of information and control between firms and consumers. Part III 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 IV 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. This Part offers two novel interventions?imposing research ethics on companies and forcing firms to offer a paid version of their services that come with added privacy protections?as examples of the regulatory or self-regulatory path consumer protection law might follow to address the coming challenge.

Finally, Part V describes the import of this Article's insights for behavioral economics as a whole and lays out an empirical and theoretical agenda for future research. There is some limited recognition

of the importance of data to behavioral economics already. Cass Sunstein has recently explored the power of more personalized targeting of consumers.[14] Lior Strahilevitz and Ariel Porat, following expressly on the work of Sunstein, Ian Ayres, and George Geis, discuss setting legal defaults that vary by citizen and with context.[15] Hanson and Kysar offered in passing that disclosures could be targeted based on demographics.[16] 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 ORIGINS OF MARKET MANIPULATION THEORY

In a pair of articles published in 1999, Jon Hanson and Douglas Kysar developed a concept they call "market manipulation."[17] 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 market manipulation 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.[18] Rather, to borrow a phrase from Dan Ariely, humans are "predictably irrational."[19] Accordingly, regulations that assume rational behavior may be doomed to fail, whereas appreciating the cognitive limitations and biases citizens and officials face can better

14 *See* Cass R. Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349, 1399 (2011) ("Other default rules are *personalized*, in the sense that they draw on available information about which approach best suits individuals, and potentially even each individual, in the relevant population.").

15 *See* Ariel Porat & Lior Jacob Strahilevitz, *Personalizing Default Rules and Disclosure with Big Data*, 112 MICH. L. REV. 1417, 1421 (2014) (observing that variable legal defaults may be more effective in changing citizen behavior).

16 *See* Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: Some Evidence of Market Manipulation*, 112 HARV. L. REV. 1420, 1564–65 (1999).

17 *See* Hanson & Kysar, *supra* note 16, at 1425; Jon D. Hanson & Douglas A. Kysar, *Taking Behavioralism Seriously: The Problem of Market Manipulation*, 74 N.Y.U. L. REV. 630, 747 (1999).

18 *See* Christine Jolls et al., *A Behavioral Approach to Law and Economics*, 50 STAN. L. REV. 1471, 1474 (1998).

19 *See* DAN ARIELY, PREDICTABLY IRRATIONAL: THE HIDDEN FORCES THAT SHAPE OUR DECISIONS, at xx (2008) ("[Human] irrationality happens the same way, again and again.").

predict legal outcomes and improve policymaking overall.[20] Thus, proponents of "debiasing" believe we can use the law to counter known biases and improve decisionmaking.[21] For example, 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 still leaving individuals technically capable of resisting government intervention if strongly inclined.[22]

In this context, market manipulation is, essentially, nudging for profit. "Once one accepts that individuals systematically behave in nonrational ways," argue Hanson and Kysar, "it follows from an economic perspective that others will exploit those tendencies for gain."[23] The foundation of this theory 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.[24] The result, according to the authors, is an entirely new source of market failure due to the forces of behaviorism.[25] Importantly, firms not only have the capability of engaging 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.[26]

Fifteen years have passed since Hanson and Kysar developed the concept of market manipulation.[27] Today, the theory remains an elegant way to think about a range of consumer problems and is widely

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20 This is particularly true of the many regimes that rely on mandatory disclosure. *See, e.g.*, M. 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); Geoffrey A. Manne, *The Hydraulic Theory of Disclosure Regulation and Other Costs of Disclosure*, 58 ALA. L. REV. 473, 494–97 (2007) (securities); Lauren E. Willis, *Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price*, 65 MD. L. REV. 707, 713–14 (2006) (lending).

21 Christine Jolls & Cass R. Sunstein, *Debiasing Through Law*, 35 J. LEGAL STUD. 199, 200–01 (2006); *see also* Richard P. Larrick, *Debiasing*, *in* BLACKWELL HANDBOOK OF JUDGMENT AND DECISION MAKING 316, 317 (Derek J. Koehler & Nigel Harvey eds., 2007).

22 *E.g.*, RICHARD H. THALER & CASS R. SUNSTEIN, NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS 4–8 (2008); Cass R. Sunstein & Richard H. Thaler, *Libertarian Paternalism Is Not an Oxymoron,* 70 U. CHI. L. REV. 1159, 1161–62 (2003); Richard H. Thaler & Cass R. Sunstein, *Behavioral Economics, Public Policy, and Paternalism: Libertarian Paternalism*, AM. ECON. REV., May 2003, at 175, 175–79.

23 *See* Hanson & Kysar, *supra* note 17, at 635.

24 *See id.* at 637.

25 *See* Hanson & Kysar, *supra* note 16, at 1555.

26 *See* Hanson & Kysar, *supra* note 17, at 726.

27 *See id.*

cited by academics.[28] In practice, however, market manipulation has had only a modest impact on regulatory policy.[29] In 2011, the Federal Trade Commission ("FTC") brought its first case addressing the unfairness of negative option marketing (which exploits status quo bias) against an egregious website with content that bordered on fraud.[30] Other than this case, 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.[31] One reason why market manipulation may not have received sustained scrutiny is that its effects, while pervasive, are limited.[32] 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 proven only marginal to date.

Several trends, each intimately related to data, could dramatically accelerate the use of market manipulation by firms in the coming years. The consumer of the future is a *mediated* consumer—she approaches the marketplace through technology designed by someone else.[33] As a consequence, firms can generate a fastidious record of

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28 *See infra* note 29.

29 The difference between the academic and policy reception is dramatic. A recent Westlaw search revealed that *Taking Behavioralism Seriously*, Hanson & Kysar, *supra* note 17, has been cited 238 times. Of those results, 235 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*, Hanson & Kysar, *supra* note 16, with the Westlaw search revealing 224 citations, 209 of which are in secondary sources.

30 *See generally* FTC v. Willms, No. 2:11-cv-00828-MJP (W.D. Wash. Mar. 6, 2012) (stipulated final judgment and order); *see also* 16 C.F.R § 425 (2014) (imposing requirements on negative option marketing).

31 One example is bid-to-pay auctions, which leverage the endowment effect and optimism bias to generate as high as 500 percent profits on average consumer goods. *See* Jeff Atwood, *Profitable Until Deemed Illegal*, CODING HORROR (Dec. 11, 2008), http://blog.codinghorror.com/profitable-until-deemed-illegal/. If anything, regulators have themselves developed a taste for nudging citizens toward policy goals. *See* Adam Burgess, *'Nudging' Healthy Lifestyles: The UK Experiments with the Behavioural Alternative to Regulation and the Market*, 1 EUR. J. RISK REG. 3, 4 (2012); Michael Grunwald, *How Obama Is Using the Science of Change*, TIME, Apr. 13, 2009, at 28, 29–30.

32 *Cf.* Jolls et al., *supra* note 18, at 1511–12 ("Behavioral analysis predicts that if trades are occurring frequently in a given jurisdiction at terms far from those of the reference transaction, there will be strong pressure for a law banning such trades.").

33 I use the term "mediated" in a practical sense to refer to the fact that consumers literally experience commercial, civic, and personal life through the technology they use, including mobile phones, tables, kiosks, and the like. There is a long-standing, but recently accelerating, surveillance literature that explores the mediating influence of society on subjects in a more theoretical frame. *See, e.g.*, Kevin D. Haggerty & Richard V. Ericson, *The Surveillant Assemblage*, 51 BRIT. J. SOC. 605, 605–06 (2000); Katarina Giritli Nygren & Katarina L. Gidlund, *The Pastoral Power of Technology. Rethinking Alienation in Digital Culture*, 10 TRIPLEC 509, 510–11

their transaction with the consumer and, importantly, personalize every aspect of the interaction.[34] 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.[35] Whereas sellers have always gotten a "feel" for consumers, and although 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.[36]

II. The Mediated Consumer

For a time, consumers transacted with businesses face-to-face; today's consumer 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 everyday appliances, are beginning to have interfaces and connect to a network.[37]

That technology mediates a consumer's interactions with the market has several consequences. The first is that technology captures and retains intelligence on the consumer's interaction with a given firm. Today, consumer interactions leave a record of the consumer's 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 visiting 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 com-

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(2012). Thank you to Julie Cohen for flagging this helpful distinction. This Article self-consciously adopts a technocratic stance which assumes, with the liberal tradition, the existence of a market and of market actors who can take material advantage of one another. *Cf.* Julie E. Cohen, *Irrational Privacy?*, 10 J. Telecomm. & High Tech. L. 241, 245 (2012) (describing "[s]cholarship in the technocratic market-calibration mode").

34 *See infra* Part II.

35 Another consequence, developed in Part II, 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.

36 *See infra* Part II.

37 In a comic book depicting the effect of technology on society, Gérald Santucci estimates that about fifty billion devices will be networked by 2015 into an "Internet of Things." *See* Gérald Santucci, *Foreword* to Alexandra Inst., Inspiring The Internet of Things! 3, 3 (Mirko Presser ed., 2011), *available at* http://www.alexandra.dk/uk/services/publications/documents/iot_comic_book.pdf.

puter or browser the consumer was using.[38] Furthermore, firms might combine the data with public or private information purchased from a third party.[39] Using this compiled and stored information, firms can then run complex algorithms to convert mere behavior into insight (and value).[40]

A second, less-studied consequence of the mediated consumer is that firms can and do design every aspect of the interaction with the consumer. This refers not only to the legal expectations of the transaction?embodied in terms of use, warranties, or other documents sounding essentially in contract?but to both the physical and virtual interface where the interaction occurs. After all, the digital content giant Apple does not travel to a website *the consumer* designed from scratch to sell 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.[41] Atmospherics as a term, however, fails to capture the exquisite control that firms increasingly exert over virtual and physical space.

A third consequence of consumer 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.[42] The difference between normal consumer interaction and in-person solicitation lies in the consumer's inability to adopt a critical frame of mind prior to entering the marketplace, as well as the difficulty of escaping the interaction without rudeness.[43] 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.[44] This trend of firms initiating the

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38 *See* Steven C. Bennett, *Regulating Online Behavioral Advertising*, 44 J. MARSHALL L. REV. 899, 901–04 (2011).

39 *Id.* at 901.

40 *See* Tal Z. 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 (2002–2003); *see also* Ira S. Rubinstein et al., *Data Mining and Internet Profiling: Emerging Regulatory and Technological Approaches*, 75 U. CHI. L. REV. 261, 272–73 (2008) (describing the capabilities of data mining).

41 Hanson & Kysar, *supra* note 16, at 1445–46.

42 *See, e.g.*, 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. Cooling-off Period for Door-to-Door Sales, 37 Fed. Reg. 22934, 22937 (1972) (codified as amended at 16 C.F.R. § 429.1 (2014)).

43 *See id.*; *The Direct Selling Industry*, *supra* note 42, at 920–21.

44 37 Fed. Reg. at 22939 n.44 ("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,

interaction with the consumer will only accelerate as our thermometers, appliances, glasses, watches, and other artifacts become networked into an "Internet of Things."[45]

Despite the concerns raised by these consequences, there are also upsides to consumer mediation. For instance, an extensive record of consumer-firm interaction could make it easier to detect interpersonal fraud and reverse its effects. Firms often use what they learn about consumer habits in order to personalize and otherwise improve their services.[46] Mediation, thus, can empower consumers to protect themselves and police the market.[47] In addition to these identity protections, 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.[48] "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."[49] Like Peppet, Eric Goldman believes in the positive aspects of mediation, arguing that far from disadvantaging consumers, mediation makes possible a kind of "Coasean filter" that could screen out negative content in favor of relevant and helpful commercial messages.[50]

Consumer mediation holds dangers as well. Even general knowledge of consumer psychology, coupled with clever design, can lead to abuse.[51] Busy consumers who purchase digital content on their com-

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where, and how he will present himself to the marketplace."); *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).

45 *See* Dave Evans, Cisco, The Internet of Things: How the Next Evolution of the Internet Is Changing Everything 3 (2011); *see also* Santucci, *supra* note 37, at 3.

46 *See supra* notes 34–40 and accompanying text.

47 *See* Calo, *supra* note 20, at 1041–44 (describing the disclosure technique of "showing" consumers how their data is used, instead of merely telling them how others might use their data).

48 Scott R. Peppet, *Freedom of Contract in an Augmented Reality: The Case of Consumer Contracts*, 59 UCLA L. Rev. 676, 679 (2012).

49 *Id.*; *see also* Strahilevitz, *supra* note 10, at 2029 ("[P]rotecting privacy seems to thwart price and service discrimination while fostering statistical discrimination on the basis of race and gender and lowering production costs.").

50 Eric Goldman, *A Coasean Analysis of Marketing*, 2006 Wis. L. Rev. 1151, 1202–09. Although possible in theory, today's filters are not run for the benefit of consumers and how these filters will be used in the future is unclear. Furthermore, as Goldman acknowledges, "[m]arketers are notorious for finding ways to bypass filters." *Id.* at 1207 n.285.

51 West Point computer scientist Gregory Conti refers to "malicious interfaces" that are the opposite of usable or user-centric. *See* Gregory Conti & Edward Sobiesk, *Malicious Interface Design: Exploiting the User*, *in* Proceedings of the 19th International Conference

puters, tablets, or phones presumably care about how long it takes for the content to download.[52] 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 more quickly.[53] 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.[54] Others have explored how the contemporary practice 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.[55]

Considering the concerns described above, it may be tempting for one to believe that we have seen the full downside of consumer mediation already?that mediation, as a phenomenon, has run its course. The truth is that society is 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 ratch-

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ON THE WORLD WIDE WEB 271, 271–80 (2010), *available at* http://dl.acm.org/citation.cfm?id=1772719. British user experience designer Harry Brignull refers to user interface designs that work against the user as "dark patterns." *See* DARK PATTERNS, http://darkpatterns.org (last visited Aug. 21, 2014).

52 *See* Julius Genachowski, Chairman, Fed. Commc'ns Comm'n, Remarks on the Measuring Broadband America 2012 Report Presentation (July 19, 2012), https://apps.fcc.gov/edocs_public/attachmatch/DOC-315312A1.pdf.

53 Chris Harrison et al., *Faster Progress Bars: Manipulating Perceived Duration with Visual Augmentations*, *in* PROCEEDINGS OF THE SIGCHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 1545, 1545–48 (2010), *available at* http://dl.acm.org/citation.cfm?id=1753556&CFID=391340722&CFTOKEN=55472072 (finding new progress bar reduces perceived duration by eleven percent in subjects).

54 Jesus Diaz, *This Is How Much the New iPhone 4 Signal Bars Have Grown*, GIZMODO (July 15, 2010, 2:03 AM), http://gizmodo.com/5587535/this-is-how-much-the-new-iphone-4-signal-bars-have-grown ("Free tip: If you paint flames on the back of your iPhone 4, it runs 2.3x faster."). Chances are Apple is using what it understands about the psychology of design to substitute illusion for greater quality. 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 Motivation to Gamble and Recruit Win-Related Brain Circuitry*, 61 NEURON 481, 481 (2009).

55 *E.g.*, CASS SUNSTEIN, REPUBLIC.COM 71–73 (2001); *see also supra* note 12 and accompanying text.

eting"; and the third, the move from ends-based 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 1950s to describe the limits people face in making consistently rational decisions.[56] 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.[57] The basic structure of their toil is that of an experimental study. First, the experimenter will form a hypothesis as to how subjects are likely to behave in response to a particular manipulation.[58] Second, the experimenter will test that hypothesis on some number of subjects in a controlled study and, third, perhaps publish the results.[59] Early pioneers—Tversky, Kahneman, Thaler, and others—generated their hypotheses from luck or intuition, revealing one or two at a time the basic building blocks for behavioral economics.[60] Many later studies merely reproduced their results in new contexts,[61] while other scholars tested richly novel hypotheses.[62]

The result of behavioral economic research has been to generate several dozen[63] well-documented ways in which people deviate from

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56 HERBERT A. SIMON, *Rationality and Administrative Decision Making*, *in* MODELS OF MAN: SOCIAL AND RATIONAL 196, 200–01 (1957).

57 *See* Owen D. Jones, *Time-Shifted Rationality and the Law of Law's Leverage: Behavioral Economics Meets Behavioral Biology*, 95 NW. U. L. REV. 1141, 1150–51 & nn.30–32 (2001).

58 *See, e.g.*, Amos Tversky & Daniel Kahneman, *Judgment Under Uncertainty: Heuristics and Biases*, 185 SCI. 1124, 1124 (1974).

59 *See, e.g.*, *id.* at 1124–25.

60 *See, e.g.*, *id.*; Amos Tversky & Daniel Kahneman, *Belief in the Law of Small Numbers*, 76 PSYCHOL. BULL. 105, 105–10 (1971) [hereinafter Tversky & Kahneman, *Belief*]; Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCI. 453, 453–58 (1981).

61 *See* Amitai Etzioni, *Behavioral Economics: Toward a New Paradigm*, 55 AM. BEHAV. SCIENTIST 1099, 1100 (2011) ("The effect demonstrated by [Tversky and Kahneman], which the two scholars labeled *anchoring and adjustment*, has been replicated using a wide variety of stimuli and participants.").

62 *E.g.*, Dan Ariely, *Controlling the Information Flow: Effects on Consumers' Decision Making and Preferences*, 27 J. CONSUMER RES. 233, 233 (2000); George Loewenstein, *Out of Control: Visceral Influences on Behavior*, 65 ORGANIZATIONAL BEHAV. & HUM. DECISION PROCESSES 272, 272 (1996) (exploring effect of "visceral factors" such as hunger, thirst, and sexual desire on decisionmaking).

63 The number of biases consistently discussed by the literature has remained relatively stable since the field began. *Compare* Daniel Kahneman & Amos Tversky, *Prospect Theory: An Analysis of Decision Under Risk*, 47 ECONOMETRICA 263, 263–91 (1979) (discussing approxi-

the rational pursuit of self-interest, including optimism bias, information overload, anchoring, confirmation, and framing.[64] Virtually every bias, meanwhile, comes with a fairly neat (if sometimes contested) explanation regarding the cause of the deviation—in other words, why the person is making the "mistake" described.[65] Explanatory candidates include everything from prospect theory, involving the ways people tend to weigh probability and assess risk,[66] to dual process theory (thinking "fast" and "slow"),[67] to evolutionary biology.[68] For example, with evolutionary biology, Cliff Nass explained 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.[69]

Big data could change this equation. More a way of conceiving of problems and their solutions than a specific technique, big data's methods involve parsing very large data sets with powerful and subtle algorithms in an effort to spot patterns.[70] One classic, often-cited example: imagine if 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.[71] An academic researcher with access to this data could discover situations in

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mately fifteen biases), *with* Rüdiger F. Pohl, *Introduction* to COGNITIVE ILLUSIONS: A HANDBOOK ON FALLACIES AND BIASES IN THINKING, JUDGEMENT AND MEMORY 1, 1 (Rüdiger F. Pohl ed., 2004) (noting that collection surveys twenty-one "cognitive illusions"). Varying definitions of "bias," as well as differing systems of categorization, may lead to very different estimates as to the absolute number of known irrational tendencies. Regardless of the total given in a specific study or article, it is in no way near the *many thousands* this Section contemplates.

64 *See* Hanson & Kysar, *supra* note 17, at 643–87 (reviewing behavioral economic literature).

65 *See, e.g.*, Kahneman & Tversky, *supra* note 63, at 263–92.

66 *See id.* at 280–81; *see also* Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. ECON. BEHAV. & ORG. 39, 41–43 (1980).

67 *See generally* DANIEL KAHNEMAN, THINKING, FAST AND SLOW (2011).

68 *See, e.g.*, CLIFFORD NASS & SCOTT BRAVE, WIRED FOR SPEECH: HOW VOICE ACTIVATES AND ADVANCES THE HUMAN-COMPUTER RELATIONSHIP 3–4 (2005).

69 *See id.*; BYRON REEVES & CLIFFORD NASS, THE MEDIA EQUATION: HOW PEOPLE TREAT COMPUTERS, TELEVISION, AND NEW MEDIA LIKE REAL PEOPLE AND PLACES 12 (1st paperback ed. 1996).

70 For a more detailed definition of big data and an optimistic account of its impact on society, see generally VIKTOR MAYER-SCHÖNBERGER & KENNETH CUKIER, BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK (2013). For a more critical account, see generally Danah Boyd & Kate Crawford, *Critical Questions for Big Data: Provocations for a Cultural, Technological, and Scholarly Phenomenon*, 15 INFO. COMM. & SOC'Y 662 (2012).

71 *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).

which particular populations—for example, black men over thirty-five—were experiencing the same adverse symptoms while taking a certain combination of medicines.[72] Armed with this information, the hospital could recommend to its physicians to prescribe something else to this population, thereby improving health outcomes.[73]

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. In the interim, however, a significant enough negative correlation is likely to speak for itself.[74] Author and technology expert Chris Anderson refers to this phenomenon as "the end of theory."[75] Anderson sees a sea change in the way science is conducted, with scientists pointing to raw numbers to advance research and policy goals, even in the absence of a theoretical explanation for the raw data.[76]

Importantly, although the final data set that the hospital acted on was in relation to a limited group of patients—thirty-five-year-old black males—this does not mean that a computer analyzing the raw data would have found the same pattern if it had *only* analyzed the patient records of the thirty-five-year-old black males *in isolation*. In other words, if all the other patient records—those for children, women, white males, etc.—were removed. It turns out that the hospital needs all the 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, in a sense it *needs* noise from which to make sound.[77]

Corporations, too, have scientists like the ones working for the hospital. A recent article in *The Atlantic* reports that Microsoft employs the second largest number of anthropologists after the United States government.[78] Many corporate scientists will probably con-

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72 *See id.*

73 *See id. But see* Paul Ohm, Response, *The Underwhelming Benefits of Big Data*, 161 U. PA. L. REV. ONLINE 339, 345 (2013), 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).

74 *See, e.g.*, Tene & Polonetsky, *supra* note 71, at 245–46.

75 *See* Chris Anderson, *The End of Theory*, WIRED, July 2008, at 108, 108–09.

76 *See id. But see* Julie E. Cohen, *What Privacy Is For*, 126 HARV. L. REV. 1904, 1920–22 (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 ethically based. *See id.* at 1922–27.

77 That is to say 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. *See, e.g.*, Tene & Polonetsky, *supra* note 71, at 245–46.

78 *See* Graeme Wood, *Anthropology Inc.*, ATLANTIC, Mar. 2013, at 48, 51, *available at* http://www.theatlantic.com/magazine/archive/2013/03/anthropology-inc/309218/.

tinue to be tasked with the old way of looking at consumer behavior: controlled studies or focus groups that leverage the existing state of the behavioral sciences. For example, presumably Microsoft uses its anthropologists to design better software and hardware.[79] Increasingly, however, firms are turning to big data to help them monetize the enormous volume of information their businesses collect, generate, or buy.[80] Moreover, one of the datasets to which firms have access is consumer behavior.[81]

Trouble arises when firms start looking at the consumer behavior dataset to identify consumer vulnerabilities. Emerging methods of big data present a new and vastly more efficient way to identify cognitive bias by attempting to pinpoint profitable anomalies.[82] Rather than hypothesize and then test a promising deviation, as a lab experimenter would, firms can work backward from raw data.[83]

To perform this backward-looking analysis from the data step, this Article proposes that at least two very involved steps would be required. The first step would be to model what a consumer's rational choice would be in a given context: consumers taking every realistic opportunity to maximize their own welfare.[84] The second step would be to analyze consumer transactions by the millions to spot the places in which consumers deviated from the rational model created in the first step.[85] By identifying the factors related to these deviations, the firm can watch for those factors to align again and target the consumer when she is vulnerable. The process is involved, but the payoff is equally big: unless a few hundred researchers working indefinitely can manage to spot every possible consumer bias, this big data process will yield infinitely more ways in which consumers act irrationally. Basically, big data means never having to "Ask Ariely" again.[86]

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79 *See id.*

80 *See, e.g.*, *id.*

81 *See id.* (describing "participant observation," in which corporate anthropologists live among research subjects in order to understand and use consumer behavior for the firm).

82 *See, e.g.*, MAYER-SCHÖNBERGER & CUKIER, *supra* note 66, at 54–61, 123–24 (explaining advances in correlation analysis and describing how Decide.com spots and predicts deviations in pricing).

83 *See, e.g.*, *id.*

84 This process is similar to analyzing the patient records in the hospital illustration to find the normal reaction to drugs A and B. *See supra* notes 71–76 and accompanying text.

85 Similar to identifying all the irregular reactions to drugs A and B through patient records. *See supra* notes 71–76 and accompanying text.

86 *See* ASK ARIELY BLOG, http://www.danariely.com (last visited Aug. 21, 2014). If the result of the big data process is highly individualized, then why is this Section titled "mass production" of bias? Sometimes personalization is the upshot of mass production; for example, when Henry Ford's assembly lines displaced public transportation in favor of a car for each

Modeling "rational" behavior through these two steps would be difficult, and likely infeasible in the long run, because what is rational for one consumer may not be rational for another.[87] For instance, because a young investor may tolerate more risk than an older investor, one would need to know the age of the investor, and likely many other exogenous factors, to analyze whether her investments were welfare-maximizing. Several experts point out, however, 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.[88] Moreover, the firm could also generate individual models for *each consumer* and take a snapshot of the circumstances in which the consumer behaved unexpectedly, and to the firm's advantage.

Not only may these techniques spot profitable deviations more efficiently than laboratory studies, these methods may pinpoint other significant information such as context dependency—identifying if the deviation only occurs at particular times, in particular places, or among particular consumers.[89] Thus, there may be a bias or profitable deviation that only occurs in the morning, in an airport, in the South, or when the background of a website is orange.[90] Furthermore, these techniques may also spot overall prevalence. In science, findings are more meaningful when they pass the threshold of statistical significance.[91] In this context, statistical significance would indicate to firms

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family. *See* Thomas J. Sugrue, *From Motor City to Motor Metropolis: How the Automobile Industry Reshaped Urban America*, AUTOMOBILE AM. LIFE & SOC'Y, http://www.autolife.umd.umich.edu/Race/R_Overview/R_Overview.htm (last visited Aug. 21, 2014).

87 In recognizing a possible critique to this interview-based approach, 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 ("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."). What Easterbrook misses, of course, is that lawyers can and do consult with professionals (e.g., expert witnesses) and colleagues in other disciplines.

88 *See, e.g.*, Varun Chandola et al., *Anomaly Detection: A Survey*, ACM COMPUTING SURVS., July 2009, at 15, 15:2 ("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."). *See generally* Animesh Patcha & Jung-Min Park, *An Overview of Anomaly Detection Techniques: Existing Solutions and Latest Technological Trends*, 51 COMPUTER NETWORKS 3448 (2007) (surveying the anomaly detection literature in computer security context).

89 *Cf.* Quentin Hardy, *Bizarre Insights From Big Data*, N.Y. TIMES BITS BLOG (Mar. 28, 2012, 8:17 PM), http://bits.blogs.nytimes.com/2012/03/28/bizarre-insights-from-big-data/ (listing revelations from pattern spotting in large datasets).

90 *See, e.g.*, *id.*

91 *See* STEPHEN T. ZILIAK & DEIRDRE N. MCCLOSKEY, THE CULT OF STATISTICAL SIGNIF-

when they can make money from the deviation. 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.[92] 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. As long as the firm can exploit the deviation for its benefit, the firm will not care.

B. Disclosure Ratcheting

Information has played various parts over the years in the story of behavioral economics. In some cases, information 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 decisionmaking. For example, "information overload" causes consumers to rely on heuristics or rules of thumb, shortcuts which are sometimes faulty.[93] The phenomenon of "wear out," which suggests consumers tune out messages they see too often, renders product warnings less effective.[94] Moreover, consumer perceptions change with the insertion of information that should be irrelevant but is not treated as such by the mind.[95] 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 individual that are entirely unrelated to the anchor.[96]

Although it has played the role of villain, in other contexts, 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.[97] 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.[98]

ICANCE: HOW THE STANDARD ERROR COSTS US JOBS, JUSTICE, AND LIVES 1 (2008) ("For the past eighty years it appears that some of the sciences have made a mistake by basing decisions on statistical 'significance.'").

92 *See supra* notes 71–76 and accompanying text.

93 *See* Howard Latin, *"Good" Warnings, Bad Products, and Cognitive Limitations*, 41 UCLA L. REV. 1193, 1211–15 (1994) (describing the information overload phenomenon).

94 *See* Jolls & Sunstein, *supra* note 21, at 212 (describing "wear-out" as a phenomenon "in which consumers learn to tune out messages that are repeated too often").

95 *See* Tversky & Kahneman, *supra* note 58, at 1128.

96 *See id.* ("In many situations, people make estimates by starting from an initial value that is adjusted to yield the final answer.").

97 *See, e.g.*, Jolls & Sunstein, *supra* note 21, at 199–200.

98 Optimism bias refers to the belief that one is somehow at less risk of experiencing a negative outcome than the general population. *Id.* at 204. The example of breast cancer risk comes from the work of law and behavioral economics pioneers. *See id.* at 210.

Many behavioral critiques of law end up recommending information-based interventions. To illustrate: a recent, exhaustive indictment of the regulatory strategy of mandatory disclosure, though firmly grounded in the limitations of consumers, firms, and officials to perform effective cost-benefit analyses, nevertheless ended on a positive note regarding the power of "advice."[99] Another example is the concept of "visceral notice"—notice that is experienced instead of heard or read—as a viable alternative to today's inadequate disclosure regimes.[100] 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.[101]

Most recently, scholars have begun to cast information as the *victim*. Researchers and others have realized that people's biases lead them to give up more personal information than they would absent the manipulation.[102] 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.[103] 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.[104]

To expand on the premise of information as the victim, behavioral economists focusing on privacy issues—particularly Alessandro Acquisti and his 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.[105] One experiment suggests that making a

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99 Omri Ben-Shahar & Carl E. Schneider, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647, 746 (2011).

100 *See generally* Calo, *supra* note 20, at 1027.

101 *See* THALER & SUNSTEIN, supra note 22, at 6–8 (where "Humans" refers to actual people, as opposed to the perfectly rational "Econs" that populate traditional economic models).

102 *See, e.g.*, Alessandro Acquisti & Jens Grossklags, *What Can Behavioral Economics Teach Us About Privacy?*, *in* DIGITAL PRIVACY: THEORY, TECHNOLOGIES, AND PRACTICES 363, 363–79 (Alessandro Acquisti et al. eds., 2008).

103 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. *See* Fred Stutzman et al., *Silent Listeners: The Evolution of Privacy and Disclosure on Facebook*, 4 J. PRIVACY & CONFIDENTIALITY, no. 2, 2012, at 7, 17, http://repository.cmu.edu/jpc/vol4/iss2/2/. From that point on, disclosure began steadily to climb again. *See id.*

104 *See* Acquisti & Grossklags, *supra* note 102, at 363–79.

105 *See id.*

website more casual in appearance, as opposed to formal, makes subjects more likely to admit to controversial behavior such as cheating or drug use.[106] Another study 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).[107] Yet other experiments have evidenced the manner in which reciprocity—the questioner offering up information first—increases the likelihood that a subject will answer a personal question, even when the questioner is a computer.[108] For example, the computer might begin with, "I was made in 2007," before prompting the subject with the question, "When were you born?"[109]

If one examines the data of any of these studies closely, however, she 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.[110] Everyone has cognitive biases, but not everyone has the *same* biases or experiences them to the same degree.[111] Anchoring may have a great effect on one individual and none on another. One person may be abnormally intolerant of information overload whereas another can read an entire law review article like this one in a single sitting.

All of these observations are testable. For example, a study could prime the subject with a high number and then ask for the subject to estimate the population of France; later, the same study could prime the subject with a low number and ask for an estimation of the population of England. Assuming proper controls, the study would reveal the extent of the subject's anchoring bias relative to other participants.[112] Furthermore, experiments could attempt to use *general* biases to get at *specific* bias more directly. One of the things individuals

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106 *See* Leslie K. John et al., *Strangers on a Plane: Context-Dependent Willingness to Divulge Sensitive Information*, 37 J. CONSUMER RES. 858, 863–68 (2011).

107 Laura Brandimarte et al., *Misplaced Confidences: Privacy and the Control Paradox*, 4 SOC. PSYCHOL. & PERSONALITY SCI. 340, 340–47 (2013).

108 *See, e.g.*, B.J. Fogg & Clifford Nass, *How Users Reciprocate to Consumers: An Experiment That Demonstrates Behavior Change*, *in* CHI '97 EXTENDED ABSTRACTS ON HUMAN FACTORS IN COMPUTING SYSTEMS 331, 331–32 (1997), *available at* http://dl.acm.org/citation.cfm?id=1120419&CFID=391340722&CFTOKEN=55472072; S. Parise et al., *Cooperating with Life-Like Interface Agents*, 15 COMPUTERS HUM. BEHAV. 123, 123–42 (1999).

109 *See, e.g.*, Parise et al., *supra* note 108, at 130–31.

110 *See* John et al., *supra* note 106, at 863–68; *see also* Brandimarte et al., *supra* note 107, at 340–47.

111 *See, e.g.*, John et al., *supra* note 106, at 863–68.

112 *See* Tversky & Kahneman, *supra* note 58, at 1128–30.

might be nudged into disclosing about themselves, perhaps inadvertently, is the set of biases that most profoundly afflict them. 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.[113]

Meanwhile, a large company, operating at scale, is not limited by the forms and formalities of laboratories. Companies can—through A/B testing—experiment on thousands of consumers at once.[114] Through the use of methods such as sweepstakes, a company might have the resources to try to incentivize consumers to answer questions about themselves 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, alternatively, the firm could sell a list of consumers with a particular bias to the highest bidder[115]—a tactic that this Article labels disclosure "ratcheting"—which could result in even greater data promiscuity than what society experiences today.

C. Means-Based Targeting

Does "behavioral targeting" already exist in advertising? 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.[116] And this phenomenon is not just online: increasingly, companies are mak-

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113 *Cf.* Fogg & Nass, *supra* note 108, at 331–32; Parise et al., *supra* note 108, at 123–42.

114 A/B testing refers to the iterative method of using randomized controlled experiments to design user interfaces, products, 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*, WIRED, May 2012, at 176.

115 One can already buy so-called "sucker lists" on the open market. These are people?the elderly, for instance?who analysts have classified as vulnerable. *See* Karen Blumenthal, *How Banks, Marketers Aid Scams*, WALL ST. J., July 1, 2009, at D3.

116 The "What They Know" series from *The Wall Street Journal* has, in particular, illustrated the extent of online tracking. This section of *The Wall Street Journal*'s website collects all articles and information related to privacy concerns and tracking information. *What They Know*, WALL ST. J., http://online.wsj.com/public/page/what-they-know-digital-privacy.html (last visited Aug. 21, 2014). For a more specific example, see Jennifer Valentino-Devries & Jeremy Singer-Vine, *They Know What You're Shopping For*, WALL ST. J. (Dec. 7, 2012), http://online.wsj.com/news/articles/SB10001424127887324784404578143144132736214.

ing connections between consumers' online and offline behavior and building interest profiles that combine both data sets.[117] 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.[118] Today, some offline businesses follow consumers around the mall using their cell phone signals or other methods similar to the way online businesses track online users.[119] Consumers currently live in a world in which television commercials differ by household and billboards change with the radio habits of drivers.[120]

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.[121] The bulk of the tracking that one reads about goes to determining the likely preferences of a given consumer so as to show her the product or service, the ad for which is already in inventory, that seems the most likely to resonate.[122] 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 particular category for ad-matching purposes.[123]

Relevance is, however, 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.[124] Rather, for any given ad,

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117 *See* TUROW, NICHE ENVY, *supra* note 10, at 18 ("Major developments in the use of database marketing at the retail level are paralleling the developments in digital media . . . .").

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

119 *See, e.g.*, *id.*

120 *See, e.g.*, Robert Salladay, *High-Tech Billboards Tune In to Drivers' Tastes: Roadside Signs Coming to Bay Area Listen to Car Radios, Then Adjust Pitch*, S.F. CHRON., Dec. 22, 2002, at A1.

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

122 The industry calls this practice "interest-based advertising." *See* NETWORK ADVER. INITIATIVE, 2013 NAI CODE OF CONDUCT 9 (2013), *available at* http://www.networkadvertising.org/2013_Principles.pdf.

123 *See generally* Julia Angwin, *The Web's New Gold Mine: Your Secrets*, WALL ST. J., July 31–Aug. 1, 2010, at W1.

124 *See generally* Maurits Kaptein & Steven Duplinsky, *Combining Multiple Influence Strategies to Increase Consumer Compliance*, 8 INT'L J. INTERNET MARKETING & ADVERTISING 32, 33–51 (2013); Maurits Kaptein & Dean Eckles, *Heterogeneity in the Effects of Online Persuasion*,

the techniques these researchers are investigating would find the exact right *pitch* for that person.[125] 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.[126] Others bristle at following the herd but instead find themselves reacting to scarcity or another frame.[127] 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 called *persuasion profiling*.[128] Therefore, for the natural follower, the ad for toothpaste will refer to it as a "best selling" item.[129] Whereas, for the scarcity-phobic, the same ad will ominously read "while supplies last."[130]

To supplement the concerns raised by the persuasion profiling line of studies, a distinct line of research recognizes that consumers have different "cognitive styles," or ways of thinking and engaging with the world.[131] Some people are "impulsive," for instance, others "deliberative."[132] Some think visually whereas others really need to read text.[133] Accordingly, most websites will resonate more with some users than with others.[134] These researchers—among them John Hauser and Glen Urban—develop ways to test the subject's cognitive style and then dynamically alter the layout of the test website accordingly—a technique they label "morphing."[135] The research looks at various factors such as when to morph and whether repeated morphs

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26 J. INTERACTIVE MARKETING, 176, 176–88 (2012); Maurits Kaptein et al., *Means Based Adaptive Persuasive Systems*, *in* PROCEEDINGS OF THE SIGCHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 335–44 (2011), *available at* http://dl.acm.org/citation.cfm?id=1978990. *See also* Yin-Hui Cheng et al., *The Effect of Companion's Gender on Impulsive Purchasing: The Moderating Factor of Cohesiveness and Susceptibility to Interpersonal Influence*, 43 J. APPLIED SOC. PSYCHOL. 227, 227–36 (2013).

125 *See* Kaptein & Eckles, *supra* note 124, at 179–83.

126 *See id.* at 177.

127 *See id.*

128 *See id.* at 187; *see also* Maurits Kaptein & Dean Eckles, *Selecting Effective Means to Any End: Futures and Ethics of Persuasion Profiling*, *in* PROCEEDINGS OF THE 5TH INTERNATIONAL CONFERENCE ON PERSUASIVE TECHNOLOGY 82, 82–93 (Thomas Ploug et al. eds., 2010), *available at* http://dl.acm.org/citation.cfm?id=2164027.

129 *See* Kaptein & Eckles, *supra* note 124, at 177.

130 *Id.*

131 *See, e.g.*, John R. Hauser et al., *Website Morphing*, 28 MARKETING SCI. 202, 202–06 (2009).

132 *Id.*

133 *Id.*

134 *See id.* at 202.

135 *See id.*

are worthwhile.[136] 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.[137]

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 both 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 decisionmaking on a previously unimaginable scale. Thus, firms will increasingly be in the position to *create* suckers, rather than waiting for one to be born. But is this really a problem? And if so, what do we do about it? The next two Parts tackle these questions in turn.

III. A Response to Skeptics

In his 1997 book *Fear of Persuasion*, John Calfee offers a new perspective on advertising and regulation.[138] Regardless of the title, Calfee's perspective is actually an old one: we should not regulate advertising.[139] Indeed, skeptics, like Calfee, have met each wave of persuasion panic with a variety of often sensible and compelling critiques.[140] Such skeptics 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.[141] 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.[142]

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136 *Id.* at 207–09.

137 *See id.* at 211.

138 John E. Calfee, Fear of Persuasion: A New Perspective on Advertising and Regulation (1997).

139 *Id.* at 86–95 (advocating industry self-regulation).

140 *See, e.g.*, John M. Church, *A Market Solution to Green Marketing: Some Lessons from the Economics of Information*, 79 Minn. L. Rev. 245, 246–50 (1994); Dean K. Cherchiglia, Note, *Changing Channels in Broadcast Regulation: Leaving Television Advertising to Containment by Market Forces*, 34 Case W. Res. L. Rev. 465, 465–70 (1984).

141 For example, some question whether contemporary advertising is effective at generating demand at all—though this claim seems to be in tension with contemporary advertising's purported benefits and the sheer amount of money that is spent on marketing. *See* Tamara R. Piety, *"A Necessary Cost of Freedom"? The Incoherence of* Sorrell v. IMS, 64 Ala. L. Rev. 1, 19 n.102 (2012).

142 *See, e.g.*, Calfee, *supra* note 138, at 110 ("Hence advertising regulation has an inherent tendency to go too far—just like censorship of political and artistic speech does."); *see also infra* Part III.C.

This Part anticipates and addresses similar skepticism against digital market manipulation. Section A responds to the argument that digital market manipulation represents at most a 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 manipulation differs from what came before, that does not mean that it generates any real harm. Addressing this critique is particularly important because harm tends to be a threshold question for consumer regulation (e.g., under the FTC's unfairness standard) and litigation.[143] Finally, 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.

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 this Article has described? Hanson and Kysar accompanied their work with an article devoted to evidencing the phenomenon of market manipulation.[144] Although this Article speculates to a degree, there are early signs.

A recent patent filed by Pitney Bowes—a 5.3 billion dollar company with 29,000 employees—describes a "system and method for generating targeted advertising that utilizes behavioral economics marketing experts to generate advertising."[145] Some researchers involved in experiments like the ones described in this Part have since been hired by companies whose lifeblood is digital advertising.[146]

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143 *See* Int'l Harvester Co., 104 F.T.C. 949 app. at 1070, 1073 (1984) (FTC Policy Statement on Unfairness) ("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).

144 *See* Hanson & Kysar, *supra* note 16, at 1424–25.

145 Method & Sys. for Creating Targeted Adver. Utilizing Behav. Econ. Mktg. Experts, U.S. Patent Application No. 13/353,529 (filed Jan. 19, 2012) (Pitney Bowes Inc., assignee).

146 For instance, Dean Eckles, co-author of several papers on persuasion profiling, now works on the "data science team" of the social network Facebook. *See* Dean Eckles, Curriculum Vitae, *available at* http://deaneckles.com/Dean_Eckles_CV.pdf. 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* Kaptein & Eckles, *supra* note 128, at 82–93.

Moreover, as previously discussed, unscrupulous firms already trade "sucker" lists of vulnerable consumers.[147] If this Article is correct about the basic feasibility of the techniques addressed in Part II, then the strongest argument that this change is emerging relates to 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.[148]

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."*[149]

People have been denouncing selling for generations. Sometimes vehemently; for example Mark Twain once 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."[150] Every decade or so, a popular book, study, or article sounds the alarm over developments in marketing.[151] 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 at all, because it constitutes a form of persuasion that is dangerous to consumers or society. A skeptic may say that digital market manipulation does not actually increase the 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.

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147 *See supra* note 115 and accompanying text.

148 *See* Hanson & Kysar, *supra* note 17, at 726 ("[M]anipulation of consumers by manufacturers is not simply a possibility in light of the behavioral research but . . . an inevitable result of the competitive market.").

149 *Ecclesiastes* 1:9.

150 Letter from Mark Twain to J.H. Todd (Nov. 20, 1905), *available at* http://www.lettersofnote.com/2010/01/youre-idiot-of-33rd-degree.html.

151 *See, e.g.*, WILSON BRYAN KEY, SUBLIMINAL SEDUCTION: AD MEDIA'S MANIPULATION OF A NOT SO INNOCENT AMERICA 1–5 (Signet 1974) (describing subliminal techniques of advertising); WILSON BRYAN KEY, THE AGE OF MANIPULATION: THE CON IN CONFIDENCE, THE SIN IN SINCERE 7–34 (Madison Books 1992) (describing subliminal techniques of advertising); SUSAN LINN, CONSUMING KIDS: THE HOSTILE TAKEOVER OF CHILDHOOD 1–10 (2004) (criticizing practices of marketing to children); PACKARD, *supra* note 7, at 1–7 (criticizing the ascendance of "depth marketing"); PARISER, *supra* note 10, at 14–18 (criticizing the "filter bubble"); TUROW, THE DAILY YOU, *supra* note 10, at 88–110 (criticizing the sorting of consumers into "targets" or "waste").

This Article draws an important distinction: digital market manipulation combines, for the first time, a certain kind of *personalization* with the intense *systemization* made possible by mediated consumption. Obviously some pitches and advertisements can be personalized even outside the world of mediated consumption—a good salesperson will get a sense of her customer. The brand of the customer's watch may tell the salesperson what the customer can afford to pay, and the customer's way of talking may reveal his level of intelligence. With these observations, 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.[152]

Meanwhile, much of marketing is heavily systematized. Automated or semiautomated commercial speech dwarfs regular and electronic mail.[153] Robots call at all hours.[154] 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.[155]

What society has not seen, at least not at scale, is the combination of both these realms—the systemization of the personal. In normal consumer interactions, 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.

Like the salesperson, today's online advertising platforms also face limits. Being primarily "ends-based," online advertisers hope

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152 *See* Jessica M. Choplin et al., *A Psychological Investigation of Consumer Vulnerability to Fraud: Legal and Policy Implications*, 35 LAW & PSYCHOL. REV. 61, 62 (2011) ("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."); Wenxia Guo & Kelley J. Main, *The Vulnerability of Defensiveness: The Impact of Persuasion Attempts and Processing Motivations on Trust*, 23 MARKETING LETTERS 959, 962 (2012) (describing how a clever salesperson can exploit a consumer's very defensiveness to increase the likelihood of a sale).

153 *See* Debin Liu, *The Economics of Proof-of-Work*, 3 I/S: J.L. & POL'Y FOR INFO. SOC'Y 335, 336 (2007) (describing prevalence and mechanisms of spam).

154 *See* Jason C. Miller, Note, *Regulating Robocalls: Are Automated Calls the Sound of, or a Threat to, Democracy?*, 16 MICH. TELECOMM. & TECH. L. REV. 213, 214–17 (2009) (describing the prevalence and mechanisms of automated or "robo" calls).

155 *See* Warner & Sloan, *supra* note 121, at 57–59 (describing the industry).

they have matched the right ad to the right person.[156] 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 than to $10[157]) or, at most, the vulnerabilities firms know for a particular segment of the population (e.g., that children prefer bulbous to angular shapes[158]). Online retailers can change the digital environment of transactions, but absent the emerging techniques this Article addresses, retailers must do so all at once and for everyone.[159] Accordingly, every change loses some set of consumers whose cognitive style, bias, reservation price, or other idiosyncrasy is not represented.[160]

The systemization of the personal may prove different enough from prior selling practices that regulators or courts will seek limits on digital market manipulation, even if they would be hesitant to curtail age-old sales practices like interpersonal flattery. Or, at the very least, digital market manipulation may just *feel* different enough to justify intervention.[161] Even if one accepts that the systemization of the personal differs in kind from previous selling practices, however, which specific digital market manipulation practices the law should constrain remains unclear. 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

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156 *See supra* Part II.C.

157 Hanson and Kysar call this phenomenon "price blindness." Hanson & Kysar, *supra* note 16, at 1441–42.

158 *See generally* LINN, *supra* note 151 (describing the use of child psychology in advertising).

159 *See supra* Part II.C.

160 *See supra* Part II.C. 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 30 and accompanying text.

161 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 18, at 1510–17. The authors use the practice of scalping tickets to an event as one such example. *Id.* at 1513; *see also* M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29, 29–33 (2011), http://www.stanfordlawreview.org/online/drone-privacy-catalyst (arguing that society's visceral reaction to surveillance drones may change privacy law in ways that previous, readily analogous technologies did not).

consumers are not aligned.[162] 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.[163] People selling houses typically employ agents who are paid a commission.[164] Those agents often work with other agents to help find buyers and will split the commission.[165] 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.[166] Meanwhile, the incentives of the buyer agent 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.[167] In the face of this imbalance and incentive structure, some jurisdictions impose upon buyer agents a duty of fair dealing toward the buyer.[168]

Of course, this raises yet a further question: when are the 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 yields previously unknown counter-indications. Few hospitals or patients want the 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 individuals might say that the consumer's and the firm's interest were aligned in this context, while other would disagree. 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 behaves when pushed, specifically so as to extract social surplus.[169] For example, imagine a firm

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162 *Cf.* Hoffman, *supra* note 13, at 1443–44 (discussing the role of incentives in the context of puffery).

163 *See* Brent T. 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).

164 *See id.* at 315–16.

165 *See id.*

166 *See id.* at 318–19.

167 *See id.* at 319.

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

169 *See supra* Part I.

that changes the price of flowers because it knows *this* purchaser will pay more because she just had a fight with her spouse. The purchaser would obviously rather pay less.

Under this limiting principle, 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 before. Courts and legislatures have to decide what makes a contract term "unconscionable,"[170] what kinds of enrichments are "unjust,"[171] when influence is "undue,"[172] what constitutes "fair dealing,"[173] when strategic behavior becomes "bad faith,"[174] when interest rates become "usury,"[175] and on and on. 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 time; not every change, however, occasions regulation. The market has winners and losers. Thus, 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.[176] Like is the case with line drawing generally, courts look for harm routinely?damages being an element of almost all torts and some crimes.[177] Regulators look for harm as well, as the FTC requires harm to proceed with a claim of unfairness under section 5of its animating statute.[178]

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,

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170 BLACK'S LAW DICTIONARY 1663–64 (9th ed. 2009).

171 *Id.* at 1678.

172 *Id.* at 1666.

173 *Id.* at 675.

174 *Id.* at 159.

175 *Id.* at 1685.

176 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 (2d ed. 1859) ("[T]he only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others.").

177 *See, e.g.*, 18 U.S.C. § 1030(a)(5)(C) (2012) ("[A]nd 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'" (quoting Los Angeles v. Lyons, 461 U.S. 95, 101–02 (1983))).

178 *See supra* note 143 and accompanying text.

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 because the practice leads to inefficient or otherwise objectionable economic outcomes.[179] As a case study, the authors explore the product liability field.[180] In this context, Hanson and Kysar point to the example of a firm that manipulates a consumer to underestimate the risks of a given product, as well as to the harder case of the firm manipulating the consumer to demand more of a risky product than is optimal.[181] Thus, for example, the 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.[182] In reality, the authors maintain, accidental death by shooting is the greater threat.[183]

Digital market manipulation only accelerates Hanson and Kysar's concerns. Generally speaking, the techniques described in the Article up until now may lead to excessive consumption of junk food, cigarettes, and other so-called demerit goods—a reasonably well-theorized harm.[184] The harder question, perhaps, is what happens in situations 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) would be to remark that these techniques are

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179 Hanson & Kysar, *supra* note 16, 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.").

180 *See id.* (noting that the paper provides evidence that "manufacturers do manipulate consumer perceptions and preferences, consistent with the hunches of early products liability scholars"). *See generally* Hanson & Kysar, *supra* note 17.

181 Hanson & Kysar, *supra* note 16, at 1459–60, 1463 ("We could provide many more examples. In each case, manufacturers are apparently attempting to dull consumer perceptions of the environmental risks posed by their products.").

182 *Id.* at 1463.

183 *Id.* at 1464.

184 *See, e.g.*, Richard A. Musgrave, *Merit Goods*, *in* 3 THE NEW PALGRAVE: A DICTIONARY OF ECONOMICS 452–53 (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. *See id.*

not inefficient merely because the party with the greater information and power extracts the social surplus.[185]

Relatively mainstream economic arguments point to yet another way in which digital market manipulation causes or exacerbates economic harms. In his 2012 book *Seduction by Contract: Law, Economics, and Psychology in Consumer Markets*, Oren Bar-Gill explores the systematic application of behavioral economics to the drafting of contracts.[186] 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 an outsized burden on the least sophisticated consumers.[187] Similarly, Russell Korobkin argues that courts should expand the role of unconscionability in contracts where drafts exploit bounded rationality.[188] Furthermore, the work of mathematician Andrew Odlyzko strongly suggests unhealthy effects of dynamic price discrimination.[189] 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.[190]

Of course, the picture will be mixed: some consumers could, in theory, be charged less because of a smaller willingness to pay. Con-

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185 *See, e.g.*, LOUIS PHLIPS, THE ECONOMICS OF PRICE DISCRIMINATION 1 (1983) ("[G]enerally, discriminatory prices [are] required for an optimal allocation of resources in real life situations." (emphasis omitted)).

186 *See generally* OREN BAR-GILL, SEDUCTION BY CONTRACT: LAW, ECONOMICS, AND PSYCHOLOGY IN CONSUMER MARKETS (2012).

187 *Id.* at 1–3. 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. *See supra* Part II.B. 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: consumers are increasingly able to compare price, quality, and other terms in real-time, leading to potentially greater freedom in contracting. *See* Peppet, *supra* note 48, at 679–80.

188 *See, e.g.*, Russell Korobkin, *Bounded Rationality, Standard Form Contracts, and Unconscionability*, 70 U. CHI. L. REV. 1203, 1234–35, 1290, 1294 (2003); *see also* Woodrow Hartzog, *Website Design as Contract*, 60 AM. U. L. REV. 1635, 1664 (2011) (noting that the very design of a website might be frustrating enough to consumer choice as to be deemed unconscionable).

189 *See, e.g.*, Andrew Odlyzko, *Privacy, Economics, and Price Discrimination on the Internet*, *in* ECONOMICS OF INFORMATION SECURITY 187, 208 (L. Jean Camp & Stephen Lewis eds., 2004).

190 *Cf.* Amanda Conley & Laura Moy, Paying the Wealthy for Being Wealthy: Why We Should Care About Information Privacy Even If We Have "Nothing to Hide" (July 25, 2012) (unpublished manuscript) (on file with The George Washington Law Review) (arguing that price and offer discrimination may exacerbate economic inequality). Moy and Conley arguably go too far; economic inequality is a complex phenomenon with many causes. Still, the authors make an interesting point.

sider 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.[191] 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.[192] 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.[193] Thus, at a minimum, digital market manipulation would occasion behavior by one or more market participants that generates externalities and decreases overall market efficiency.

2. Privacy harm

Imagine a consumer traveling to Amazon.com for the first time. Amazon, the online retailing giant, places a file on the consumer's computer of which the consumer is not aware. The purpose of this hidden file is to track how many times the consumer visits Amazon's website.[194] Each time the consumer visits, the fact of the visit (among other things) gets stored on an Amazon server. After a certain number of visits, and again unbeknownst to the consumer, Amazon decides that the consumer must be a regular customer. As a consequence, Amazon starts to charge the consumer higher prices for the same products.[195] The consumer can choose to buy the goods or

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191 *Cf. infra* notes 204–09 and accompanying text (discussing avoidance surveillance and privacy costs); *see also* Strahilevitz, *supra* note 10, at 2030 (describing steps sophisticated consumers may take to thwart price discrimination). This point developed in conversation with Christopher Yoo and Alessandro Acquisti.

192 *See* Jan Whittington & Chris Jay Hoofnagle, *Unpacking Privacy's Price*, 90 N.C. L. REV. 1327, 1328–29 (2012) (discussing how consumers' expectations of social networking services result in unanticipated costs after joining such a service).

193 *See, e.g.*, *Caveat Emptor.com*, ECONOMIST, June 30, 2012, at 12 (canvassing steps consumers can take to avoid dynamic price discrimination).

194 *See Amazon.com Privacy Notice*, AMAZON.COM, http://www.amazon.com/gp/help/customer/display.html?nodeId=468496 (last updated Mar. 3, 2014) ("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.").

195 Amazon actually implemented such a practice for a brief time in 2000. *See* JONATHAN ZITTRAIN, THE FUTURE OF THE INTERNET AND HOW TO STOP IT 204 (2008). More recently, *The*

not at the new price. Despite the consumer's choice, what is the impact on her privacy?

Distilling privacy harm is famously difficult.[196] Privacy harm reduces down, in most cases, to whatever negative consequences flow from a privacy violation.[197] The question of what constitutes a privacy violation is generally tied to control over personal information, with the logical consequence that increased collection and processing of data is usually linked to a greater privacy threat.[198] 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.[199]

A previous article offers 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.[200] This theory holds that privacy harm is comprised of two distinct but interrelated categories.[201] The first category is subjective in that it is internal to the person experiencing the harm.[202] In this context, subjective privacy harm is the perception of unwanted observation, in other words the unwelcome mental states such as anxiety or embarrassment that accompany the belief of an individual (or group) that he is being watched or monitored.[203]

The second element is objective in the sense of involving external forces being brought to bear against a person or group because of

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Wall Street Journal has uncovered extensive evidence of offers and prices changing from user to user by other companies. *See* Jennifer Valentino-Devries et al., *Websites Vary Prices, Deals Based on Users' Information*, WALL ST. J., Dec. 24, 2012, at A1.

196 *See* Daniel J. Solove, *Conceptualizing Privacy*, 90 CAL. L. REV. 1087, 1088–93 (2002) (canvassing theories of privacy harm and finding every single one either over- or under-inclusive).

197 *See, e.g.*, M. Ryan Calo, *The Boundaries of Privacy Harm*, 86 IND. L.J. 1131, 1132 (2011).

198 *See, e.g.*, A. 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.").

199 *See* Paul M. Schwartz, Commentary, *Internet Privacy and the State*, 32 CONN. L. REV. 815, 820 (2000) ("The leading paradigm on the Internet and in the real, or off-line world, conceives of privacy as a personal right to control the use of one's data.").

200 *See generally* Calo, *supra* note 197.

201 *Id.* at 1144–47.

202 *Id.*

203 *Id.* at 1144.

information about them.[204] Thus, this category is the unanticipated or coerced use of personal information in a way that disadvantages the individual.[205] An example of 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*,[206] in which officers drew a drunk-driving suspect's blood without his consent and introduced it at trial.[207] Note that "personal" in this theory relates specifically to the individual harmed, not that the harm can be used to identify the person. The subjective and objective categories are related 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.[208]

Building on this theory, 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 truly knows how or when. In the digital market manipulation context, 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 represents a "morph" to her cognitive style aimed at upping her instinct to purchase or is just a figment of her imagination. With this experience in mind, this Article agrees with Daniel Solove's labeling the contemporary experience of the data subject as Kafkaesque.[209] Whatever it is called, however, the experience is not a comfortable one.

In addition to these subjective harms, digital market manipulation also creates objective privacy harm when 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

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204 *Id.* at 1147-51.

205 *Id.* at 1148.

206 Schmerber v. California, 384 U.S. 757 (1966).

207 *Id.* at 758-59.

208 Calo, *supra* note 197, at 1143.

209 Daniel J. Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 STAN. L. REV. 1393, 1419 (2001).

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.[210] 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.[211] The firm would not even have to change its written policies: they are general enough *even today* to accommodate most of the practices identified previously in this Article.[212] Further, 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.[213]

Knowing specifically who the subject of digital market manipulation happens to be—her name, for instance—may facilitate information sharing between firms or across both online and offline contexts. Although this may be helpful in this limited sense, 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—that her experience is changing in subtle and material ways to her disadvantage.[214] A firm does not need to know specifically who the consumer is to extract rent by exploiting her biases or creating a persuasion profile, only that the observed behavior is that of the same person buying the good or visiting the website.[215] Hence, the ongoing anonymization wars may end up having less relevance when it comes to digital market manipulation.[216]

At least two concessions are important at this juncture. The first is that, where the consumer does not have any idea that her informa-

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210 *See supra* Part II.

211 *See* Calo, *supra* note 20, at 1050-55.

212 *See, e.g.*, *supra* notes 3-5 and accompanying text.

213 *See supra* Part III.B.1. Peter Swire makes an analogous point in which he includes the costs associated with self-protection, entitled "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. Q. 461, 475 (1999).

214 *See supra* notes 196–98 and accompanying text.

215 *See supra* Part II.A.

216 *Compare* Paul Ohm, *Broken Promises of Privacy: Responding to the Surprising Failure of Anonymization*, 57 UCLA L. REV. 1701, 1703-04 (2010) (arguing that de-anonymizing is too routine for privacy statutes to exempt anonymized data from their ambit), *with* Jane Yakowitz, *Tragedy of the Data Commons*, 25 HARV. J.L. & TECH. 1, 3-4 (2011) (asserting that the dangers of de-anonymization are overstated, and the benefits of data mining understated).

tion will be used to tailor prices, pitches, or other aspects of her experience, she does not suffer subjective privacy harm.[217] In today's society, the chances are very good that consumers will *eventually* sense, hear, or read that something is amiss,[218] but if that is not the case, this Article concedes that the individual 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.[219] Many of the ways firms tailor content or experiences may be aimed at delighting consumers.[220] It would be highly surprising, however, were every use to which a company placed intimate knowledge of its consumer in fact a win-win.

3. Vulnerability as Autonomy Harm

None of the previous arguments attempt to assert that digital market manipulation, at least in the hands of firms, is 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.[221] But to the extent that digital market manipulation influences individuals subliminally, or else depletes limited resources of willpower, our instincts may still lead people to speak in terms of harms to individual or collective autonomy.[222] For example, one might say that aspects of digital market manipulation encroach upon "play," in other words "the modality through which situated subjects advance their own contingent goals, constitute their communities, and imagine their possible futures."[223] In another case, one might echo Neil Richards's recent stance that corporate no less than government surveil-

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217 *See* Calo, *supra* note 197, at 1159–61 (discussing the problem of the "hidden Peeping Tom").

218 *See supra* note 116 and accompanying text.

219 Calo, *supra* note 197, at 1150–51.

220 *See, e.g.*, Zarzky, *supra* note 11, at 209.

221 *See* Richards, *supra* note 11, at 1935 (discussing the public-private divide in digital surveillance); *cf.* Robert M. Cover, *Violence and the Word*, 95 YALE L.J. 1601, 1601 (1986) ("Legal interpretation takes place in a field of pain and death." (footnote omitted)).

222 *See, e.g.*, JULIE E. COHEN, CONFIGURING THE NETWORKED SELF: LAW, CODE, AND THE PLAY OF EVERYDAY PRACTICE 57 (2012) (describing how increased surveillance can lead to coordinated behavior that bends to the digital gaze instead of eliciting resistance).

223 *Id.*

lance "affects the power dynamic between the watcher and the watched."[224] Or, alternatively, one might assert that tailored content provides third parties with "powerful tools of persuasion" that implicate autonomy in some sense.[225]

Although one may make any of these assertions, the notion of digital market manipulation, and particularly its grounding in behavioral economics, leads to a more concrete conclusion. The trouble with autonomy arguments, which pervade the privacy literature, is that drawing lines around the concept of autonomy is very difficult in at least two ways.[226] First, there is no stable, much less uncontroverted, definition of autonomy in moral or political theory.[227] Some scholars reject the notion of autonomy altogether.[228] Second, not every incursion on human will is problematic. Not every impulse purchase, upsell, or emotional pitch threatens consumer autonomy in any deep sense.[229] 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.[230]

Behavioral economics, however, is not concerned with autonomy as a political concept so much as the more material construct of irrationality—the measurable departures from the self-interested course

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224 Richards, *supra* note 11, at 1953.

225 Zarzky, *supra* note 11, at 219–20.

226 *See id.* at 219 n.19 ("Autonomy, somewhat like privacy, eludes a clear definition.").

227 *See* John Christman, *Autonomy in Moral and Political Philosophy*, STAN. ENCYCLOPEDIA PHIL., http://plato.stanford.edu/entries/autonomy-moral/ (last updated Feb. 25, 2011) ("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.").

228 *See, e.g.*, J.B. SCHNEEWIND, THE INVENTION OF AUTONOMY: A HISTORY OF MODERN MORAL PHILOSOPHY 3–5 (8th prtg. 2008) (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. *See, e.g.*, Marina Oshana, *How Much Should We Value Autonomy?*, SOC. PHIL. & POL'Y, July 2003, at 99, 99, *available at* http://journals.cambridge.org/action/displayFulltext?type=1&pdftype=1&fid=191526&jid=SOY&volumeId=20&issueId=02&aid=191525 ("[T]he focus of this essay is on the phenomenon . . . of being 'blinded' by the ideal of autonomy. What happens if we value autonomy too much?").

229 *See, e.g.*, Craswell, *Interpreting Deceptive Advertising*, *supra* note 13, at 665–80.

230 *See, e.g.*, *id.* at 663, 678. Craswell proposes the following standard for deceptive advertising: "*An advertisement is legally deceptive if and only if it leaves some consumers holding a false belief about a product, and the ad could be cost-effectively changed to reduce the resulting injury.*" *Id.* at 678; *see also* Hoffman, *supra* note 13, at 1404 ("Almost every scholarly discussion of false-advertising puffery cases bemoans the doctrine's incoherent aspects.").

that autonomous subjects generally follow.[231] It is not clear why firms would ever want to confront the fully autonomous consumer capable of maximizing her own self-interest, potentially at the cost of the firm's bottom line.[232] 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.[233]

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 does vulnerable mean in the consumer context, after all, except that the relevant population will not act in its best interest? In its purest 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.[234] A given consumer may not be vulnerable most of the time and will act rationally in her own interest.[235] 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—she may prove vulnerable for a short window.[236] Therefore, 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.[237]

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231 *See* Etzioni, *supra* note 61, at 1100 (describing behavioral economics and its challenge to the dominant assumptions of traditional economics, i.e., "assumptions that focus on rational actors, seeking to optimize their utility").

232 *See supra* Part I (describing firm incentives in the market manipulation context).

233 *See supra* Part II (analyzing how firms can use the digital world to precisely exploit vulnerabilities).

234 *See supra* Part II.A. Part IV deals with solutions to these problems, but one must note that a more contextual understanding of vulnerability could help curb abuse in this context. For example, 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*, INT'L J. FEMINIST APPROACHES TO BIOETHICS, Spring 2009, at 121, 129.

235 *See, e.g.*, BAUMEISTER & TIERNEY, *supra* note 3, at 1–5 (describing vulnerability studies).

236 Recent work speaks of willpower as a finite resource, one that can be exhausted by a hard day of decisionmaking. For a recent and accessible review of the literature, see generally *id.*

237 *See supra* Part II.C.

To be clear, this Article's argument is predicated on two commitments. First, that autonomy is defined in the consumer context as the absence of vulnerability or the capacity to act upon the market in the consumer's self-interest. Second, that consumer vulnerability generally is something the law should care about?an assumption for which there is much support.[238] The advancement in this Article is to observe that intervention may be justified not only where a consumer is already vulnerable, and firms are taking advantage, but also?and indeed a fortiori?where the firm is leveraging what it knows about the consumer in order to purposefully render that specific consumer vulnerable.

C. Free Speech Trump Card?

Thus far, this Article has countered the arguments that digital market manipulation is not new and, therefore, not harmful. In addition to this critique, skeptics might make a third observation: firms have a free speech right to select and execute their message. Therefore, according to such an argument, although the nature of persuasion may be changing and some might see one or more harms in the new approach, the law cannot possibly curtail this activity in a manner consistent with the First Amendment. Any such interference by the government would 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. In this way, 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, the subject here is commercial marketing, not political speech. The application of big data to politics and electioneering, as recent reporting trends evidence, is a major engine behind the changing face of persuasion.[239] Laws affecting political

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238 There are special protections in place, for instance, for the elderly, children, pregnant women, and for other "vulnerable" populations. *See, e.g.*, Children's Online Privacy Protection Act of 1998, 15 U.S.C. §§ 6501–6506 (2012) (regulating "unfair and deceptive acts and practices in connection with collection and use of personal information from and about children on the Internet"); 29 U.S.C. § 2612 (2012) (entitling employees to leave in the case of birth of a child, adoption of a child, or a serious health condition of the employee or one of the employee's immediate family members); 42 PA. CONS. STAT. ANN. § 9711(d)(17) (West 2007) (enhancing criminal penalties if victim is pregnant).

239 *See generally, 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., June 23, 2013, at 22 (chronicling the rise of data-driven campaigning and the migration of campaign staffers to advertising firms following the election).

speech, however, will be subject to strict scrutiny, whereas this argument assumes that a court will consider all facets of digital market manipulation commercial speech[240]—recognizing that a skeptic may find this a big assumption in its own right.[241] That said, some of the arguments that follow, particularly the discussion regarding 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 would be to cut the practice off at the source. After all, each of the techniques and harms previously described in this Article relies on personal (if not personally identifiable) information about consumers.[242] By limiting or conditioning the collection of such information by firms, regulators could limit market manipulation at the activity level.[243] As Neil Richards observes, "[a] wide variety of rules operate, directly or indirectly, to restrict access to information without raising First Amendment issues."[244] A simple example is trespass: even the press, mentioned by name in the Constitution, cannot break into your house to investigate an important story.[245] Another is antiwiretapping laws, one of which the Supreme Court upheld against a First Amendment challenge in *Bartnicki v. Vopper*.[246] Taking into account these examples, one can 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.

Although enacting such a limiting statute bears consideration, it turns out not everyone agrees that limiting information collection can avoid First Amendment scrutiny where the purpose behind the collection is speech. In 2008, for instance, the Newspaper Association of America filed comments with the Federal Trade Commission in which

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240 *See* Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y., 447 U.S. 557, 561–64 (1980) (distinguishing commercial from political speech and laying out the standard of review).

241 The Supreme Court had the chance to expand or narrow the definition of commercial speech in *Nike, Inc. v. Kasky*, a case involving a corporation coming to its own defense against allegations of labor abuse. Nike, Inc. v. Kasky, 539 U.S. 654, 656–58 (2003). The Court declined to implement such an expansion over several dissents. *Id.* at 665–84.

242 *See supra* Part II.

243 *Cf.* Steven Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1, 1–2 (1980) (providing a classic discussion of the role of "activity level" in tort).

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

245 *Id.* at 1188.

246 Bartnicki v. Vopper, 532 U.S. 514, 517–18 (2001).

it asserted a First Amendment right on behalf of news outlets to track consumers for the purpose of targeting ads to them.[247] A variety of prominent academics also make this argument in one form or another, among them liberal First Amendment scholar Robert O'Neil.[248]

The most recent and sustained case for the proposition that data is *itself* speech is that of Jane Yakowitz Bambauer.[249] 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.[250] Bambauer criticizes *Dietemann v. Time, Inc.*,[251] 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).[252] Instead, she offers *U.S. West, Inc. v. FCC*[253] from the Tenth Circuit and the recent Supreme Court case of *Sorrell v. IMS Health Inc.*[254] as examples of cases in which a court properly recognized that data can be speech.[255] *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,[256] whereas *IMS Health* involved how pharmaceutical companies could use prescription data to market to doctors.[257]

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247 Comments of the Newspaper Association of America to the FTC In the Matter of Proposed Online Behavioral Advertising Privacy Principles (Apr. 11, 2008) (on file with the George Washington Law Review).

248 *See* ROBERT M. O'NEIL, THE FIRST AMENDMENT AND CIVIL LIABILITY 74–90 (2001); *see also* Richards, *supra* note 244, at 1161–62 (listing examples).

249 *See generally* Jane Bambauer, *Is Data Speech?*, 66 STAN. L. REV. 57 (2014).

250 *See id.* at 58–64. 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 63. She goes on, however, to adopt Seana Shiffrin's "thinker-based" approach for triggering free speech scrutiny nearly verbatim and declines to comment on the level of scrutiny that should apply to data as speech. *See id.* at 83, 88, 104–106 (citing Seana Valentine Shiffrin, *A Thinker-Based Approach to Freedom of Speech*, 27 CONST. COMMENT. 283 (2011)).

251 Dietemann v. Time, Inc., 449 F.2d 245 (9th Cir. 1971).

252 *Id.* at 248–50; Bambauer, *supra* note 249, at 77–78, 85–86.

253 U.S. West, Inc. v. FCC, 182 F.3d 1224 (10th Cir. 1999).

254 Sorrell v. IMS Health Inc., 131 S. Ct. 2653 (2011).

255 Bambauer, *supra* note 249, at 71–74.

256 *U.S. West, Inc.*, 182 F.3d at 1229–30.

257 *IMS Health Inc.*, 131 S. Ct. at 2659.

Bambauer's argument is lucid, novel, and engaging; yet, it has the feel of a zoetrope, spinning static case law in a certain light to create the illusion of forward motion. *Dietemann* is not a well-written opinion, but that does not make it wrongly decided. The best reading of *Dietemann* is as a case concerning the scope of consent?a well-understood concept of tort law.[258] A landowner may consent to entry for one purpose, such as therapy or discussion, but not to another, such as video or audio recording.[259] The Supreme Court says this almost exactly in the Fourth Amendment context in *Florida v. Jardines*,[260] 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 the house to knock on his door.[261] *U.S. West* and *IMS Health*, meanwhile, involved information already in the possession of the speaker[262] or subject to discriminatory conditions that trigger scrutiny even for unprotected speech.[263] These cases 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[264] involves the right to photograph a government official.[265] These precedents deal with true collection of information.[266] The is-

258 *See* Jack K. Levin & Lucas Martin, *Scope of Consent*, 75 AM. JUR. 2D *Trespass* § 75 (2007) ("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." (footnote omitted)).

259 *See id.* Alternatively, one might say that society is prepared to accept Dietemann'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.").

260 Florida v. Jardines, 133 S. Ct. 1409 (2013).

261 *Id.* at 1415–16 ("The scope of a license—express or implied—is limited not only to a particular area but also to a specific purpose.").

262 U.S. West, Inc. v. FCC, 182 F.3d 1224, 1229 (10th Cir. 1999).

263 Sorrell v. IMS Health Inc., 131 S. Ct. 2653, 2663–64 (2011) ("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, 505 U.S. 377, 382–85 (1992) (prohibiting viewpoint discrimination even for otherwise proscribable categories of speech such as "fighting words").

264 Bambauer, *supra* note 249, at 82–83, 84 n.117.

265 *See, e.g.*, Glik v. Cunniffe, 655 F.3d 78, 79 (1st Cir. 2011) (videotaping the police in public); Pomykacz v. Borough of W. Wildwood, 438 F. Supp. 2d 504, 510–13 (D.N.J. 2006) (photographing the mayor in public).

266 *See Glik*, 655 F.3d at 79; *Pomykacz*, 438 F. Supp. 2d at 510–13.

sue 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.[267]

Assume, however, that one answers the "coverage" question in the affirmative and says that all aspects of digital market manipulation are subject to the same commercial speech analysis that applies to other advertisements.[268] Short of viewpoint discrimination, the Court has repeatedly clarified that no protection attaches to misleading speech in this context.[269] The Court is not talking here of fraud—in the sense of a material misrepresentation of fact—but only a tendency to mislead.[270] 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 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.[271] A consumer who receives an ad highlighting the limited supply of a 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.[272] Such a practice does not just tend to mislead; misleading is the entire point.

What if 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*.[273] In 1977, the Supreme Court struck down an Arizona law prohibiting advertising by lawyers on commercial speech grounds in a famous case called *Bates v. State Bar of Arizona*.[274] The *Bates* Court expressly reserved the question of whether in-person so-

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267 *Cf.* Richards, *supra* note 244, 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.").

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

269 *See, e.g.*, Cent. Hudson Gas & Elec. Corp. v. Pub. Serv. Comm'n of N.Y., 447 U.S. 557, 566 (1980).

270 *See* Robert Post, *The Constitutional Status of Commercial Speech*, 48 UCLA L. REV. 1, 38–40 (2000).

271 *See* Conference Program, Consumer Psychology in a Social Media World, *supra* note 12, at 11.

272 *See supra* Part II.C.

273 Ohralik v. Ohio State Bar Ass'n, 436 U.S. 447 (1978).

274 Bates v. State Bar of Ariz., 433 U.S. 350, 383–84 (1977).

licitation would be subject to the same scrutiny.[275] A year later, in *Ohralik*, the Court decided that it would not: "In-person solicitation is as likely as not to discourage persons needing counsel from engaging in a critical comparison of the 'availability, nature, and prices' of legal services . . . ."[276] As such, in-person solicitation "may disserve the individual and societal interest, identified in *Bates*, in facilitating 'informed and reliable decisionmaking.'"[277] The Court thought "it hardly need be said that the potential for overreaching is significantly greater when a lawyer, a professional trained in the art of persuasion, personally solicits an unsophisticated, injured, or distressed lay person."[278]

Lawyers are probably more persuasive than the average population; it is one skill taught in law school. One should question, however, 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).[279] Moreover, the *Ohralik* Court also noted that people in need of legal services may be vulnerable.[280] But the very purpose of digital market manipulation is to render consumers vulnerable by fostering irrational behavior.[281] 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."[282]

Perhaps the distinction lies not in the seller's credentials, but in the fact that the lawyer or salesman is there in-person.[283] A hospital room is neutral territory, one that the lawyer cannot overly influence. The firm's encounter with the mediated consumer takes place in an environment the firm designed from scratch for that very encounter.[284]

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275 *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").

276 *Ohralik*, 436 U.S. at 457–58 (quoting *Bates*, 433 U.S. at 364). This Article reads Robert Post to suggest that a better way to conceive of misleading speech is with reference "not to the content of speech, but to the structural relationship between a speaker and her audience." Post, *supra* note 270, at 38. Either way, the protection afforded commercial speech will not apply.

277 *Ohralik*, 436 U.S. at 458 (quoting *Bates*, 433 U.S. at 364).

278 *Id.* at 464–65.

279 *See supra* notes 115, 146 and accompanying text.

280 *Ohralik*, 436 U.S. at 465.

281 *See supra* Part II.B.

282 *Ohralik*, 436 U.S. at 464 nn.22–23.

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

284 *See supra* notes 37–45 and accompanying text.

Also of interest to the *Ohralik* Court was "one of the fundamentals in [the consumer's] role as an informed purchaser, the decision as to when, where, and how he will present himself to the marketplace."[285] But this role too is on its way out.[286] 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.[287] This reality will only accelerate in a world of "wearable" computers, or in which our appliances and other objects have interfaces and Internet connections.[288]

The final difference is that, notwithstanding *Citizens United v. FEC*,[289] 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.[290] Mediating technologies such as computers, the argument asserts, cannot engage in this sort of social persuasion and hence present less of a danger.

In actuality, the opposite is true. For instance, research by design psychologist B.J. Fogg shows that people react to social persuasion by computers the same as real people.[291] Individuals respond to virtual flattery, for instance, and feel the need to return the kindness of software.[292] 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.[293] 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.

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285 *Ohralik*, 436 U.S. at 464 n.23 (internal quotation marks omitted).

286 *See, e.g.*, Tanzina Vega, *Ad Texts, Tailored to Location*, N.Y. TIMES, Feb. 28, 2011, at B6.

287 *See id.*

288 *See* Bill Wasik, *Try It On*, WIRED, Jan. 2014, at 90; Mark Prigg, *Samsung Confirms It Is 'Investing Heavily' in Wearable Computers to Take on Google Glass and Apple's Rumoured iWatch*, DAILY MAIL ONLINE (July 9, 2013, 11:40 AM), http://www.dailymail.co.uk/sciencetech/article-2358924/Samsung-confirms-investing-heavily-wearable-computers-takes-Google-Glass-Apples-rumoured-iWatch.html.

289 Citizens United v. FEC, 558 U.S. 310 (2010). In *Citizens United v. FEC*, the Court found inter alia that corporations constitute associations of individuals for purposes of the First Amendment. *Id.* at 342–65.

290 *See supra* note 42.

291 B.J. FOGG, PERSUASIVE TECHNOLOGY: USING COMPUTERS TO CHANGE WHAT WE THINK AND DO 103–05 (2003).

292 *Id.*

293 *Id.* at 6–7.

IV. Breaking the Cycle

If history is any guide, society should expect advancements in the art and science of persuasion to continue to trigger periodic concern. Whether the change involves subliminal advertising, "neuromarketing,"[294] or digital market manipulation, it seems selling cannot evolve without sitting poorly in some quarters. Sometimes there is real harm associated with new ways to sell. This Article is not, ultimately, about whether new or stronger rules are appropriate and, if they are, how exactly to fashion them. This Article leaves that to others or to future work. Rather, this project is about evidencing how a problem regulators have managed to ignore is likely to accelerate to the point where intervention is inevitable. This Part nevertheless briefly canvases the options these regulators will have and offers a few creative solutions based on the original suggestions of Hanson and Kysar around how to address market manipulation.

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[295]—is not sustainable. Doing nothing will continue to expand the trust gap between consumers and firms[296] and, depending on one's perspective, could do irreparable harm to consumers 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 emerging technology—is the high risk of unintended consequences.[297] Poorly drafted restrictions could slow

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294 For a definition of neuromarketing, as well as a clever discussion of its intersection with commercial speech doctrine, see generally Marisa E. Main, *Simply Irresistible: Neuromarketing and the Commercial Speech Doctrine*, 50 Duq. L. Rev. 605 (2012).

295 Roman law imposed wide-ranging duties of good faith (*bonae fidei*). *See* 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.

296 The 2013 Edelman Trust Barometer shows that of more than 31,000 respondents, only nineteen percent trust business leaders to make ethical and moral decisions. *Edelman Trustbarometer: 2013 Annual Global Study*, Edelman (Jan. 20, 2013), http://www.edelman.com/trust-downloads/global-results-2/ (showing results on slide 30 of the presentation). 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). *Id.* at slide 12.

297 *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)

innovation by imposing unmanageable risk and could serve to select technologic winners and losers.[298] As discussed previously, outright bans or aggressive restrictions could face serious First Amendment headwinds.[299] This is not to say that top-down regulation is impossible, only difficult.

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.[300] The mass production of bias, disclosure ratcheting, persuasion profiling, and morphing all require access to large consumer data sets or specific consumer details.[301] The information has to come from somewhere (or someone). Requiring better anonymization or security is not a true solution, since the harms of digital market manipulation do not rely on the person being identified or her information stolen.[302] "Obscurity" mostly protects peer interactions?the mediated consumer is never really hidden from the firm.[303] 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.[304]

Using stronger privacy laws to cut data off at its source presents its own set of difficulties. Obviously manipulating consumers is not the only, nor the primary, use to which firms will put consumer data. Data helps firms improve existing products and develop the indispensable services of tomorrow.[305] Data is necessary to combat various kinds of fraud and sometimes to police against one set of consumers

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(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); Cass R. Sunstein, *Administrative Substance*, 1991 DUKE L.J. 607, 627 (critiquing command-and-control regulation).

298 *See* Hirsch, *supra* note 297, at 33–37.

299 *See supra* Part III.C.

300 *See supra* Part II.A.

301 *See supra* notes 73–81 and accompanying text.

302 *See id.*

303 *See generally* Woodrow Hartzog & Frederic Stutzman, *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).

304 *See* FED. TRADE COMM'N, PRIVACY ONLINE: FAIR INFORMATION PRACTICES IN THE ELECTRONIC MARKETPLACE 27–28 (2000), *available at* http://www.ftc.gov/sites/default/files/documents/reports/privacy-online-fair-information-practices-electronic-marketplace-federal-trade-commission-report/privacy2000text.pdf.

305 *See, e.g.*, *Privacy Policy*, GOOGLE (Mar. 31, 2014), http://www.google.com/policies/pri-

abusing another.[306] Regulators are rightfully concerned about the effects of cutting off data flows on innovation.[307] Telling services what data they can and cannot collect, meanwhile, creates pragmatic line-drawing problems that regulators may not be well-suited to answer.[308]

These issues are not limited to privacy. The FTC, through enforcement of the Federal Trade Commission Act,[309] polices against all manner of offensive business practices.[310] Significant, perhaps infeasible changes to the agency's authority would be needed to tackle digital market manipulation. Hanson and Kysar in passing,[311] and Matthew Edwards at length,[312] 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.[313] 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.[314] The FTC has limited resources and reliably pursues complaints only against very bad or very big players.[315] Firms can also approach the mediated

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vacy/ (stating data collection is necessary because it enables Google to develop new and improve existing products).

306 For instance, the online auction website eBay uses data to police against shill bidding, i.e., where an auctioneer bids on his own items in order to drive up other bids. *Shill Bidding Policy*, EBAY, http://pages.ebay.com/help/policies/seller-shill-bidding.html (last visited Aug. 22, 2014).

307 *See* Hirsch, *supra* note 297, at 33–37.

308 *Cf.* Hoffman, *supra* note 13, at 1440 (describing similar problems with deceptive advertising).

309 Federal Trade Commission Act, 15 U.S.C. §§ 41–58 (2012).

310 *See id.*

311 *See* Hanson & Kysar, *supra* note 16, at 1556 (expressing skepticism that the FTC would be able to police against market manipulation with its existing tools).

312 *See generally* Matthew A. Edwards, *The FTC and New Paternalism*, 60 ADMIN. L. REV. 323, 324–25 (2008) (illustrating the various challenges the FTC would encounter were it to try to bring claims based on behavioral economics).

313 Cliffdale Assocs., Inc. 103 F.T.C. 110 app. at 174 (1984) (FTC Policy Statement on Deception) (defining deception).

314 Int'l Harvester Co., 104 F.T.C. 949 app. at 1070, 1073 (1984) (FTC Policy Statement on Unfairness) (defining unfairness).

315 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 P. Swire, *Elephants and Mice Revisited: Law and Choice of Law on the Internet*, 153 U. PA. L. REV. 1975, 1978–79 (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. *See* Marcia Hofmann, *Federal Trade Commission Enforcement of Privacy*, *in* Proskauer on Privacy § 4:1 (Kristen J. Mathews ed., 2013) (regularly updated summary of FTC privacy enforcement).

consumer anytime and anywhere, such that regulators would have to protect or empower the consumer at all times and everywhere.[316]

Mandatory disclosure may have a role. Some of the very same techniques described in Part II of this Article might be pressed into the service of better, more efficient notice. Additionally, as Richard Craswell most recently argued, the optimal level of disclosure is usually something greater than none.[317] Yet, there are also reasons to doubt the efficacy of notice in 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 efficacy.[318] Moreover, to the extent notice is about changing behavior,[319] some studies suggest that telling a subject about a manipulation does not necessarily reduce its impact.[320]

Hanson and Kysar perform a similar exercise in seeking to domesticate the original problem of market manipulation and settle on a place where traditional and behavioral law and economics tend to converge: the importance of *incentives*.[321] Personalization, too, becomes problematic when the incentives of the consumer and the firm are not aligned.[322] 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 and head off abuse.[323] Having updated the theory on market manipulation for the digital age in Parts II and III, this Part begins to update the way incentive-based measures might also help address *digital* market manipulation. What follows, therefore, 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.

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316 *See, e.g.*, Edwards, *supra* note 312, at 353–69.

317 *See* Richard Craswell, *Static Versus Dynamic Disclosures, and How Not to Judge Their Success or Failure*, 88 WASH. L. REV. 333, 347–48 (2013).

318 *See* Calo, *supra* note 20, at 1065–68.

319 Arguably notice is about conveying information, whereas nudging is about changing behavior. *See* Ryan Calo, *Code, Nudge, or Notice?*, 99 IOWA L. REV. 773, 775–78 (2014).

320 For instance, patients might be reticent to ignore the advice of doctors who have disclosed a conflict of interest for fear of insinuating corruption. *See* George Loewenstein et al., *The Limits of Transparency: Pitfalls and Potential of Disclosing Conflicts of Interest*, 101 AM. ECON. REV. (PAPERS & PROC.) 423, 424 (2011).

321 *See, e.g.*, Hanson & Kysar, *supra* note 16, at 1553–57.

322 *See supra* notes 160–70 and accompanying text.

323 *See* Hanson & Kysar, *supra* note 16, at 1553–57; *see also* Hoffman, *supra* note 13, at 1443–45 (endorsing an incentive-based approach to puffery regulation).

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 . . . ?"*[324]

In the nineteen-seventies, the United States Department of Health, Education, and Welfare commissioned eleven individuals, including two law professors, to study the ethics of biomedical and behavioral science and issue detailed recommendations.[325] The resulting Belmont Report—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.[326] The Report emphasized informed consent—a mainstay of privacy, healthcare, and other legal contexts.[327] In recognition of the power dynamic between experimenter and subject, however, the Report highlighted additional principles of "beneficence" and "justice."[328] Beneficence refers to minimizing harm to the subject and society while maximizing benefit—a kind of ethical Learned Hand Formula.[329] Justice prohibits unfairness in distribution, defined as the undue imposition of a burden or withholding of a benefit.[330] 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.[331]

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324 EVGENY MOROZOV, TO SAVE EVERYTHING, CLICK HERE: THE FOLLY 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 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 analyze the observation from a different direction. When firms study consumers scientifically for gain, why should scientific norms not apply?

325 NAT'L COMM'N FOR THE PROTECTION OF HUMAN SUBJECTS OF BIOMEDICAL & BEHAVIORAL RESEARCH, THE BELMONT REPORT: ETHICAL PRINCIPLES AND GUIDELINES FOR THE PROTECTION OF HUMAN SUBJECTS OF RESEARCH (1978) [hereinafter BELMONT REPORT].

326 *Id.* 1–2.

327 *See* Ben-Shahar & Schneider, *supra* note 99, at 657–65 (listing several dozen examples of health, privacy, and other laws that require informed consent).

328 *See* BELMONT REPORT, *supra* note 325, at 4.

329 *See id.*

330 *See id.*

331 44 Fed. Reg. 23,192 (Apr. 18, 1979).

Today, any academic researcher who conducts 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.[332] The researcher must justify her study in advance to an Institutional Review Board ("IRB") comprised of peers and structured according to specific federal regulations.[333] In contrast, a private company that conducts 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.[334]

Subjecting companies to the strictures of the Belmont Report and academic institutional 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 and that is setting aside the many criticisms of IRBs in their original context as plodding or skewed.[335] Still, a largely internal method to realign incentives between firm-scientists and consumer-subjects would be to follow the path of the behavioral and social science community in the wake of twentieth-century abuses.

The thought experiment considering such a solution is simple enough: the FTC, 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.[336] 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 ac-

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332 *See id.* at 23,193.

333 *See id.* at 23,195–96.

334 *Cf.* MOROZOV, *supra* note 324, at 148; Main, *supra* note 294, at 625 ("Traditional methods of marketing research have not been subject to Institutional Review Board ("IRB") oversight, because they are not usually viewed as experimentation . . . ."); Ohm, *supra* note 73, at 345 (suggesting that medical research should be conducted in accordance to the "Common Rule" and other human subject guidelines).

335 *See* Charles W. Lidz & Suzanne Garverich, *What the ANPRM Missed: Additional Needs for IRB Reform*, 41 J.L. MED. & ETHICS 390, 390 (2013) ("IRBs have always come under considerable criticism. Some have critiqued IRBs for using important resources inefficiently . . . . Others have critiqued the inconsistency of review of multi-site projects.").

336 *See generally* BELMONT REPORT, *supra* note 325.

cording to predetermined rules.[337] 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, Stanford Law School sent a delegation to Beijing, China, to discuss 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 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.[338]

Considering the example of the Chinese Internet companies, 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. Where applicable, however, such an arrangement could reorient the consumer from being a product to being a client.[339] This in turn would interrupt the incentive for market manipulation, digital or otherwise?assuming the

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337 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* MAYER-SCHÖNBERGER & CUKIER, *supra* note 70, at 180–82.

338 Of course, these companies have other problems. *See* Anupam Chander, *How Censorship Hurts Chinese Internet Companies*, ATLANTIC (Aug. 12, 2013, 12:21 PM), http://www.theatlantic.com/china/archive/13/08/how-censorship-hurts-chinese-internet-companies/278587/.

339 *Cf.* Webster, *supra* note 44, at 598 (citing PHILIP M. NAPOLI, AUDIENCE ECONOMICS: MEDIA INSTITUTIONS AND THE AUDIENCE MARKETPLACE 2–3 (2003)) (distinguishing between markets in which media is sold to audiences and markets where audiences are sold to advertisers). A recent study by Juniper Networks found that free apps were between 300 and 400 percent more likely to track users than paid ones. *See* Daniel Hoffman, *Exposing Your Personal Information—There's an App for That*, JUNIPER NETWORKS (Oct. 30, 2012, 2:54 PM), http://forums.juniper.net/t5/Security-Mobility-Now/Exposing-Your-Personal-Information-There-s-An-App-for-That/ba-p/166058.

arrangement were adequately policed by the government or the market.

Some research suggests that few consumers would take a firm up on this opportunity.[340] 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.[341] Services such as Facebook, Twitter, and LinkedIn have become arguably indispensable economic, social, and civic tools for many citizens. Society would have to address, perhaps through a 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.[342] These concerns already exist today with the advent of paid services that help protect the affluent from reputational harm, but could be augmented in a paid-option regime.[343]

Again, this Article does 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 society might take a page (*the* page) from law and economics, as Hanson and Kysar do,[344] and give serious consideration to a solution set aimed at changing the underlying incentives.

V. Taking Data Seriously

The field of behavioral economics is now decades old;[345] yet it continues to yield novel insights. For example, a handful of scholars have begun to focus on the possibility that consumers and citizens do not have the exact same biases or hold those biases to the same degree.[346] In a contemporary article, Lior Strahilevitz and Ariel Porat discuss how the government might vary default rules by person to

340 *See, e.g.*, Mary Ellen Gordon, *The History of App Pricing, and Why Most Apps Are Free*, Flurry (July 18, 2013), http://www.flurry.com/bid/99013/The-History-of-App-Pricing-And-Why-Most-Apps-Are-Free (noting that when consumers are given a choice between an advertisement free app or an app with even a nominal onetime fee, consumers overwhelmingly choose the advertisement infused free version).

341 *See, e.g.*, Jan A.G.M. van Dijk, The Deepening Divide: Inequality in the Information Society 1 (2005).

342 *Cf. id.* 1–8.

343 *Cf. id.*

344 *See* Hanson & Kysar, *supra* note 16, at 1553–57.

345 *See, e.g.*, Tversky & Kahneman, *Belief*, *supra* note 60, at 105.

346 *See, e.g.*, Porat & Strahilevitz, *supra* note 15, at 1418–22.

make nudges more effective.[347] Despite this small advancement, the few forays into the personalization of behavioral economics have barely uncovered the tip of the iceberg. This Article has explored how and why data and design could change the face of market manipulation to the point that it strains consumer protection law.[348] The impact of systematic personalization on behavioral economics is broad indeed and calls for future research.

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.[349] Sunstein and Thaler respond to the general concern that exploiting citizen bias is manipulative by invoking the "publicity principle" of John Rawls—the notion that officials should not engage in an activity that they would not be comfortable discussing in public.[350] Setting aside any issues with this argument, it seems unlikely to hold up in the face of "digital nudging." Gathering information about individual citizens to better persuade them comes very close to the sort of Orwellian propaganda society has collectively rejected.[351] A related critique of nudging is that it tends to infantilize the citizen by removing the habit of choice.[352] Again, the constant mediation of the citizen by technology could accelerate this effect.

The discussion in Part II.C carves out individualized political speech. The extent of this exception, however, remains unclear: 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.[353] At the same time, their restriction will sensibly occasion more serious pushback from the First Amendment.[354] Striking the right balance, meanwhile, is important: political campaigns appear to be at the fore-

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347 *See id.*

348 *See supra* Part II.

349 *See supra* note 22.

350 *See* THALER & SUNSTEIN, *supra* note 22, at 244–45 (citing JOHN RAWLS, A THEORY OF JUSTICE (1971)).

351 22 U.S.C. §§ 1461–1464b (2012) (limiting domestic propaganda).

352 *See* Luc Bovens, *The Ethics of* Nudge, *in* PREFERENCE CHANGE: APPROACHES FROM PHILOSOPHY, ECONOMICS AND PSYCHOLOGY 207, 207–20 (Till Grüne-Yanoff & Sven Ove Hansson eds., 2009).

353 *See supra* Part III.C.

354 *See id.*

front of persuasion profiling and other phenomena described in this Article (although its architects are moving into commercial advertising).[355]

This Article has noted that the effect of standard market manipulation has been marginal.[356] 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 economic welfare.[357] But detractors—especially those working with more traditional economic models—try to paint consumer irrationality as modest or even self-cancelling.[358] 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.[359] Near the end of his book, he remarks: "Eventually—say by A.D. 2000—perhaps all this depth manipulation of the psychological variety will seem amusingly old-fashioned."[360] Packard also acknowledges that the marketers of the late 1950s were "mostly decent, likable people" who "want to control us just a little bit"; they might be appalled, he suggests, by the technologies and techniques of the future.[361] Packard, however, closes on what amounts to a *legal* question: "[W]hen you are manipulating, where do you stop? Who is to fix the point at which manipulative attempts become socially undesirable?"[362] 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

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355 *See supra* note 239.

356 *See supra* notes 27–31 and accompanying text.

357 *See* Jolls et al., *supra* note 18, at 1511–12 (using behavioral economics to explain preferences for economically inefficient transactions in terms of "pervasive fairness norms" and departures from a "reference transaction").

358 *See, e.g.*, Richard A. Epstein, *Behavioral Economics: Human Errors and Market Corrections*, 73 U. CHI. L. REV. 111, 114–16 (2006) (restricting analysis of irrationality to decisions made by children and specific cases of force, fraud, or mistake); Richard A. Posner, *Rational Choice, Behavioral Economics, and the Law*, 50 STAN. L. REV. 1551, 1552 (1998).

359 *See* PACKARD, *supra* note 7, at 223–24.

360 *Id.* at 223.

361 *Id.* at 224.

362 *Id.* at 225.

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 also explains what is different and distinct about digital market manipulation, and why the difference is harmful. Moreover, it offers a novel solution space that recognizes the crucial role of incentives. Hopefully, 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.