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Law and Ethics of Experiments on Social Media Users

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THE LAW AND ETHICS OF EXPERIMENTS ON SOCIAL MEDIA USERS

JAMES GRIMMELMANN*

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If you were on Facebook in January 2012, there is a chance that it tried to make you sad. If you were on OkCupid, there is a chance that it tried to match you up with someone incompatible. These were social psychology experiments: Facebook and OkCupid systematically manipulated people’s environments to test their reactions. Academics doing similar experiments in a university setting would typically need to obtain informed consent from participants and approval from an Institutional Review Board (IRB). But Facebook and OkCupid, and the academics working with

Facebook, had neither. This, I believe, is a problem.¹

These experiments offer us a moment for reflection, a chance to discuss the law and ethics of experiments on social media users.² In this essay, I will consider social media research through the prism of the Facebook and OkCupid experiments.³ I will focus on three questions:

- When do social media experiments constitute research involving people?
- What does it take to obtain the informed consent of users?
- What institutions are responsible for reviewing such experiments?

Part I offers an initial review of the Facebook and OkCupid research projects. Part II—the bulk of the essay—takes up these questions under current law, primarily the federal Common Rule, which requires Institutional Review Board (IRB) review and

* Professor of Law, University of Maryland Francis King Carey School of Law. This essay draws extensively on a series of letters I wrote with Leslie Meltzer Henry in the summer and fall of 2014, and also from my previous essay *Illegal, Unethical, and Mood-Altering*. My thanks to Leslie for extensive conversations on these issues and also to Aislinn Black, Bruce Boyden, Kate Crawford, Paul-Olivier Dehaye, Sean Flaim, Cathy Gellis, Sarah Jeong, Jim Lai, Jan Lewis, Dominic Mauro, Christian Sandvig, Zeynep Tufekci, Zachary Schrag, and numerous Twitter correspondents. Mariel Shutinya and Cassandra Mejias from the Thurgood Marshall Law Library provided invaluable research assistance. This essay may be freely reused under the terms of the Creative Commons Attribution 4.0 International license, <https://creativecommons.org/licenses/by/4.0/>.

1. I made a similar, if rather less nuanced, argument shortly after the initial news of the study emerged. See James Grimmelman, *As Flies to Wanton Boys*, LABORATORIUM (June 28, 2014), http://laboratorium.net/archive/2014/06/28/as_flies_to_wanton_boys.

2. Two important prior analyses of research law and ethics in related spaces are Joshua A.T. Fairfield, *Avatar Experimentation: Human Subjects Research in Virtual Worlds*, 2 U.C. IRVINE L. REV. 695, 709–36 (2012) (on virtual worlds) and Ryan Calo, *Consumer Subject Review Boards: A Thought Experiment*, 66 STAN. L. REV. ONLINE 97 (2013), <http://www.stanfordlawreview.org/online/privacy-and-big-data/consumer-subject-review-boards> (on online marketing). See also Paul Ohm, *The Underwhelming Benefits of Big Data*, 161 U. PA. L. REV. ONLINE 339, 345 (2013), http://scholarship.law.upenn.edu/penn_law_review_online/vol161/iss1/22 (“But as medical research follows the lead of Google Flu Trends and begins to slip outside these traditional [academic and healthcare] institutions and their concomitant safeguards, we should be concerned about the relative lack of controls.”).

3. I maintained a list of links to articles, blog posts, news stories, and other primary and secondary sources relating to the Facebook and OkCupid studies that were published before December 31, 2014, available at http://laboratorium.net/archive/2014/06/30/the_facebook_emotional_manipulation_study_source. For another literature review and discussion of the relevant issues, see Cornelius Puschmann & Engin Bozdag, *Staking Out the Unclear Ethical Terrain of Online Social Experiments*, INTERNET POL. REV., (Nov. 26, 2014), <http://policyreview.info/articles/analysis/staking-out-unclear-ethical-terrain-online-social-experiments>.

informed consent for federally funded research.⁴ The Common Rule does not directly apply to companies like Facebook and OkCupid. But the Common Rule will frequently apply to their academic research partners, and is frequently made applicable to private social media research by a Maryland law, House Bill 917. Independent of its legal applicability, the Common Rule is also a useful hook on which to hang the analysis. It provides a familiar framework for discussion, one that touches on most of the relevant issues.

Part III takes up the question of what the rules for regulating social media research ought to be. The most immediately pressing priority is to prevent the unraveling of the existing ethical framework through IRB laundering, in which a regulated institution outsources enough work to an unregulated one to evade IRB review and informed consent. Looking further ahead, I offer some tentative thoughts on the scope of coverage, informed consent, and oversight for social media experiments. Finally, the conclusion reflects on how we should think about “consent” in this setting.

A brief note about scope. I will primarily discuss social media experiments in which researchers deliberately alter users’ experience and measure their reactions. I leave aside questions about observational studies of social media users. These raise interesting and important privacy issues; however, those issues are already extensively being addressed by others.⁵ I was drawn to studying the Facebook and OkCupid experiments because they raise troubling issues that cannot fully be captured using a “privacy” schema.⁶ This essay is an attempt to flesh out what those issues are.

I. THE RESEARCH

For a week in January 2012, Facebook employee Adam Kramer and two researchers from Cornell, Jeffrey Hancock and Jamie

4. See *infra* Part II.

5. See, e.g., Lauren Solberg, *Data Mining on Facebook: A Free Space for Researchers or an IRB Nightmare*, 2010 U. ILL. J. L., TECH. & POL’Y 311; Lauren Solberg, *Regulating Human Subjects Research in the Information Age: Data Mining on Social Networking Sites*, 39 N. KY. L. REV. 327 (2012); Michael Zimmer, “*But the Data is Already Public*”: *On the Ethics of Research in Facebook*, 12 ETHICS & INFO. TECH. 313 (2010); Megan A. Moreno et al., *Ethics of Social Media Research: Common Concerns and Practical Considerations*, 16 CYBERPSYCHOL., BEHAV., & SOC. NETWORKING 708 (2013); HEIDI A. MCKEE & JAMES E. PORTER, *THE ETHICS OF INTERNET RESEARCH: A RHETORICAL, CASE-BASED PROCESS* (2009); ELIZABETH BUCHANAN, *READINGS IN VIRTUAL RESEARCH ETHICS: ISSUES AND CONTROVERSIES* (2003). For a useful overview and bibliography, see Elizabeth A. Buchanan & Michael Zimmer, *Internet Research Ethics*, STAN. ENCYC. PHIL. (2012), <http://plato.stanford.edu/entries/ethics-internet-research/>.

6. See also Calo, *supra* note 2, (“the challenges of big data may take us outside of privacy altogether into a more basic discussion of the ethics of information”).

Guillory, ran an experiment on 689,003 Facebook users to see whether they were susceptible to “emotional contagion.”⁷ Facebook showed some users fewer of their friends’ posts containing emotional language, then analyzed the users’ own posts to see whether their emotional language changed.⁸ The answer was “yes”; users who saw fewer positive posts used fewer positive words and more negative words of their own, and vice versa when negative posts were hidden.⁹ An article based on the study was published in the *Proceedings of the National Academy of Sciences (PNAS)* in June 2014.¹⁰

The emotional contagion study was hardly a one-off. Academic research is an important part of Facebook’s institutional culture, and it runs numerous experiments on users.¹¹ The company has an active Data Science group with extensive ties to academia—Adam Kramer, for example, has a Ph.D. in social psychology.¹² Indeed, social research is so firmly institutionalized that Facebook created its own programming language for running randomized experiments on

7. Adam D.I. Kramer, Jamie E. Guillory & Jeffrey T. Hancock, *Experimental Evidence of Massive-Scale Emotional Contagion Through Social Networks*, 111 PROC. NAT’L ACAD. SCI. U.S. 8788, 8788 (2014), <http://www.pnas.org/content/111/24/8788.full.html>. Kramer is a Data Scientist at Facebook; he received a Ph.D. in social psychology from the University of Oregon. See Adam D.I. Kramer, *Facebook Data Scientist*, AM. PSYCH. ASS’N, <http://www.apa.org/gradpsych/2011/01/kramer.aspx> (last visited Mar. 24, 2015). Hancock is a professor in Cornell’s Communications and Information Science departments. See Jeffrey Hancock, CORNELL UNIVERSITY, <http://infosci.cornell.edu/faculty/jeffrey-hancock> (last visited Mar. 24, 2015). Guillory was at the time a graduate student working with Hancock at Cornell. See *Correction for Kramer et al., Experimental Evidence of Massive-Scale Emotional Contagion Through Social Networks*, PROC. NAT’L ACAD. SCI. U.S., <http://www.pnas.org/content/111/29/10779.2.full> (last visited Mar. 24, 2015).

8. Kramer, Guillory, & Hancock, *supra* note 7, at 8788–89.

9. *Id.* at 8789.

10. *Id.* The scientific quality of the study itself has been criticized. See, e.g., Galen Pranger, *Why the Facebook Experiment is Lousy Social Science*, MEDIUM (Aug. 28, 2014), <https://medium.com/@gpanger/why-the-facebook-experiment-is-lousy-social-science-8083cbef3aee>; John M. Grohol, *Emotional Contagion on Facebook? More Like Bad Research Methods*, PSYCH CENTRAL (June 29, 2014), <http://psychcentral.com/blog/archives/2014/06/23/emotional-contagion-on-facebook-more-like-bad-research-methods/>. This essay will focus on the ethical and legal debates, rather than the scientific ones.

11. See Kashmir Hill, *10 Other Facebook Experiments on Users, Rated on a Highly-Scientific WTF Scale*, FORBES (July 10, 2014, 12:34 PM), <http://www.forbes.com/sites/kashmirhill/2014/07/10/facebook-experiments-on-users/> (listing experiments); Kashmir Hill, *46 Things We’ve Learned From Facebook Studies*, FORBES (June 21, 2013, 10:44 AM), <http://www.forbes.com/sites/kashmirhill/2013/06/21/46-things-weve-learned-from-facebook-studies>; see generally *Research at Facebook*, FACEBOOK <https://research.facebook.com> (last visited Mar. 24, 2015) (describing Facebook’s research).

12. See Kramer, *Facebook Data Scientist*, *supra* note 7.

Facebook users.¹³ In one study, Facebook made seventy-five million links effectively unshareable: users could post them to Facebook, but their friends would not see the links.¹⁴ In another, Facebook encouraged sixty-one million users to vote, and measurably increased their turnout.¹⁵ Facebook has done research to see which of its users are lonely,¹⁶ whether ads work better when accompanied by algorithmically generated “endorsements” from Facebook friends,¹⁷ and what causes users to start typing a post and then delete it.¹⁸ A former Facebook employee wrote, “[e]xperiments are run on every user at some point in their tenure on the site,” and “[t]he fundamental purpose of most people at Facebook working on data is to influence and alter people’s moods and behavior.”¹⁹ In the middle of 2012, a Facebook data scientist told a reporter, “When we look at the data, any given person is probably currently involved in . . . ten different experiments.”²⁰

In late July 2014, following public controversy over the Facebook emotional contagion study, OkCupid’s president, Christian Rudder, wrote a blog post with a title that speaks for itself: “We

13. See Eytan Bakshy, Dean Eckles & Michael S. Bernstein, *Designing and Deploying Online Field Experiments*, WWW '14: PROC. OF THE 23RD INT'L CONF. ON WORLD WIDE WEB 283 (2014), available at <http://hci.stanford.edu/publications/2014/planout/planout-www2014.pdf>. Facebook even offers its advertisers a framework for running randomized controlled experiments on users. See Cade Metz, *Facebook Rolls Out a Tool for Testing Ads with Control Groups*, WIRED (Jan. 27, 2015, 1:05 PM), <http://www.wired.com/2015/01/facebook-rolls-online-tool-testing-ads-control-groups/>.

14. Eytan Bakshy et al., *The Role of Social Networks in Information Diffusion*, WWW '12: PROC. OF THE 21ST INT'L CONF. ON WORLD WIDE WEB 519 (2012), available at http://cameronmarlow.com/media/bakshy-the_role-2012b.pdf.

15. Robert M. Bond et al., *A 61-Million-Person Experiment in Social Influence and Political Mobilization*, 489 NATURE 295 (2012), available at http://cameronmarlow.com/media/massive_turnout.pdf.

16. Moira Burke, Cameron Marlow & Thomas Lento, *Social Network Activity and Social Well-Being*, ACM CHI CONF. ON HUM. FACTORS IN COMPUTING SYS. 1909 (2012), available at <http://cameronmarlow.com/media/burke-2010-social-well-being.pdf>.

17. Eytan Bakshy et al., *Social Influence in Social Advertising: Evidence from Field Experiments*, PROC. OF THE 13TH ACM CONF. ON ELECTRONIC COM. 146 (2012), available at <http://arxiv.org/pdf/1206.4327v1.pdf>.

18. Sauvik Das & Adam Kramer, *Self-Censorship on Facebook*, PROC. OF THE SEVENTH INT'L AAAI CONF. ON WEBLOGS AND SOC. MEDIA 120 (2013), available at <http://www.aaai.org/ocs/index.php/ICWSM/ICWSM13/paper/viewFile/6093/6350>.

19. Andrew Ledvina, *10 Ways Facebook Is Actually the Devil*, ROKOB (July 4, 2014), <http://andrewledvina.com/code/2014/07/04/10-ways-facebook-is-the-devil.html>.

20. See *The Trust Engineers*, RADIOLAB (Mar. 9, 2015), <http://www.radiolab.org/story/trust-engineers/>; see also Reed Albergotti, *Facebook Experiments Had Few Limits*, WALL ST. J. (July 2, 2014, 7:39 PM), <http://www.wsj.com/articles/facebook-experiments-had-few-limits-1404344378>

(reporting that at one point, Facebook was running so many experiments that “some data scientists worried that the same users, who were anonymous, might be used in more than one experiment, tainting the results.”).

Experiment On Human Beings!”²¹ It detailed three experiments, all designed to test which aspects of a person’s profile had the most influence in attracting other users. The most interesting and most controversial experiment involved OkCupid’s match percentages, the estimates of compatibility the site uses to pair up users. For a group of about five hundred users,²² OkCupid “took pairs of bad matches (actual 30% match) and told them they were exceptionally good for each other (displaying a 90% match),” and vice versa.²³ It turned out that OkCupid was quite persuasive when it misled users. Users who were 90% compatible turned their first message into a conversation roughly twice as often as users who were 30% compatible—but telling 30%-compatible users that they were 90% compatible was about three-quarters as effective as actually finding 90%-compatible users to match.²⁴ In Rudder’s words, “When we *tell* people they are a good match, they act as if they are. Even when they should be wrong for each other.”²⁵

OkCupid does not have an extensive academic research group the way that Facebook does. But it has perhaps the next best thing: Christian Rudder. OkCupid’s president is an indie rock guitarist with an Ivy League education; his OkTrends blog is an extensive work of hipster quantitative social science. Rudder uses it to explore the patterns of human attraction on a Big Data scale, looking, for example, at which OkCupid users send messages to each other to explore how attraction changes with age.²⁶ The posts are written in a breezy, snarky style, but the underlying data crunching is extensive, and the charts are the work of a man who has read his Edward Tufte with care.²⁷ OkTrends was a hit with the press and with the public.²⁸ It also got Rudder a book deal.²⁹ *Dataclysm: Who We Are (When We*

21. Christian Rudder, *We Experiment On Human Beings!*, OKTRENDS (July 28, 2014), <http://blog.okcupid.com/index.php/we-experiment-on-human-beings/> (exclamation point in original).

22. See Sam Machkovech, *Did OkCupid’s Dating-Results Experiment Help an Arisian Find Love?*, ARS TECHNICA (July 30, 2014, 5:00 AM), <http://arstechnica.com/business/2014/07/did-okcupids-dating-results-experiment-help-an-arsian-find-love/>.

23. Rudder, *supra* note 21.

24. *Id.*

25. *Id.*

26. See Christian Rudder, *The Case for an Older Woman*, OKTRENDS (Feb. 16, 2010), <http://blog.okcupid.com/index.php/the-case-for-an-older-woman/>.

27. See CHRISTIAN RUDDER, *DATACLYSM* (2014).

28. DAN SLATER, *LOVE IN THE TIME OF ALGORITHMS* 102 (2013) (“The mainstream print media jumped all over Rudder’s dispatches. In 2010, the OKTrends blog served as fodder for at least half a dozen New York Times articles and blog posts.”).

29. See Chadwick Matlin, *Matchmaker, Matchmaker, Make Me a Spreadsheet*, FIVE THIRTY EIGHT (Sept. 9, 2014), <http://fivethirtyeight.com/features/christian-rudder-dataclysm-okcupid/>.

Think No One's Looking), which collected and expanded on Rudder's statistical snapshots of online romance, was a *New York Times* best seller.³⁰ Social media science sells.

II. THE COMMON RULE

Experiments on people raise distinctive ethical concerns, some of which are reflected in legal regulations.³¹ These regulations protect the health and safety of research participants by guarding against researchers who misunderstand or misstate the risks involved.³² They protect the dignity of participants by treating them as autonomous individuals who are entitled to make their own (individual) decisions about whether to take part.³³ There are also broader social goals behind research regulation, such as ensuring that the costs and benefits of research are distributed equitably,³⁴ that research is not seriously compromised by researchers' self-interest,³⁵ and that researchers do not act in dishonest ways that threaten public trust³⁶—but the core of the system is its concern for the welfare and dignity of those who take part.

Research regulation is not just a reaction against obviously unethical experiments like the brutal and grotesque studies Nazi doctors conducted on prisoners.³⁷ It is also a response to an unsettling history of experiments by well-meaning researchers who

30. See generally RUDDER, *supra* note 27. But see Cathy O'Neil, *Christian Rudder's Dataclysm*, MATHBABE (Sept. 16, 2014), <http://mathbabe.org/2014/09/16/christian-rudders-dataclysm/> (challenging scientific quality of Rudder's work).

31. See Fairfield, *supra* note 2, at 709-19 (offering another overview of this history and general research ethics principles, one written with online research in mind).

32. See Jonathan Moss, *If Institutional Review Boards Were Declared Unconstitutional, They Would Have to Be Reinvented*, 101 NW. U. L. REV. 801, 802 (2007).

33. See NAT'L COMM'N FOR THE PROT. OF HUMAN SUBJECTS OF BIOMEDICAL AND BEHAVIORAL RESEARCH, THE BELMONT REPORT: ETHICAL PRINCIPLES AND GUIDELINES FOR THE PROTECTION OF HUMAN SUBJECTS OF RESEARCH 10-14 (1978), 44 Fed. Reg. 23192, 23193 (Apr. 17, 1979), available at <http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html> [hereinafter BELMONT REPORT].

34. See *id.* at 23194.

35. See Jesse A. Goldner, *Dealing with Conflicts of Interest in Biomedical Research: IRB Oversight as the Next Best Solution to the Abolitionist Approach*, 28 J.L. MED. & ETHICS 379 (2000).

36. See Moss, *supra* note 32, at 804; Mary Gray, *MSR Faculty Summit 2014 Ethics Panel Recap*, SOCIAL MEDIA COLLECTIVE BLOG (Aug. 19, 2014), <http://socialmediacollecive.org/2014/08/19/msr-faculty-summit-2014-ethics-panel-recap/> (quoting Christian Sandvig's discussion of "harm to the image of the profession or all of science" from Facebook study).

37. See generally 1 & 2 TRIALS OF WAR CRIMINALS BEFORE THE NUREMBERG MILITARY TRIBUNALS UNDER CONTROL COUNCIL LAW NO. 10 (U.S. Gov. Printing Office 1946-49), http://www.loc.gov/rr/frd/Military_Law/NTs_war-criminals.html (detailing United States v. Karl Brandt et al., a.k.a. the "Medical Case," involving "murders, brutalities, cruelties, tortures, atrocities, and other inhuman acts," in medical experiments).

recruited unwitting participants without any real explanation of what they were in for.³⁸ The system is designed to make sure that research worth doing is done right, not just to block research not worth doing.

The leading American articulation of the ethical principles appropriate to research with human participants is the 1978 report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, better known as the Belmont Report.³⁹ One of its central recommendations is informed consent: "Respect for persons requires that subjects, to the degree that they are capable, be given the opportunity to choose what shall or shall not happen to them."⁴⁰ Informed consent under the Belmont Report standard generally requires that subjects be given sufficient information about the research, that they comprehend the information they are given, and that their agreement to participate be free of undue influence.⁴¹ Another central recommendation of the Belmont Report is assessment of risks and benefits, involving "a careful arrayal of relevant data" and "a responsibility to gather systematic and comprehensive information about proposed research" as "a method for determining whether the risks that will be presented to subjects are justified."⁴²

United States law implements the Belmont Report's principles in the Federal Policy for the Protection of Human Research Subjects, better known as the Common Rule because it has been adopted by fifteen federal agencies.⁴³ Institutions receiving research funding

38. See generally Henry Beecher, *Ethics and Clinical Research*, 274 NEW ENG. J. MED. 1354 (1966) (describing numerous published experiments that in the author's view involved "unethical or questionably ethical procedures" because participants were never adequately informed of the risks involved).

39. See BELMONT REPORT, *supra* note 33 at 23192-97.

40. *Id.* at 23195.

41. *Id.*

42. *Id.* at 23195-96.

43. See Protection of Human Subjects, 7 C.F.R. § 1(C) (2015) (Dep't of Agric.); 10 C.F.R. § 745 (2015) (Dep't of Energy); 14 C.F.R. § 1230 (2015) (Nat'l Aeronautics & Space Admin.); 15 C.F.R. § 27 (2015) (Dep't of Commerce); 16 C.F.R. § 1028 (2015) (Consumer Product Safety Comm'n); 22 C.F.R. § 225 (2014) (U.S. Agency for Int'l Dev.); 24 C.F.R. § 60 (2014) (Dep't of Hous. & Urban Dev.); 28 C.F.R. § 46 (2014) (Dep't of Justice); 32 C.F.R. § 219 (2015) (Dep't of Def.); 34 C.F.R. § 97 (2014) (Dep't of Educ.); 38 C.F.R. § 16 (2014) (Dep't of Veterans Affairs); 40 C.F.R. § 26 (2014) (Env'tl. Prot. Agency); 45 C.F.R. § 46 (2014) (Dep't of Health & Human Servs); 45 C.F.R. § 690 (2014) (Nat'l Science Found.); 49 C.F.R. § 11 (2014) (Dep't of Transp.). In this essay, I will cite the Department of Health and Human Services version, which is perhaps the most familiar to research ethicists. Among other things, the Office for Human Research Protections, which coordinates federal policy on the Common Rule, is housed within HHS. The Food and Drug Administration oversees a related system of protections for participants in drug trials. See 21 C.F.R. § 50 (dealing with informed consent); *id.* § 56 (dealing with IRB review).

from one of these agencies are required to commit to Common Rule compliance.⁴⁴ The Common Rule implements the Belmont Report's informed consent principle by specifying in detail the information that must be provided to research participants,⁴⁵ and how it must be provided to them.⁴⁶ It implements the Belmont Report's assessment of risks and benefits principle by requiring each institution to have an Institutional Review Board that ensures covered research is conducted ethically; the IRB's composition, powers, duties, procedures, and record-keeping are all strictly regulated.⁴⁷

The Common Rule acts as a focal point for research oversight norms even beyond federally funded research. Some universities commit themselves to Common Rule compliance even for privately funded research.⁴⁸ Others require IRB review of all research

44. See 45 C.F.R. § 46.103 (2014) (indicating that HHS currently requires that such assurances be provided in the form of a Federalwide Assurance (FWA)); see generally *Terms of the Federalwide Assurance for the Protection of Human Subjects (FWA)*, U.S. DEP'T OF HEALTH & HUMAN SERVS., OFFICE FOR HUMAN RESEARCH PROT., <http://www.hhs.gov/ohrp/assurances/assurances/filasurt.html> (describing required contents of an FWA); see also *Database for Registered IORGs & IRBs, Approved FWAs, and Documents Received in Last 60 Days*, U.S. DEP'T OF HEALTH & HUMAN SERVS., OFFICE FOR HUMAN RESEARCH PROT., <http://ohrp.cit.nih.gov/search/search.aspx?styp=bsc> (online searchable database of FWAs).

45. See 45 C.F.R. § 46.116 (2014). Standard requirements include "an explanation of the purposes of the research and . . . a description of the procedures to be followed," *id.*; "[a] description of any reasonably foreseeable risks or discomforts to the subject," *id.* § 46.116(a)(2); "[a]n explanation of whom to contact for answers to pertinent questions about the research," *id.* § 46.116(a)(7); and "[a] statement that participation is voluntary," *id.* § 46.116(a)(8). Other subsections specify additional elements that may be required in addition. See *id.* §§ 46.116(b), (d)(1), (d)(3)(B) (procedures for waiving or altering informed consent when "[t]he research involves no more than minimal risk" and "[t]he research could not practicably be carried out without the waiver or alteration").

46. See 45 C.F.R. § 46.117; see also *id.* § 46.117(a) (the standard requirement is that "informed consent shall be documented by the use of a written consent form approved by the IRB and signed by the subject."); *id.* § 46.117(c)(2) (the use of written forms can be waived if "the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context."); *id.* § 117(c)(2).

47. See 45 C.F.R. § 46.107 (requiring IRB to comprise at least five members of specified backgrounds, competencies, and affiliations); *id.* § 46.108 (requiring written procedures and operation by quorum at convened meetings), *id.* § 46.109 (detailing substance of IRB duties and authority); *id.* § 46.110 (allowing expedited review of certain types of cases); *id.* § 46.111 (listing requirements that IRB "shall determine . . . are satisfied" by any approved project); *id.* § 46.112 (limiting scope of institutional review of IRB decisions); *id.* § 46.113 (requiring IRB to have authority to terminate non-compliant research); *id.* § 46.114 (describing IRB responsibilities in cases involving multiple institutions); *id.* § 46.115 (describing required IRB record-keeping).

48. For example, an earlier version of Cornell's FWA included a promise to apply the Common Rule "to all of its human subjects research regardless of the source of support." See, e.g., FWA for the Protection of Human Subjects for Institutions Within the United States, No. FWA00004513, CORNELL U. (approved through Jan. 31, 2008), available at <https://web.archive.org/web/20090324062757/http://www.irb.cornell.edu/regulation>

involving human participants⁴⁹ as a matter of internal policy.⁵⁰ And many academic journals require informed consent and IRB approval as conditions of publication.⁵¹

If we look at Facebook and OkCupid's experiments through the lens of the Common Rule, there are three interesting questions.

s/fwa.htm. Cornell continued to post this FWA on its website through the summer of 2014 as though it were the currently operative FWA. I relied on these statements in previous correspondence about Cornell's involvement in the emotional contagion study. See Letter from James Grimmelmann & Leslie Meltzer Henry, Professors of Law, Univ. of Md., to Dr. Jerry Menikoff, Director, Office for Human Research Prot. (July 17, 2014), available at <http://james.grimmelmann.net/files/legal/facebook/OHRP.pdf>. Michelle Meyer did likewise in commenting on the study. See Michelle Meyer, *How an IRB Could Have Legitimately Approved the Facebook Experiment—and Why that May Be a Good Thing*, FACULTY LOUNGE (June 29, 2014), <http://www.thefacultylounge.org/2014/06/how-an-irb-could-have-legitimately-approved-the-facebook-experimentand-why-that-may-be-a-good-thing.html>. However, Cornell misled us all. In fact, it had amended its FWA in 2011 so that it applies only to federally funded research. See Email from Jerry Menikoff to James Grimmelmann and Leslie Meltzer Henry (July 17, 2014) (on file with author). Oddly, Cornell's IRB continues to claim that the FWA "applies to all Cornell University research involving human participants, regardless of the location of the research or its sources of funding." Cornell University Institutional Review Board for Human Participants CHARGE, CORNELL UNIV. (last updated July 18, 2014), <http://www.irb.cornell.edu/documents/IRB-Charge-2014.pdf>.

49. The Common Rule term is "research involving human subjects," but except when quoting from it I will refer to them as "research participants." Calling them "subjects" denies them the very agency that informed consent is designed to advance.

50. See, e.g., Cornell Univ. Office of Research Integrity and Assurance, Policy 1: Determining Whether a Research Activity Needs IRB Review and Approval, CORNELL UNIV., ¶ 5.1 (Oct. 20, 2013), [http://www.irb.cornell.edu/documents/IRB%20Policy%201%20\(Oct%202013\).pdf](http://www.irb.cornell.edu/documents/IRB%20Policy%201%20(Oct%202013).pdf) ("By institutional policy, the same standards apply to all human participant research, regardless of funding support.").

51. For example, *PNAS*, where the Facebook emotional contagion study was published. See *Editorial Policies: Journal Policies*, PROC. NAT'L ACAD. SCI. U.S., <http://www.pnas.org/site/authors/journal.xhtml> (last visited Jan. 30, 2015) (requiring that published articles be "approved by the author's institutional review board" and that "informed consent [be] obtained from all participants"). The article on the emotional contagion study was published in violation of these policies. See Letter from James Grimmelmann & Leslie Meltzer Henry, Professors of Law, Univ. of Md., to Inder Verma, Editor-in-Chief, Proceedings of the Nat'l Acad. of Sciences of the U.S. (July 17, 2014), available at <http://james.grimmelmann.net/files/legal/facebook/PNAS.pdf>. Acknowledging this fact, *PNAS* published an "Editorial Expression of Concern" about the article. Inder M. Verma, *Editorial Expression of Concern*, PROC. NAT'L ACAD. SCI. U.S. (July 3, 2014), <http://www.pnas.org/cgi/doi/10.1073/pnas.1412469111>. See also Brian Fung, *The Journal That Published Facebook's Psychological Study is Raising Doubts About It*, WASH. POST (July 3, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/07/03/the-journal-that-published-facebooks-psychological-study-is-raising-a-red-flag-about-it/> ("PNAS added in a statement to the Washington Post that the announcement was aimed at acknowledging concerns about the research and that it does not intend to investigate the study further."). But see Jeffrey P. Kahn, Effy Vayena, & Anna C. Mastroianni, *Opinion: Learning as We Go: Lessons from the Publication of Facebook's Social-Computing Research*, 111 PROC. NAT'L ACAD. SCI. U.S. 13677 (2014), (discussing larger lessons for ethical social media research).

- Did the researchers perform regulated “research involving human subjects?”
- Did they obtain informed consent?
- Did they obtain IRB approval?
- Let us take up these questions in turn.

• *Research with Human Participants*

The Common Rule applies to “research involving human subjects.”⁵² It is easiest to first break this definition down into two halves—“research” and “involving human subjects”—and then to consider other threshold conditions and possible exceptions.

1. “research . . .”

The Common Rule defines “research” as “a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. . . .”⁵³ The Facebook emotional contagion study meets every part of this definition. It was systematic in its examination of “verbal expressions on Facebook”;⁵⁴ it developed “experimental evidence to support the controversial claims that emotions can spread throughout a network”;⁵⁵ it was designed to and succeeded in developing generalizable knowledge, as illustrated by the resulting paper published in a prominent peer-reviewed scientific journal.⁵⁶

Facebook freely acknowledges that it is engaged in research. In a letter to my colleague Leslie Meltzer Henry and myself, a Facebook attorney repeatedly described the emotional study as “research”:

52. 45 C.F.R. § 46.101(a) (2014).

53. *Id.* § 46.102(d).

54. Kramer, Guillory, & Hancock, *supra* note 7, at 8789.

55. *Id.* at 8790.

56. *PNAS* has an impact factor of 9.809. See *About PNAS*, PROC. NAT’L ACAD. SCI. U.S., <http://www.pnas.org/site/aboutpnas/index.xhtml> (last visited on Feb. 12, 2015). To be precise, the study was not research solely because it was published; see *Quality Improvement Activities FAQs*, U.S. DEP’T OF HEALTH & HUMAN SERVS., OFFICE FOR HUMAN RESEARCH PROT., <http://www.hhs.gov/ohrp/policy/faq/quality-improvement-activities/index.html> (last visited Jan. 30, 2015) (“the intent to publish is an insufficient criterion for determining whether a quality improvement activity involves research”). Rather, the resulting paper extensively describes the “generalizable knowledge” generated and intended to be generated by the study, and this purpose is what made the study research. That is, the study was designed from the start to meet journals’ standards for publishable research—and it succeeded.

We appreciate your interest in Facebook's internal product development *research* The PNAS [emotional contagion] study is an example of such *research*. . . . We believed it was important to *research* this claim, and we elected to share the findings with the academic community. . . . As part of the *research* described in the PNAS study, the News Feed algorithm for a small percentage of randomly-selected users was tweaked"⁵⁷

Indeed, Facebook now maintains an elegantly designed website devoted to cataloging its research.⁵⁸ Its list of publications generated from research at Facebook spans fifteen categories, including "Data Science," "User Experience," and "Social Computing."⁵⁹ It offers a fellowship program and research grants, and hosts sabbaticals for "a small number of invited faculty."⁶⁰ Facebook is justifiably proud of its contributions to academic research and situates itself clearly within the academic community, if not within the academy itself.

OkCupid's situation is a little more complicated, because Christian Rudder has positioned himself as an amateur who sits both inside and outside of the scientific tradition. Start with the mismatching experiment itself: a randomized controlled trial. It tested a social and behavioral hypothesis about the role of suggestion in romantic attraction: whether "the mere suggestion" of compatibility can "cause people to actually like each other."⁶¹ Rudder subjected the resulting data to statistical analysis to validate or disprove the hypothesis, and then performed a follow-up experiment to probe the robustness of the results. He indisputably used the formal mechanisms of scientific research: the successive testing of general hypotheses about the world against empirical data. Rudder is not an academic scientist, and he did not work with academic scientists, but he acted like an academic scientist.

Next, Rudder adopted the social trappings of academic research: he published. To be sure, he did not package his findings in the standardized structure and language of a scientific paper ("Methods . . . Results . . . Discussion"), nor did he submit it to an academic journal for peer review and publication. But he did make the results

57. Letter from Edward Palmieri, Assoc. Gen. Counsel, Privacy, Facebook, to James Grimmelman and Leslie Meltzer Henry, Professors of Law, Univ. of Md. (Aug. 25, 2014) (emphasis added), available at <http://james.grimmelman.net/files/legal/facebook/FacebookResponse.pdf>.

58. *Research at Facebook*, FACEBOOK, <https://research.facebook.com> (last visited Jan. 30, 2015).

59. *Research at Facebook: Our Research*, FACEBOOK, <https://research.facebook.com/areas> (last visited Jan. 30, 2015).

60. *Research at Facebook: Academic Programs*, FACEBOOK, <https://research.facebook.com/programs/> (last visited Jan. 30, 2015).

61. Rudder, *supra* note 21.

meaningfully public in a way that was designed to foster discussion, analysis, and potential replication. His blog post described the experiments' hypotheses, methods, results, and implications; it included the usual explanatory apparatus—tables and graphs—used by academics detailing their findings. He presented the mismatching experiment as part of an ongoing conversation in which researchers share their results to facilitate their collaborative efforts at discovering general truths about the world. His OkTrends blog (subtitled “Dating Research from OkCupid”) is entirely devoted to his research findings,⁶² and the book description for *Dataclysm* explains, “As we live more of our lives online, researchers can finally observe us directly, in vast numbers, and without filters.”⁶³ Rudder has called the information on OkCupid’s company’s servers “an irresistible sociological opportunity;”⁶⁴ in interviews with the press he presents himself as engaged in a search for truth through the application of scientific principles, extensive data, and humor.⁶⁵ Again, doing research is nothing to be ashamed of. But it is clearly “research.”

2. “. . . involving human subjects”

The Facebook and OkCupid studies also involved “human subjects” as understood by the Common Rule:

Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains (1) Data through intervention or interaction with the individual, or (2) Identifiable private information.⁶⁶

Facebook and OkCupid users are “living individual[s],” the authors of the studies are “investigators,” and they obtained “data” “about” those users: the emotional content of posts (on Facebook) and the number of exchanges with suggested matches (on OkCupid).⁶⁷ As for whether the data was obtained “through intervention or interaction with the individual,” the Common Rule defines “intervention” to include “manipulations of the subject or the

62. *Id.*

63. Rudder, *supra* note 26.

64. Natasha Singer, *OkCupid’s Unblushing Analyst of Attraction*, N.Y. TIMES (Sept. 7, 2014), <http://www.nytimes.com/2014/09/07/technology/okcupids-unblushing-analyst-of-attraction.html>.

65. *See, e.g.*, Matlin, *supra* note 29.

66. 45 C.F.R. § 46.102(f) (2015).

67. There is a subtle issue as to precisely who acquired that data; *see infra* Part II.C.2.

subject's environment that are performed for research purposes."⁶⁸ Changing the contents of a Facebook user's News Feed or giving an OkCupid user false match percentages is a "manipulation . . . of the subject's environment."⁶⁹ And finally, these manipulations were carried out "for research purposes": these are changes that Facebook and OkCupid would not otherwise have made to users' experiences.

3. Social Science Research

Some observers have given a non-textual argument against applying the Common Rule to social media experiments. Facebook, for example, has argued that research laws "were not designed to address research conducted under these circumstances."⁷⁰ This might be a claim about the nature of the institutions conducting the research, on which more below.⁷¹ But it could also be a claim about the nature of the research itself: that behavioral studies of users are not the sort of thing the Common Rule was "designed to address."

To be sure, the original impetus for the use of IRBs came from controversies in biomedical research.⁷² But it has long been settled that for better or for worse the Common Rule reaches many of the social sciences.⁷³ There are critics of subjecting social science research to IRB review, and they are joined by critics of the entire IRB system.⁷⁴ But on the whole, the application of Common Rule to social science research is uncontroversial: it is part of normal professional research practice.⁷⁵

68. 45 C.F.R. § 46.102(f) (2015); *cf.* Solberg, *supra* note 5, at 324 (arguing that there is no "intervention or interaction" when a researcher merely records information about a Facebook user's activity).

69. *See* Kramer, Guillory, & Hancock, *supra* note 7, at 8788 ("The experiment *manipulated* the extent to which people . . . were exposed to emotional expressions . . .") (emphasis added).

70. *See* Letter from Edward Palmieri, *supra* note 57.

71. *See infra* Part II.A.4.

72. *See* ZACHARY M. SCHRAG, ETHICAL IMPERIALISM: INSTITUTIONAL REVIEW BOARDS AND THE SOCIAL SCIENCES 1965–2009, 24–25 (2010).

73. *See generally id.* (tracing history of regulations and controversies around IRB review of social science research).

74. *See, e.g.,* Caroline H. Bledsoe, *Regulating Creativity: Research and Survival in the IRB Iron Cage*, 101 NW. U. L. REV. 593 (2007); Fredric L. Coe, *The Costs and Benefits of a Well-Intended Parasite: A Witness and Reporter on the IRB Phenomenon*, 101 NW. U. L. REV. 723, 724 (2007) ("The IRB is a tedious, time-wasting, work-wasting machine . . ."); David A. Hyman, *Institutional Review Boards: Is This the Least Worst We Can Do?*, 101 NW. U. L. REV. 749, 756 ("There is no empirical evidence that IRBs have any benefit whatsoever."). In a footnote, Hyman adds, "That's right. None. Nada. Zip." and offers a \$25 reward for anyone who finds published "empirical evidence that IRBs have any benefit whatsoever." *Id.* at 756 n.31.

75. For an example involving social media research, consider the 61-million person voting study Facebook conducted in the 2010 elections. *See* Bond et al., *supra* note 15

4. Quality Improvement

There is, however, a way in which the argument has more to it. Facebook, OkCupid, and other Internet companies engage in nearly constant testing: everything from minor bug fixes to major new features will be tested on actual users to make sure it improves the experience rather than hurting it. For example, when Facebook contemplates changing a chat icon to display the word “chat” instead, it shows the old design to some users and the new design to others to compare their reactions.⁷⁶ Indeed, the practice is so widespread that it has a shorthand name: “A/B testing.”⁷⁷ The *reductio ad absurdum* of regarding Facebook and OkCupid’s experiments as “research” seems to be that their font choices are too.⁷⁸

But this is not a new issue; a similar problem arises even in the Common Rule’s biomedical heartland.⁷⁹ Doctors and hospitals

(describing the experiment). It was covered by a research protocol submitted to the University of California, San Diego IRB, a protocol that also included analyses of users’ posts, randomized controlled experiments, and surveys. See Facebook Collaboration Research Plan (Oct. 1, 2009) (proposal submitted by James Fowler, Prof., Univ. of Cal., San Diego to UCSD Human Research Protections Program) (on file with author). The protocol argues that the voting study qualifies as “minimal risk” under the Common Rule and thus qualifies for a waiver of informed consent. *Id.* See also *infra* Part II.B.2 (discussing minimal risk waivers). Note first that the proposal was submitted to the UCSD IRB, second that it does not even attempt to claim that the study is exempt from the Common Rule, third that the minimal-risk category is on point, and fourth that the experiment went ahead with the IRB’s blessing. The ethical line between the voting experiment and the emotional contagion experiment, if it exists at all, is a fine one. For examples of the application of social-science research norms to online research, see ETHICAL DECISION-MAKING AND INTERNET RESEARCH: RECOMMENDATIONS FROM THE AOIR ETHICS WORKING COMMITTEE 2.0 (2012), <http://aoir.org/reports/ethics2.pdf>; ETHICAL DECISION-MAKING AND INTERNET RESEARCH: RECOMMENDATIONS FROM THE AOIR ETHICS WORKING COMMITTEE (2002), <http://aoir.org/reports/ethics.pdf>.

76. See Ari Grant & Kang Zhang, *Airlock—Facebook’s Mobile A/B Testing Framework*, FACEBOOK (Jan. 9, 2014), <https://code.facebook.com/posts/520580318041111/airlock-facebook-s-mobile-a-b-testing-framework/>.

77. See Brian Christian, *The A/B Test: Inside the Technology That’s Changing the Rules of Business*, WIRED (Apr. 25, 2012), http://www.wired.com/2012/04/ff_abtesting/. Using A/B, new ideas can be essentially focus-group tested in real time:

Without being told, a fraction of users are diverted to a slightly different version of a given web page and their behavior compared against the mass of users on the standard site. If the new version proves superior—gaining more clicks, longer visits, more purchases—it will displace the original; if the new version is inferior, it’s quietly phased out without most users ever seeing it. *Id.*

78. See, e.g., Mike Masnick, *Law Professor Claims Any Internet Company ‘Research’ On Users Without Review Board Approval Is Illegal*, TECHDIRT (Sept. 24, 2014), <https://www.techdirt.com/articles/20140924/00230628612/law-professor-claims-any-internet-company-research-users-without-review-board-approval-is-illegal.shtml>.

79. See generally David Casarett et al., *Determining When Quality Improvement Initiatives Should Be Considered Research: Proposed Criteria and Potential Implications*, 283 J. AM. MED. ASS’N 2275 (2000); Eran Bellin & Nancy Neveloff Dubler, *The Quality Improvement-Research Divide and the Need for External Oversight*, 91 AM. J. PUB. HEALTH

constantly change their procedures and observe the results. OHRP treats some of these activities as unregulated “quality improvement activities” rather than as regulated “research”⁸⁰ and there is an ongoing debate about whether it has drawn the right line.⁸¹ Elmer Abbo, for example, argues that the Common Rule unnecessarily burdens quality improvement studies and discriminates against institutions subject to the Common Rule.⁸² These are the same kinds of arguments made against applying the Common Rule to online A/B testing; they are persuasive in both contexts or they are persuasive in neither. Put another way, if line drawing is feasible in hospitals, it is feasible online. Just because some uses of A/B testing are to be regulated as “research” does not mean that all of them need to be.⁸³ A/B testing is a tool, just like syringes and surveys. Some uses of these tools—new drug trials and interviews about sexual abuse—are regulated non-exempt research, while others—vaccinations and political polls—are not.

By this standard, Facebook’s and OkCupid’s experiments should be deemed to fall on the research side of the line.⁸⁴ Facebook retroactively tried to present the emotional contagion study as “internal product development research.”⁸⁵ But it was designed by a team including university researchers, was intended to replicate or refute a published academic study, made broad claims about human behavior that would apply well beyond Facebook, and was itself

1512 (2001); Michelle N. Meyer, *Legal Experimentation: Legal and Ethical Challenges to Evidence-Based Practice in Law, Medicine and Policymaking* 5-9 (Nov. 5, 2012) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2130828.

80. U.S. DEP’T OF HEALTH & HUMAN SERVS., *supra* note 56.

81. See, e.g., Michelle N. Meyer, *Two Cheers for Corporate Experimentation: The A/B Illusion and the Virtues of Data-Driven Innovation*, 13.2 COLO. TECH. L. J. 274 (2015). See also Greg Ogrinc et al., *An Instrument to Differentiate between Clinical Research and Quality Improvement*, IRB, Sept.-Oct. 2013, at 1; Joanne Lynn et al., *The Ethics of Using Quality Improvement Methods in Health Care*, 146 ANN. INTERNAL MED. 666 (2007); J. Lynn, *When Does Quality Improvement Count as Research? Human Subject Protection and Theories of Knowledge*, 13 QUALITY & SAFETY IN HEALTH CARE 67 (2004); Elmer D. Abbo, *Promoting Free Speech in Clinical Quality Improvement Research*, 101 NW. U. L. REV. 575 (2001).

82. See Abbo, *supra* note 81.

83. See Ed Felten, *On the Ethics of A/B Testing*, FREEDOM TO TINKER (July 8, 2014), <https://freedom-to-tinker.com/blog/felten/on-the-ethics-of-ab-testing/>.

84. See James Grimmelmann, *Illegal, Immoral, and Mood-Altering: How Facebook and OkCupid Broke the Law When They Experimented on Users*, MEDIUM (Sept. 23, 2014), <https://medium.com/@JamesGrimmelmann/illegal-unethical-and-mood-altering-8b93af772688>.

85. Palmieri, *supra* note 57. Compare the research Facebook did to see how best to phrase a dialog box encouraging users upset about photos posted by friends to message those friends directly rather than complaining only to Facebook. Without more, that appears to be a quality improvement activity. See *The Trust Engineers*, *supra* note 20.

published in a scientific journal. On any reasonable understanding of the term, this study was intended to contribute to “generalizable knowledge.” OkCupid’s mismatching study presents a closer case, but it too was designed from the start to be published for public discussion and was situated as part of the social process of science. And the study design—including the use of deception in reporting subjectively false match percentages⁸⁶—focused on an issue of social and cognitive biases in romantic relationships, rather than on features of OkCupid’s algorithm and website.⁸⁷ The extensive participation of academics in similar studies reinforces the conclusion that they are not doing something different in kind when they study social media users rather than people off the street.⁸⁸

5. Funding Sources

Not all “research involving human subjects” is subject to the Common Rule. Rather, it only applies to research “conducted [or] supported” by a federal Common Rule agency.⁸⁹ In particular, any institution “engaged in [research with human participants] which is conducted or supported by a federal department or agency shall provide written assurance” that it will comply with the Common Rule.⁹⁰ Thus, only institutions taking federal research funding need commit to Common Rule compliance, and even those institutions can “uncheck the box” and only commit to compliance for research that is federally funded. Although there was some confusion on this point, it now appears that that the emotional contagion study was not a federally funded project—Cornell unchecked the box.⁹¹ For its part,

86. In previous work, I have argued that search rankings, which are closely analogous to OkCupid match percentages, are false when the search engine subjectively disbelieves them—that is, when it believes that the reported rankings do not correspond to its own best estimate of the user’s goals. See James Grimmelman, *Speech Engines*, 98 MINN. L. REV. 868, 922–32 (2014). See also James Grimmelman, *Three Theories of Copyright in Ratings*, 14 VAND. J. ENT. & TECH. L. 851, 868 (discussing ratings as opinions).

87. In Rudder’s words, “[D]oes the mere suggestion cause people to actually like each other? As far as we can measure, yes, it does.” Rudder, *supra* note 21. Cf. Casarett et al., *supra* note 79, at 2275 (arguing that quality improvement activities should be regarded as “research” when “the majority of patients involved are not expected to benefit directly from the knowledge to be gained”); David Doezema & Mark Hauswald, *Quality Improvement or Research: Distinction Without a Difference?* 24 IRB, July-Aug. 2002, at 9 (applying Casarett criterion).

88. See, e.g., Bond, *supra* note 15; Burke, Marlow, & Lento, *supra* note 16.

89. 45 C.F.R. § 46.101(a) (2015).

90. *Id.* § 46.103.

91. See Cornell Univ., *Emotional Contagion Sweeps Facebook, Finds New Study*, EUREKALERT! (June 15, 2014), http://www.eurekaalert.org/pub_releases/2014-06/cu-ecs061314.php (“The study was funded in part by the James S. McDonnell Foundation and the Army Research Office.”). But see H. Roger Segelken & Stacey Shackford, *News Feed: ‘Emotional Contagion’ Sweeps Facebook*, CORNELL CHRON. (June 10, 2014),

OkCupid is a private company through and through.⁹² Thus, the Common Rule does not directly apply to the Facebook or OkCupid studies. But inapplicability of a federal statute is not the end of the story. There is also state law.

Some states go beyond the Common Rule in their protections for research participants.⁹³ California, for example, requires more substantively detailed informed consent from participants in a “medical experiment” than the Common Rule does,⁹⁴ while New York requires informed consent and IRB review for research involving “physical or psychological intervention,” even when it is not federally funded.⁹⁵ Maryland has gone the furthest in closing the Common Rule’s gap for privately funded research. In 2002, following two high-profile research scandals,⁹⁶ the General Assembly enacted House Bill 917,⁹⁷ which makes the Common Rule applicable to all research conducted in Maryland, regardless of funding source.⁹⁸

<http://www.news.cornell.edu/stories/2014/06/news-feed-emotional-contagion-sweeps-facebook> (“Correction: ... In fact, the study received no external funding.”). The best reporting on the source of this misstatement is Lorenzo Franceschi-Bicchieri, *The Facebook Manipulation Study’s Mysterious Connection to the Military*, MASHABLE (July 2, 2014), <http://mashable.com/2014/07/02/facebook-study-military-connection/>.

92. To be precise, it is a subsidiary of the publicly traded IAC. See OkCupid, IAC, <http://iac.com/brand/okcupid> (last visited Jan. 30, 2015).

93. See generally Adil E. Shamoo & Jack Schwartz, *Universal and Uniform Protections of Human Subjects in Research*, 8 AM. J. BIOETHICS 3, (2008)); Jack Schwartz, *Oversight of Human Subject Research: The Role of the States*, 2 ETHICAL & POL’Y ISSUES IN RES. INVOLVING HUMAN PARTICIPANTS M-1 (2001). The Common Rule explicitly allows states to enact protections supplementing those in the Common Rule. See 45 C.F.R. § 46.101(f) (2015).

94. CAL. HEALTH & SAFETY CODE §§ 24170-24179.5 (West 2014) (requiring detailed informed consent as part of an “Experimental Subject’s Bill of Rights”).

95. N.Y. PUB. HEALTH LAW §§ 2440-46 (McKinney 2014) (requiring informed consent and oversight by a “human research review committee”).

96. In one, a healthy 24-year-old volunteer died in an inadequately supervised research study at Johns Hopkins after receiving a lethal dose of hexamethonium, which had not been approved by the FDA for use in humans. See Bette-Jane Crigger, *What Does It Mean to “Review” a Protocol? Johns Hopkins & OHRP*, IRB: ETHICS AND HUMAN RESEARCH, July-Aug. 2001, at 13. In another, researchers first arranged for landlords to rent apartments containing lead paint to families with young children and then enrolled those children in a study to determine the effectiveness of various lead abatement procedures without adequately warning parents of the heightened risks. *Grimes v. Kennedy Krieger Inst., Inc.*, 782 A.2d 807 (Md. 2001). Compare Hyman, *supra* note 74, at 765-67 (calling *Grimes* “an intellectual embarrassment”), with Helen Epstein, *Lead Poisoning: The Ignored Scandal*, N.Y. REV. BOOKS (Mar. 21, 2013), available at <http://www.nybooks.com/articles/archives/2013/mar/21/lead-poisoning-ignored-scandal/> (“[T]he researchers almost certainly knew in advance that level I and level II abatement—the cheaper of the three methods used—would not protect children from being poisoned.”).

97. See David Nitkin, *Senate OKs Bill to Tighten Rules on Human Research*, BALT. SUN, Apr. 6, 2002, at 1B (House Bill 917 was overwhelmingly popular: it passed the Maryland House by a vote of 135-1 and the Senate by a vote of 47-1).

98. MD. CODE ANN., HEALTH-GEN. § 13-2002(a) (“A person may not conduct research

Maryland House Bill 917 easily reaches Internet research like Facebook's and OkCupid's because their research easily reaches Maryland. Facebook has well over a hundred million users in the United States; the emotional contagion study involved over 689,000 English-speaking users selected at random.⁹⁹ OkCupid has nearly four million active users;¹⁰⁰ the match percentage experiment involved approximately five hundred of them.¹⁰¹ Maryland accounts for nearly two percent of the United States population, so statistically it is overwhelmingly likely that the experimental groups included Maryland residents. So the Common Rule's protections do apply to them, just as a matter of Maryland rather than federal law.

Some commentators, however, have raised Constitutional objections to House Bill 917.¹⁰² Phillip Hamburger argues that mandatory pre-research IRB review is a form of licensing of the press forbidden by the First Amendment.¹⁰³ The most obvious reply—that the Common Rule is permissible under the Spending

using a human subject unless the person conducts the research in accordance with the federal regulations on the protection of human subjects.”); *id.* § 13-2001(b)(1) (the “federal regulations” are specifically defined to mean the Common Rule). Moreover “research” and “human subject” are defined in terms of the Common Rule’s definitions; *see id.* § 13-2001(c) & (e). Contemporaneous review of the legislative history indicated that the purpose of House Bill 917 was to close a “regulatory gap ... by imposing the federal regulations on research to which the regulations would otherwise be inapplicable by reason of funding source.” Letter from J. Joseph Curran Jr., Att’y Gen. of Md., to Parris N. Glendening, Governor of Md. (May 2, 2002), at 2, *available at* <http://www.oag.state.md.us/Healthpol/hb917letter.pdf>). *See also* VA. CODE ANN. §§ 32.1-162.16-20 (extending informed consent and IRB review requirements to research projects conducted in Virginia but not subject to the Common Rule).

99. Kramer, Guillory, & Hancock, *supra* note 7.

100. *See Sam Yagan*, IAC, <http://iac.com/about/leadership/iac-senior-management/sam-yagan>. It also actively promotes its services to Maryland residents. *See Online Dating in Baltimore*, OKCUPID, <http://www.OkCupid.com/online-dating/baltimore/maryland/>.

101. *See Machkovech*, *supra* note 22.

102. At the time, the Maryland Attorney General’s office approved the constitutionality of House Bill 917 without detailed discussion. *See* Letter from Joseph Curran, *supra* note 98, at 1. But that by itself establishes nothing; the Attorney General’s opinions receive no legal deference, and claims without supporting analysis are not entitled to scholarly deference. One question I have been asked with both skepticism and frequency is whether Maryland, a state, can apply its laws to the whole of the Internet. But in this context the Dormant Commerce Clause is not much of an obstacle. Maryland can certainly regulate companies’ interactions with users who have self-identified as Marylanders. *See, e.g., Rousso v. State*, 239 P.3d 1084 (Wash. 2010) (Washington can prohibit out-of-state entities from offering online gambling to Washington residents). *See generally* Jack L. Goldsmith & Alan O. Sykes, *The Internet and the Dormant Commerce Clause*, 110 YALE L.J. 785 (2001) (arguing that states have substantial leeway to apply their laws to Internet conduct targeting their states).

103. Phillip Hamburger, *Getting Permission*, 101 NW. U. L. REV. 405 (2007); Phillip Hamburger, *The New Censorship: Institutional Review Boards*, 2004 SUP. CT. REV. 271.

Clause because it only applies to federally funded research¹⁰⁴—is not available for House Bill 917’s regulation of private research. Another reply is more on point: the Common Rule targets the research process, rather than the publication of research results.¹⁰⁵ The First Amendment does not exempt journalists from laws against burglary and bribery, even if such techniques are sometimes useful in landing a story. The First Amendment interest, if there is one, is in the “right to research”: the freedom to engage in scientific inquiry and study the world.¹⁰⁶ But such a right is not unlimited: numerous laws constitutionally protect people from being observed deceptively or abusively.¹⁰⁷ House Bill 917’s biggest problem is probably overbreadth. Even if constitutional as applied to commercial actors—like Facebook and OkCupid—engaged in user manipulation, it may not be constitutional as applied to other activities, ones that the Common Rule might classify as “research” but for their source of funding, such as investigative journalism and family oral histories.¹⁰⁸

6. Engagement

According to a Cornell media statement, the emotional contagion study was presented to the Cornell IRB, which concluded that “no review . . . was required” because the Cornell-affiliated

104. See, e.g., John A. Robertson, *The Law of Institutional Review Boards*, 26 UCLA L. REV. 484, 498–502 (1979); but see Hamburger, *The New Censorship*, *supra* note 103, at 314–37 (analyzing requirement of IRB assurance from funded institutions as an unconstitutional condition).

105. See James Weinstein, *Institutional Review Boards and the Constitution*, 101 NW. U. L. REV. 493, 506 (2007) (describing IRB regulations as “laws of general applicability” because “[i]t is the researchers’ use of human subjects that triggers the application of the regulations, not the choice to interview . . . the subjects”); but see Hamburger, *The New Censorship*, *supra* note 103, at 301–05, 312 (arguing that the Common Rule is targeted primarily at the speech content of research and publication); Hamburger, *Getting Permission*, *supra* note 103, at 430–37 (same).

106. John A. Robertson, *The Scientist’s Right to Research: A Constitutional Analysis*, 51 S. CAL. L. REV. 1203 (1977). See also Dana Remus Irwin, *Freedom of Thought: The First Amendment and the Scientific Method*, 2005 WIS. L. REV. 1479 (arguing that experimentation as such is not protected by the First Amendment but that we should understand such protection as necessary to protect researchers’ freedom of thought).

107. See Robertson, *supra* note 104, at 506–09 (describing right to research as one that applies “with respect to willing sources” and defending IRB review as a constitutionally permissible means “to protect valid state interests in health, safety, and autonomy of subjects.”); Weinstein, *supra* note 105, at 536 (describing research participants as “vulnerable subjects dependent on the researcher for their well being” for First Amendment purposes, rather than as “autonomous and independent citizens engaged in self-governance.”).

108. See Zachary M. Shrag, *How State IRB Laws Threaten the Social Sciences: A Comment on Shamoo and Schwartz*, INSTITUTIONAL REV. BLOG (Jan. 6, 2008, 2:50 PM), <http://www.institutionalreviewblog.com/2008/01/how-state-irb-laws-threaten-social.html> (discussing reach of House Bill 917).

investigators were not “directly engaged in human research.”¹⁰⁹ In the IRB’s view, the study constituted “previously conducted research by Facebook into emotional contagion among its users” but the Cornell affiliates “did not participate in data collection and did not have access to user data.”¹¹⁰ This analysis all but concedes that the study was non-exempt research with human participants. Instead, the statement argues that the Cornell affiliates did not participate in the portions of the study involving human participants, stating, “Their work was limited to initial discussions, analyzing the research results and working with colleagues from Facebook to prepare the peer-reviewed paper. . . .”¹¹¹

Before engaging with this reasoning, we should be clear on the nature of the work the Cornell statement is trying to do. It closely tracks the language of the federal Office for Human Research Protections’ nonbinding Guidance on Engagement of Institutions in Human Subjects Research,¹¹² under which “institution[s are] considered *engaged* in a particular non-exempt human subjects research project . . . when the involvement of their employees or agents in that project includes”¹¹³ various activities.¹¹⁴ The underlying policy here is simple and sensible. It is not and should not be enough to trigger the Common Rule’s application to researcher A,

109. John Carberry, *Media Statement on Cornell University’s Role in Facebook ‘Emotional Contagion’ Research*, CORNELL UNIV. MEDIA RELATIONS OFFICE (June 30, 2014), <http://mediarelations.cornell.edu/2014/06/30/media-statement-on-cornell-universitys-role-in-facebook-emotional-contagion-research/>. I requested the actual research protocol submitted to the Cornell IRB, the IRB’s official response, and any other IRB records relevant to understanding its reasoning. See Email from James Grimmelmann, Professor of Law, Univ. of Md., to Cornell IRB (Feb. 11, 2015) (on file with author). The IRB declined to make its records available, citing confidentiality concerns. See Email from Amita Verma, Director, Office of Res. Integrity and Assurance, Cornell Univ., to James Grimmelmann (Feb. 11, 2015) (on file with author). Thus, the only way to understand the Cornell IRB’s rationale is to reconstruct it from secondary sources, such as the media statement and hearsay accounts provided by third parties who discussed the study with the investigators.

110. Carberry, *supra* note 109.

111. *Id.*

112. U.S. DEP’T OF HEALTH & HUMAN SERVS., OFFICE FOR HUMAN RESEARCH PROTS., GUIDANCE ON ENGAGEMENT OF INSTITUTIONS IN HUMAN SUBJECTS RESEARCH (Oct. 16, 2008), available at <http://www.hhs.gov/ohrp/policy/engage08.html> [hereinafter OHRP GUIDANCE ON ENGAGEMENT]. See also Renee Wilson et al., *Evidence-Based Research Ethics and Determinations of “Engagement in Research,”* IRB, Mar.–Apr. 2014, at 10 (discussing how IRBs apply OHRP Guidance on Engagement in practice).

113. OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112, at III.A.

114. Carberry, *supra* note 109. The statement hedges by saying that the Cornell investigators “w[ere] not *directly* engaged in human research.” *Id.* (emphasis added). The word “directly” does not appear either in the Common Rule or in the OHRP Guidance on Engagement. *But see* U.S. DEP’T OF HEALTH & HUMAN SERVS., OFFICE FOR HUMAN RESEARCH PROTS., GUIDANCE ON RESEARCH INVOLVING CODED PRIVATE INFORMATION OR BIOLOGICAL SPECIMENS (Oct. 16, 2008), available at <http://www.hhs.gov/ohrp/policy/cdebiol.html>.

that researcher B somewhere else in the world is engaged in research with human participants. There must be some significant nexus between researcher A and the research with human participants. It is not enough, for example, if researcher A copyedits researcher B's draft paper, or if researcher A is a reviewer on researcher B's grant proposal. Morally, researcher A is not significantly implicated in the human-participant aspects of the research. Legally, the Guidance on Engagement fleshes out the definitions in the Common Rule to draw administrable lines (nonbinding though they may be) to say when the researchers of the world are not "engaged" in research. Let us take up these lines, one at a time.

One way to understand the Cornell IRB's reasoning is that it believed the Cornell-affiliated researchers were working only with existing data. Even where research involves human participants, it is exempt from informed consent and IRB review under the Common Rule when it involves only "the collection or study of existing data . . . if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects."¹¹⁵ The theory of existing datasets is that an investigator who passively collects data can harm a subject only indirectly, through misuse of that data. This is why the threshold for allowing unregulated use of such data is either that it already be public (so that anyone could have done what the investigator did) or that the investigators not be able to identify the participants (thereby effectively undoing the collection of "[i]dentifiable private information").¹¹⁶ OHRP's Guidance on Engagement tracks these definitions and this reasoning by stating that one of the activities that makes investigators "engaged" in research is that they "obtain for research purposes identifiable private information."¹¹⁷ In turn, the emotional contagion study's defenses track the Guidance on Engagement. Thus, the Cornell statement emphasizes that the Cornell affiliates "did not participate in data collection and did not have access to user data"¹¹⁸ and "had access only to results—and not to any individual, identifiable data at any time,"¹¹⁹ and the emotional

115. 45 C.F.R. § 46.101(b)(4).

116. 45 C.F.R. § 46.102(f)(2). There is, of course, the risk of re-identification of supposedly anonymized datasets. See Paul Ohm, *Broken Promises of Privacy: Responding to the Surprising Failure of Anonymization*, 57 UCLA L. REV. 1701 (2010); Felix T. Wu, *Defining Privacy and Utility in Data Sets*, 84 U. COLO. L. REV. 1117 (2013).

117. OHRP HUMAN SUBJECTS RESEARCH GUIDANCE, *supra* note 112, at III.A.6.

118. Carberry, *supra* note 109.

119. *Id.*

contagion article states that “no text was seen by the researchers.”¹²⁰

But this analysis is incomplete, because obtaining identifiable private information is only one of two ways for an investigator to conduct research with a human participant under the Common Rule and the Guidance on Engagement. The other is to obtain any data, identifiable or not, “through intervention or interaction with [an] individual.”¹²¹ The Common Rule defines “intervention” to include “manipulations of the . . . subject’s environment that are performed for research purposes.”¹²² The emotional contagion study’s authors interacted with Facebook users by manipulating the contents of users’ News Feeds. Moreover, the Cornell-affiliated investigators were happy to take credit for the research program. The article itself states that all three authors “designed research”¹²³ and the Facebook-affiliated author, Adam Kramer, referred to it as “my and Jamie [Guillory] and Jeff [Hancock]’s recent study” and “our research.”¹²⁴ At least according to these characterizations of their roles, the Cornell researchers collected data for research purposes through interaction with participants and thus were engaged in research under the Common Rule.¹²⁵

The crucial ethical issue here is whether researchers are working with data that exists independently of their actions or whether they had a hand in creating it.¹²⁶ The reasoning that allows

120. Kramer, Guillory, & Hancock, *supra* note 7, at 8789.

121. 45 C.F.R. § 46.102(f)(1). See OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112, at III. The Cornell media statement seems to have in mind scenarios of the Guidance which state that an institution is not engaged in research when its personnel obtain unidentifiable private information, or when they author papers describing the research. *Id.* at III.B.7.11. But these scenarios only apply when the institution’s “involvement . . . is limited to one or more of [the scenarios].” *Id.* at III.B. Researchers’ participation at earlier stages of a project—e.g., designing a research protocol and arranging to have a colleague carry it out so they can analyze the resulting data—can take them out of the scope of the non-engagement scenarios, and on the facts of the emotional contagion study, it does.

122. 45 C.F.R. § 46.102(f). See also OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112, at III.A.3.

123. Kramer, Guillory, & Hancock, *supra* note 7, at 8788; cf. *Editorial Policies*, *supra* note 51 (defining criteria for authorship of published articles).

124. Adam D.I. Kramer, FACEBOOK (June 29, 2014, 1:05 PM), <https://www.facebook.com/akramer/posts/10152987150867796>. Kramer referred to “study” and “research,” terms that imply a higher degree of participation in the research itself than, e.g., “article.” See also Jay Rosen, *Why Do They Give Us Tenure?*, PRESS THINK (Oct. 25, 2014), <http://pressthink.org/2014/10/why-do-they-give-us-tenure/> (reporting on Hancock’s discussion of his role in the research); Segelken & Shackford, *supra* note 91 (describing generically the work of “researchers” in the Facebook Study and attributing prominent role to Cornell-affiliated investigator).

125. For a contrary view of the engagement issue, see Meyer, *supra* note 79.

126. This is why the term “existing data” is a bit of a red herring. To be sure, pre-existing data does not owe its existence to researchers’ interventions, so retrospective analyses of it require only de-identification. But the crucial issue is independence, not

researchers to work freely with de-identified data “collected by others (for non-research purposes) over a period of time”¹²⁷ breaks down when the researchers themselves are responsible for its existence, because they set in motion the interventions to which the data pertains.¹²⁸ The emotional contagion study was not a case in which the investigators worked with someone else’s data; the dataset came into being in January 2012 precisely as a result of a manipulation designed in part by the Cornell investigators and intended by them for use in this experiment on Facebook users.

A subtler way to read the Cornell IRB’s reasoning is as arguing that Facebook would have done the emotional contagion research regardless of whether the Cornell affiliates participated or not. Thus, the Cornell media statement refers to “research . . . conducted *independently* by Facebook,”¹²⁹ and the article’s editor at *PNAS* wrote, “the authors indicated that their university IRB had approved the study, on the grounds that Facebook filters user news feeds all the time.”¹³⁰ These arguments treat the emotional contagion study as part of an ongoing Facebook research program, one that is part of the larger Facebook user experience and one for which the Cornell affiliates bear no causal responsibility. Neither the “initial discussions” nor the “analyzing the research results”—one before

timing. The Guidance on Engagement properly allows researchers to receive de-identified data prospectively as it is generated, rather than being restricted to working retroactively with datasets “in existence at the time the study begins.” Jerry Menikoff, *Where’s the Law? Uncovering the Truth About IRBs and Censorship*, 101 NW. U. L. REV. 791, 796 (2007); see also OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112. A better terminological distinction is between “primary” research in which “the researcher directly obtains information from the subject” and “secondary” research in which “the researcher obtains and parses a data set gathered by someone else.” Fairfield, *supra* note 2, at 704. *PNAS* and the Cornell IRB treated primary research as though it were secondary.

127. Menikoff, *supra* note 126, at 796.

128. The Guidance on Engagement attempts to capture this idea by referring to the purposes of the investigators who are or are not “engaged” in research. OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112 (“In general, an institution is considered *engaged* in a particular non-exempt human subjects research project when its employees or agents for the purposes of the research project . . .”). But this is slightly too narrow, because the experiment could have been carried out *for a research purpose* by someone else. See Fairfield, *supra* note 2, at 713 (discussing relevant provisions of the Guidance). The Guidance, read too literally, lets investigators circumvent it by disaggregating the *actus reus* and *mens rea* of research.

129. Carberry, *supra* note 109 (emphasis added).

130. See e-mail from Susan Fiske to Matt Pearce, <https://twitter.com/mattdpearce/status/483398731731976192>. This e-mail is a third-hand report of the IRB’s reasoning, so it may not be entirely accurate. See also Metz, *supra* note 13 (describing Facebook’s system for allowing advertisers to run experiments); *The Trust Engineers*, *supra* note 20 (describing Facebook’s constant product-focused experimentation on user experience).

the experimental intervention and one after—were proximately connected to it.

I am more skeptical. It is true only in a general sense that “Facebook continually creates these interventions.” A surgeon “continually creates . . . interventions,” but knowledge of this general fact does not constitute informed consent to experiments involving a specific new procedure. So here. The specific intervention at issue—the selective hiding of emotionally laden posts—was imposed on users by the investigators as part of their research program, even if Facebook often imposes other interventions of the same general type.

A. *Informed Consent*

The Common Rule’s definition of “informed consent” includes providing a description of the research to participants,¹³¹ disclosing “any reasonably foreseeable risks or discomforts,”¹³² providing a point of contact for questions,¹³³ and giving participants the ability to opt out with “no penalty or loss of benefits to which the subject is otherwise entitled.”¹³⁴ Formally, informed consent must be documented using a signed form, a copy of which is given to the participant.¹³⁵

Facebook and OkCupid did almost none of this. Participants were not told that they would be part of a study. Indeed, the affected Facebook users still have not been informed. OkCupid sent affected users a brief email after the fact telling them the correct match percentages, but the email obfuscated the research purpose of the experiment.¹³⁶ Neither Facebook nor OkCupid offered users an opportunity to opt out; neither obtained specific consent from users; neither offered a point of contact for questions about the experiments.

Disclosure of “reasonably foreseeable risks or discomforts” plays a central role in informed consent; they are the research-related harms about which participants deserve to be informed. Both

131. 45 C.F.R. § 46.116(a)(1) (2014). These rules are defaults; they are subject to exceptions discussed below.

132. *Id.* § 46.116(a)(2).

133. *Id.* § 46.116(a)(7).

134. *Id.* § 46.116(a)(8).

135. *Id.* § 46.117(a).

136. See Kashmir Hill, *How OkCupid Informed Users They’d Been Part Of An Experiment*, FORBES (July 29, 2014), <http://www.forbes.com/sites/kashmirhill/2014/07/29/how-okcupid-informed-users-theyd-been-part-of-an-experiment/> (“Dear [name A] Because of a diagnostic test, your match percentage with [name B] was misstated as [%]. It is actually [%]. We wanted to let you know!”).

the Facebook and OkCupid experiments had readily foreseeable risks. The emotional contagion study was designed to demonstrate that “emotions expressed by friends, via online social networks, influence our own moods,”¹³⁷ and the initial hypothesis was that participants in one of the treatment groups would “express increased negativity.”¹³⁸ As for OkCupid, the principal risk consisted of deliberately bad matches. Any argument that mismatching is harmless to users is an uneasy one; if true, it suggests that OkCupid itself is useless for its intended purpose. This is not to say that the anticipated risk to any given Facebook or OkCupid user was large, only that there clearly were at least some foreseeable risks in both cases.

In addition, Facebook did not exclude minors from the emotional contagion study.¹³⁹ The Common Rule generally requires that in research involving minors “adequate provisions are made for soliciting the assent of the children.”¹⁴⁰ The standard for “assent” requires “a child’s affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent.”¹⁴¹ In addition, the Common Rule requires “adequate provisions . . . for soliciting . . . the permission of [the children’s] parents or guardians.”¹⁴² Facebook did not notify the parents of minor participants, or obtain their agreement.

1. Terms of Service

The fact that these experiments take place on social websites creates a new possibility for obtaining informed consent: terms of service.¹⁴³ This possibility, however, is mostly theoretical. The language in typical terms of service is too general, and the signup process too attenuated, to generate meaningful informed consent.

137. Kramer, Guillory, & Hancock, *supra* note 7, at 8789.

138. *Id.*

139. See Reed Albergotti & Elizabeth Dwoskin, *Facebook Study Sparks Soul-Searching and Ethical Questions*, WALL ST. J. (June 30, 2014), <http://www.wsj.com/articles/facebook-study-sparks-ethical-questions-1404172292>. OkCupid, on the other hand, is “not intended for children under 18 years of age” and does not allow minors to use its service. See *Terms and Conditions*, OKCUPID, <http://www.okcupid.com/legal/terms> (last revised Apr. 24, 2014).

140. 45 C.F.R. § 46.404.

141. *Id.* § 46.402(b).

142. *Id.* § 46.404; see also *id.* § 46.402(c) (defining “permission”).

143. Cornell’s IRB has guidance on social media research. See *Use of Social Networking Sites or Mobile Devices for Human Participant Research*, CORNELL OFF. RES. INTEGRITY & ASSURANCE, (May 3, 2013), <http://www.irb.cornell.edu/documents/IRB%20Policy%2020.pdf> (discussing terms of service as a possible restriction on researchers’ access, rather than as a source of consent).

Consider the emotional contagion study. The article based on it states that the research “was consistent with Facebook’s Data Use Policy, to which all users agree prior to creating an account on Facebook, constituting informed consent for this research.”¹⁴⁴ The premise of the argument is false; the study was inconsistent with the Data Use Policy. The version in force at the time of the study did not even use the word “research.”¹⁴⁵ OkCupid’s terms are a little more informative: they say that the site may “perform research and analysis about your use of, or interest in, our products, services, or content, or products, services or content offered by others.”¹⁴⁶ But like Facebook’s, this is merely a data use policy; it says nothing about deliberately tampering with users’ experiences to experiment on them.

Even where terms of service are broad enough to sweep in

144. Kramer, Guillory, & Hancock, *supra* note 7, at 8789.

145. See *Facebook Data Use Policy*, FACEBOOK (revised Sept. 23, 2011), available at <http://thecoudrain.com/files/documents/Facebook-Data-Use-Policy.pdf>. The only remotely relevant portion of the policy read:

How we use the information we receive

We use the information we receive about you in connection with the services and features we provide to you and other users like your friends, the advertisers that purchase ads on the site, and the developers that build the games, applications, and websites you use. For example, we may use the information we receive about you:

- as part of our efforts to keep Facebook safe and secure;
- to provide you with location features and services, like telling you and your friends when something is going on nearby;
- to measure or understand the effectiveness of ads you and others see;
- to make suggestions to you and other users on Facebook, such as: suggesting that your friend use our contact importer because you found friends using it, suggesting that another user add you as a friend because the user imported the same email address as you did, or suggesting that your friend tag you in a picture they have uploaded with you in it.

Granting us this permission not only allows us to provide Facebook as it exists today, but it also allows us to provide you with innovative features and services we develop in the future that use the information we receive about you in new ways.

Four months after the study, Facebook updated the Data Use Policy to say that it would use user information “for internal operations, including troubleshooting, data analysis, testing, research and service improvement,” but published academic research is hardly “internal operations.” Kashmir Hill, *Facebook Added ‘Research’ To User Agreement 4 Months After Emotion Manipulation Study*, FORBES (June 30, 2014, 8:16 PM), <http://www.forbes.com/sites/kashmirhill/2014/06/30/facebook-only-got-permission-to-do-research-on-users-after-emotion-manipulation-study>. See also *Facebook Data Use Policy*, FACEBOOK (last revised Jan. 30, 2015), https://www.facebook.com/full_data_use_policy.

146. Privacy Policy, OKCUPID (last revised Oct. 31, 2013), <http://www.okcupid.com/legal/privacy>.

“research,” they do not remotely approach the Common Rule standard of informed consent.¹⁴⁷ Neither Facebook’s nor OkCupid’s policies provide users with descriptions of the research,¹⁴⁸ discussions of the risks involved,¹⁴⁹ a point of contact for questions,¹⁵⁰ or an opportunity to decline participation.¹⁵¹ This is not informed consent. The argument that it is sounds plausible only because “consent” is equivocal. The courts have accepted a thin and fictional form of “consent”—a warning that there are terms, a chance to read them, and a chance to say “no”—to make terms of service legally binding on users.¹⁵² But the Common Rule adopts a thicker and more substantive form of consent; it says that consent does *not* count unless it is both detailed and documented. Whether or not the Facebook and OkCupid policies were legally effective to allow access to users’ personal information, they did not provide users with the information that would have made their consent “informed.”

There is a reason that OkCupid’s Christian Rudder refers to terms of service as a “charade of consent.”¹⁵³ In interviews, he has gone even further: “But guess what, everybody: if you use the Internet, you’re the subject of hundreds of experiments at any given time, on every site. That’s how websites work.”¹⁵⁴

This argument dispenses entirely with the terms; it looks for consent in the mere fact of using a website. Needless to say, it is not an argument that holds water under the Common Rule; informed consent may not be based on imputing expert technical knowledge to lay participants.

In late 2014, Facebook announced a major revision to its terms of service to take effect on January 1, 2015.¹⁵⁵ Under the new terms,

147. See Fairfield, *supra* note 2, at 720, 722-23 (distinguishing informed and contractual consent).

148. See 45 C.F.R. § 46.116(a)(1).

149. See *id.* § 46.116(a)(2).

150. See *id.* § 46.116(a)(7).

151. See *id.* § 46.116(a)(8).

152. See, e.g., ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996). For strong critiques of this approach to contractual consent, see NANCY S. KIM, WRAP CONTRACTS: FOUNDATIONS AND RAMIFICATIONS (2013); MARGARET JANE RADIN, BOILERPLATE: THE FINE PRINT, VANISHING RIGHTS, AND THE RULE OF LAW (2013); Mark A. Lemley, *Terms of Use*, 91 MINN. L. REV. 459 (2006).

153. *All Things Considered: OkCupid Sometimes Messes a Bit with Love, in the Name of Science*, NPR (July 29, 2014), available at <http://www.npr.org/2014/07/29/336356931/okcupid-sometimes-messes-a-bit-with-love-in-the-name-of-science>.

154. TLDR: *An Imperfect Match*, ON THE MEDIA (July 31, 2014), <http://www.onthemedial.org/story/32-ok-cupid/transcript/>; see also Jay Rosen, *Listener’s Guide to Christian Rudder Explaining Why OkCupid Experimented with Unwitting Users*, PRESSTHINK (Aug. 3, 2014, 5:09 PM), <http://pressthink.org/2014/08/listeners-guide-to-christian-rudder-explaining-why-okcupid-experimented-with-unwitting-users/>.

155. See *Updating Our Terms and Policies: Helping You Understand How Facebook*

Facebook explains, “We conduct surveys and research, test features in development, and analyze the information we have to evaluate and improve products and services, develop new products or features, and conduct audits and troubleshooting activities.”¹⁵⁶ The word “research” is a hyperlink to a page listing published research generated at Facebook.¹⁵⁷ In addition, the new data policy lists “conducting academic research and surveys” as one of the reasons Facebook will transfer user data to “partners” under confidentiality obligations.¹⁵⁸ While these terms themselves remain vague, they at least make it clearer that the “research” in question is academic research that may not be directly linked to improving the user experience. The best part of the revision is the hyperlink: the research page is chockablock with examples of past research projects.¹⁵⁹ At least in theory—if the page were more complete, better organized, and easier for lay users to read—providing examples would help users understand the range of experiments that Facebook might conduct on them. This is still not informed consent, but it is a step in the right direction.

2. Waiving or Altering Informed Consent

Some commentators have argued that getting informed consent from users would do little for them, while also harming the research.¹⁶⁰ Christian Rudder, for example, has argued that giving users more notice about the experiments would skew the results of research: “Once people know that they’re being studied along a particular axis, inevitably they’re gonna act differently.”¹⁶¹ But “gonna act differently” is not the legal standard for waiving informed consent. If it were, informed consent would never be viable. Telling

Works and How to Control Your Information, FACEBOOK (Jan. 1, 2015), available at <https://web.archive.org/web/20150101085116/https://www.facebook.com/about/terms-updates/>.

156. *Data Policy*, FACEBOOK, <https://www.facebook.com/about/privacy/update> (last updated Jan. 30, 2015).

157. *Research: Publications*, FACEBOOK, <https://research.facebook.com/publications> (last visited Mar. 19, 2015).

158. *Data Policy*, *supra* note 156.

159. *Research: Publications*, *supra* note 157. Ironically, it includes only an earlier paper by Kramer discussing an observational study of emotional contagion, but not Kramer’s *PNAS* paper reporting on the emotional contagion experiment. See Adam D.I. Kramer, *The Spread of Emotion via Facebook*, CHI ’12: CHI CONF. ON HUM. FACTORS IN COMPUTING SYS. 767 (2012), available at <https://www.facebook.com/publications/176977249129271>. Material omissions of this sort make the page significantly less useful in providing users with good information about the sorts of experiments Facebook runs on them.

160. See, e.g., Meyer, *supra* note 48.

161. *TLDR: An Imperfect Match*, *supra* note 154.

people things changes their behavior. Some bias in research results is part of the price we pay for informed consent. Rudder's argument proves too much.

Instead, the Common Rule allows an IRB to waive or alter informed consent¹⁶² in research that "involves no more than minimal risk"¹⁶³ (the minimal risk criterion) when the "research could not practicably be carried out without the waiver or alteration" (the impracticability criterion),¹⁶⁴ and provided that "[w]henver appropriate, the subjects will be provided with additional pertinent information after participation"¹⁶⁵ (the debriefing criterion). An IRB can also waive the requirement to use signed consent forms.¹⁶⁶

At the threshold, only an IRB can grant a waiver or alteration.¹⁶⁷ Perhaps the Facebook and OkCupid studies could have qualified had they gone before an IRB, but they did not, so this provision cannot retroactively bless them. Still, it is worth running through the rest of the analysis with an eye toward future studies.¹⁶⁸

The minimal risk criterion will often be easy to satisfy. A study involves "minimal risk" when "the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life."¹⁶⁹ This is a good fit for social media research, at least most of the time. The News Feed alterations, for example, replicate the sorts of content that users already see on Facebook; OkCupid users already communicate with each other. It might be that some user populations—Facebook users with clinical depression, perhaps, or OkCupid users who are sexual assault survivors and use compatibility to assess safety—are at more than minimal risk. And more serious interventions—sending users fake messages about the death of a relative—would raise more serious concerns. But to a first approximation, most social media studies are minimal risk.

The impracticability criterion has more bite. Experiments

162. 45 C.F.R. § 46.116(d) (2009). For an insightful extended discussion of this provision, see Meyer, *supra* note 48.

163. *Id.* § 46.116(d)(1). See generally Loretta M. Kopelman, *Minimal Risk as an International Ethical Standard in Research*, 29 J. MED. & PHIL. 351, 353–55 (2004) (tabulating nine different possible interpretations of "minimal risk").

164. *Id.* § 46.116(d)(3).

165. *Id.* § 46.116(d)(4).

166. *Id.* § 46.117(c).

167. There is an ongoing debate over whether minimal-risk research should be exempt from IRB review entirely. Compare S. Kim et al., *Pruning the Regulatory Tree*, 457 NATURE 7229 (2009) (yes), with Mahesh Ananth & Michael R. Scheessele, *Exempting All Minimal-Risk Research from IRB Review: Pruning or Poisoning the Regulatory Tree?*, IRB: ETHICS & HUMAN RES., Mar.–Apr. 2012, at 9 (no).

168. See Meyer, *supra* note 48.

169. 45 C.F.R. § 46.102(i) (2009).

involving deception are a classic example of good candidates for waivers of informed consent: the participant's lack of knowledge of the true experiment is essential to the condition being tested.¹⁷⁰ The OkCupid mismatching experiment involved deception in just this way.¹⁷¹ And there is an argument that even the Facebook emotional contagion experiment would have been biased by telling users in advance (because they might then seek out their friends' unfiltered posts) and getting their consent (because they might self-select).¹⁷² But we should not overstate these arguments, because they may indicate only that the experiments were eligible for altered informed consent rather than a full waiver.¹⁷³ For example, Facebook users could have been informed of a research project involving selective exclusion of News Feed content in general terms and provided with a point of contact and opportunity to avoid participation. There is even an argument that the OkCupid mismatching experiment could have been conducted with full informed consent. It would have needed an experimental group of users whose reported match percentages were tweaked and who gave informed consent, and a control group of users whose match percentages were not tweaked and who also gave the same informed consent. That would have isolated the effect of tweaking the match percentages.

The precise tradeoff requires weighing the particular biases that would be introduced by a given consent procedure. The question of whether informed consent will make research impracticable is one

170. For a succinct and pungent discussion of the essential role of participant ignorance in psychological field experiments, see Zachary M. Schrag, *A Bit of Historical Perspective on the Facebook Flap*, INSTITUTIONAL REV. BLOG (June 30, 2014, 9:24 PM), <http://www.institutionalreviewblog.com/2014/06/a-bit-of-historical-perspective-on.html>. In his own way, Christian Rudder also recognizes the central role of deception in the OkCupid mismatching experiment. See Grimmelmann, *supra* note 84 ("It's not a coincidence that Rudder's hand-picked example is an experiment with the same central characteristic as the OkCupid mismatch experiment: deception."). This point cuts in both directions: On the one hand, keeping users in the dark heightens the ethical concerns; on the other, the justification for keeping them in the dark is correspondingly stronger.

171. For another example of an online study necessarily involving deception (of a particularly meta sort), see James M. Hudson & Amy Bruckman, *"Go Away": Participant Objections to Being Studied and the Ethics of Chatroom Research*, 20 INFO SOC'Y 127 (2004), available at <http://www.cc.gatech.edu/~asb/papers/journal/hudson-bruckman-tis04.pdf>; see also Amy Bruckman, *Annoying Internet Users in the Name of Science*, THE NEXT BISON (July 8, 2014), <http://nextbison.wordpress.com/2014/07/08/annoying-internet-users-in-the-name-of-science-2/>.

172. See Meyer, *supra* note 48 ("Finally, the study couldn't feasibly have been conducted with full Common Rule-style informed consent . . . without biasing the entire study.").

173. *Id.* ("In other words, the study was probably eligible for 'alteration' in some of the elements of informed consent otherwise required by the regulations, but not for a blanket waiver.").

that requires expert judgment about research methods, and at the end of the day, the Common Rule vests the decision of whether to grant a waiver or alteration in IRBs. That choice reflects a considered belief that IRBs are better positioned than researchers themselves to make these decisions. IRB critics disagree—IRBs' comparative lack of expertise in specific research fields is a regular refrain—but this choice for IRBs is hardly arbitrary or capricious.

Finally, the debriefing criterion was the one most flagrantly violated in the Facebook and OkCupid experiments, but is also the easiest to fix.¹⁷⁴ Facebook users still have not been informed that they took part in the emotional contagion experiment. OkCupid told its users who received incorrect match percentages, but obfuscated the research purpose of the test. In both cases, standardized debriefings could easily have been given via email or private message to the users who were unwittingly drafted into the studies. And in both cases, this after-the-fact notice would not have posed a risk of biasing the experiments, because the relevant data would already have been gathered.

All in all, the minimal-risk waiver-or-alteration provision in the Common Rule is for the most part a good fit for social media research. Applying it would require a few changes from past practice of the sort on display in the Facebook and OkCupid experiments. They would need IRB review, a minimal-risk analysis, an analysis of bias in relation to particular consent procedures, and post-experiment debriefing. None of these would be an insuperable obstacle.

B. IRB Review

The Common Rule regulates IRBs' composition, powers, duties, procedures, and record keeping.¹⁷⁵ To qualify, an IRB must have at least five members of specified backgrounds, competencies, and affiliations.¹⁷⁶ It must have written procedures and operate by quorum at convened meetings.¹⁷⁷ It must have the authority to approve or reject research, give written decisions, and regularly review ongoing projects.¹⁷⁸ It may use expedited single-member

174. See U.S. DEP'T OF HEALTH & HUM. SERVS., CONSIDERATIONS AND RECOMMENDATIONS CONCERNING INTERNET RESEARCH AND HUMAN SUBJECTS RESEARCH REGULATIONS, WITH REVISIONS 18 (2013), available at http://www.hhs.gov/ohrp/sachrp/mtgtings/2013%20March%20Mtg/internet_researchpdf (discussing deception in Internet research and recommending "appropriate debriefing").

175. See 45 C.F.R. § 46.109(a) (2014).

176. *Id.* § 46.107.

177. *Id.* § 46.108.

178. *Id.* § 46.109.

review only in specific types of cases involving minimal risk.¹⁷⁹ It must ensure that studies avoid unnecessary risks, that risks are reasonable in relation to the expected benefits of the research, that participants are selected equitably, that they give informed consent, that the informed consent is documented, that data is held securely and confidentially, and that vulnerable participants are given additional safeguards.¹⁸⁰ It must not be subject to institutional override when it rejects a project.¹⁸¹ It must have the authority to terminate non-compliant research,¹⁸² and it must keep detailed records.¹⁸³ These are not trivial responsibilities.

1. Facebook and OkCupid

It does not appear the Facebook or OkCupid experiments were approved by a qualifying IRB. They are not to my knowledge federally funded; neither of them had committed to IRB review. Just to be sure, Leslie Meltzer Henry and I decided to check. Maryland House Bill 917, discussed above, requires that every IRB make its minutes available for public inspection.¹⁸⁴ We sent certified letters to Facebook and OkCupid making formal demands to review their IRB minutes.¹⁸⁵ Facebook refused and OkCupid never replied—strong if circumstantial evidence that neither of them has a qualifying IRB.¹⁸⁶

Instead, at the time of the experiments, they had internal review processes that could best be described as “informal.” A former member of Facebook’s Data Science group stated that “there was no internal review board overseeing the studies” at Facebook at the time of the mood-manipulation experiment and that “members of the data science team could run almost any test they wanted, so long as it didn’t annoy users.”¹⁸⁷ At OkCupid, Christian Rudder acted as his own review panel: he was both “approver of company research and its chief interpreter.”¹⁸⁸ Rudder himself admitted to a reporter

179. *Id.* § 46.110.

180. *Id.* § 46.111.

181. *Id.* § 46.112.

182. *Id.* § 46.113.

183. *Id.* § 46.115.

184. MD. CODE ANN., HEALTH-GEN. § 13-2003(a) (West 2014).

185. See Letter from James Grimmelmenn and Leslie Meltzer Henry, Professors of Law, Univ. of Md., to Colin Stretch, General Counsel, FACEBOOK (July 24, 2014), available at <http://james.grimmelmenn.net/files/legal/facebook/Facebook.pdf>; see also Letter from James Grimmelmenn & Leslie Meltzer Henry, Professors of Law, Univ. of Md., to Gregg Winiarski, General Counsel, IAC (July 30, 2014), available at <http://james.grimmelmenn.net/files/legal/facebook/OkCupid.pdf>.

186. See Letter from Edward Palmieri, *supra* note 57.

187. Albergotti & Dwoskin, *supra* note 139; See also Ledvina, *supra* note 19.

188. See Singer, *supra* note 64.

that he acted under a “conflict of interest.”¹⁸⁹ Both companies’ systems fail almost every element of the Common Rule’s IRB regulations: not enough members, not enough expertise, no independent members, no written procedures, no convened meetings, no ongoing review, no risk minimization or risk-benefit tradeoff, no equitable selection, no informed consent or documentation of consent, no confidentiality, no protections for vulnerable participants, no protection against corporate override, and no record keeping.

In October 2014, Facebook announced a new internal review system for its research.¹⁹⁰ The core of the system is a set of guidelines that trigger an “enhanced review process before research can begin” if the research “is focused on studying particular groups or populations (such as people of a certain age) or if it relates to content that may be considered deeply personal (such as emotions).”¹⁹¹ Under the new system, “a panel including our most senior subject-area researchers, along with people from our engineering, research, legal, privacy and policy teams . . . will review projects falling within these guidelines.”¹⁹² This is not a Common Rule IRB and Facebook seems to have deliberately avoided calling it one.¹⁹³ At least based on what Facebook has said publicly, it lacks independent membership, protections against retaliation, and institutionalized record keeping. And no one on the panel is a user or is charged with speaking on users’ behalf.¹⁹⁴ But on the whole it is a substantial improvement over what came before, and it is also unusually good for the industry. Compare to OkCupid, which still appears to be operating by the seat of Christian Rudder’s pants.

2. Cornell and *PNAS*

Cornell University was at the time of the emotional contagion study the home of two of the researchers, and it does have an IRB. Initially it appeared that the Cornell IRB might have approved the study. *PNAS* has an editorial policy requiring IRB review,¹⁹⁵ and emails from the article’s editor seemed to suggest that the study had

189. *Id.*

190. See Mike Schroepfer, *Research at Facebook*, FACEBOOK NEWSROOM (Oct. 2, 2014), <http://newsroom.fb.com/news/2014/10/research-at-facebook/>.

191. *Id.*

192. *Id.*

193. Among other things, it has no members from outside of Facebook.

194. Cf. 45 C.F.R § 46.107(a) (2015) (requiring that IRBs include members with “sensitivity to such issues as community attitudes”).

195. *Editorial Policies*, *supra* note 51.

been approved by the IRB.¹⁹⁶ This turned out to be a misinterpretation of the role the Cornell IRB played. Following criticism and media scrutiny, Cornell issued a media statement explaining that its IRB had declined to review the study.¹⁹⁷

As discussed above, the Cornell IRB misread the Common Rule and OHRP's Guidance on Engagement by concluding that Cornell was not engaged in research with human participants. *PNAS*, in turn, misread the Cornell IRB's conclusions. *PNAS*'s editorial policies require that research with human participants have been "approved by the author's institutional review board."¹⁹⁸ Cornell's IRB did not "approve" the study; indeed, it did not even "review" the study on the merits. Instead it concluded only that the study was not sufficiently associated with Cornell for it to be Cornell's concern. Put another way, Cornell's IRB used a jurisdictional limit to conclude that Cornell was legally exempt.

But the purpose of *PNAS*'s editorial policy is broader: to ensure substantively that the research it publishes was conducted ethically. The other limits on IRB review in the Common Rule—such as the list of categories of exempt research¹⁹⁹—reflect substantive judgments about specific kinds of research to which *PNAS* might reasonably have deferred in waiving IRB review. But not this one; the purpose of an engagement analysis is to allocate responsibility for reviewing a study among different institutions, not to avoid that responsibility entirely. In applying its editorial policies, *PNAS* neglected to require, as OHRP does, that some IRB review any study involving research with human participants.²⁰⁰ In hindsight, *PNAS* should not have treated Cornell's non-review as IRB review on the merits; its decision to the contrary rests on an ambiguity in the meaning of "IRB review."

III. MOVING FORWARD

So much for the question of how social media experiments like Facebook's and OkCupid's are currently regulated. Now for the question of how, if at all, they ought to be regulated. In a sense, this is not a new debate. On the one hand the Common Rule reflects a consensus among major statements of research ethics that research on people should be governed by something more than researchers'

196. See, e.g., e-mail from Susan Fiske, *supra* note 130.

197. Carberry, *supra* note 109. The timing of the review has not been made public and it is not known whether it predated the data collection portion of the study.

198. *Editorial Policies*, *supra* note 51.

199. See 45 C.F.R. § 46.101(b) (2015).

200. See OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112.

own ethical judgment,²⁰¹ and that consensus extends to many of the social sciences.²⁰² But on the other, the Common Rule has no shortage of critics, and no shortage of critics of its application to the social sciences.²⁰³

I am not in a position to resolve these debates. Instead, I would like to make two narrower points about what if anything changes when social media companies experiment on their users. In the shorter term, to the extent that we are committed to the Common Rule framework of informed consent and IRB review for academic experiments, a blanket exemption for social media experiments would open up a serious and troubling loophole. In the longer term, when thinking about how informed consent and oversight should work in social media experiments, we should neither discard the Common Rule framework entirely, nor attempt to replicate it in every detail.

These are conditional arguments. To the extent that the Common Rule reflects a consensus about academic research on social media users, it should extend also to corporate research on social media users, because the ethical argument for regulating the latter is at least as strong as the argument for regulating the former. Even where the ethics of the researcher-participant relationship are otherwise the same, academic researchers are less likely to have serious conflicts of interest and more likely to share the knowledge they acquire in ways that benefit the public at large. But if corporate social media experiments do not need to worry about informed consent or ethical oversight, we should be having a conversation about exempting academics, too. I submit that if applying the Common Rule to corporate social science research makes you want to get off the bus, you have already missed your stop by several miles.

201. See, e.g., WORLD MED. ASS'N, WMA DECLARATION OF HELSINKI—ETHICAL PRINCIPLES FOR MED. RES. INVOLVING HUM. SUBJECTS (2013), available at <http://www.wma.net/en/30publications/10policies/b3/>.

202. See *supra* Part II.A.3.

203. See, e.g., SCHRAG, *supra* note 72; Hamburger, *The New Censorship*, *supra* note 103; Hamburger, *Getting Permission*, *supra* note 103; DEP'T OF HEALTH & HUM. SERVS., OFF. OF THE INSPECTOR GEN., INSTITUTIONAL REVIEW BOARDS: A TIME FOR REFORM (1998); DEP'T OF HEALTH & HUM. SERVS., OFF. OF THE INSPECTOR GEN., PROTECTING HUMAN RESEARCH SUBJECTS: STATUS OF RECOMMENDATIONS (2000); AM. ASS'N OF UNIV. PROFESSORS, RESEARCH ON HUM. SUBJECTS: ACADEMIC FREEDOM AND THE INSTITUTIONAL REV. BOARD (2006); C.K. GUNSALUS ET AL., IMPROVING THE SYS. FOR PROTECTING HUM. SUBJECTS: COUNTERACTING IRB "MISSION CREEP" (2006).

A. IRB Laundering

The rationales given in defense of the Facebook and OkCupid experiments, if accepted as stated, would deregulate large swaths of academic research, because they would allow academics to circumvent research ethics regulations whenever they work *just* closely enough with industry partners. The exception would swallow the Common Rule.

Take the analysis of engagement offered by the Cornell IRB. If followed, it would enable IRB laundering, in which “academic researchers evade formal ethics-review processes by collaborating with corporate researchers who do experiments and collect data within a company where ethics review processes are looser.”²⁰⁴ The emotional contagion authors may well have acted in good faith, but unscrupulous investigators could exploit the precedent set by their article’s publication.

Consider a hypothetical study: brick manipulation. Researchers at Stonewall University wish to find out whether people bleed when hit in the head with bricks. They design a study, carefully specifying brick size, weight, and velocity. Then they recruit a colleague at Brickbook, which throws bricks at people. The Brickbook-affiliated

204. Ed Felten, *Facebook’s Emotional Manipulation Study: When Ethical Worlds Collide*, FREEDOM TO TINKER (June 30, 2014), <https://freedom-to-tinker.com/blog/felten/facebooks-emotional-manipulation-study-when-ethical-worlds-collide/>; Sebastian Deterding, *The Facebook Loophole*, MEDIUM (July 1, 2014), <https://medium.com/@dingstweets/the-facebook-loophole-a39172e6496d>; Mary Gray, *When Science, Customer Service, and Human Subjects Research Collide. Now What?*, CULTURE DIGITALLY (July 9, 2014), <http://culturedigitally.org/2014/07/when-science-customer-service-and-human-subjects-research-collide-now-what/>; see also, Jay Rosen, *Facebook’s Controversial Study Is Business as Usual for Tech Companies but Corrosive for Universities*, WASH. POST (July 3, 2014), <http://www.washingtonpost.com/posteverything/wp/2014/07/03/dont-blame-facebook-for-screwing-with-your-mood-blame-academia/>; Lee Vinsel, *What’s Really Behind The Facebook Psyche Experiment Controversy*, TAMING THE AM. IDOL (July 2, 2014), <http://leevinsel.com/blog/2014/7/1/the-facebook-psyche-experiment-brouhaha-and-the-history-of-corporate-rd>.

Compare the practice of “IRB shopping,” defined as “the practice of submitting protocols to multiple IRBs until one is found that will approve the protocol.” Ryan Spelley & Thomas May, *More Than Cheating: Deception, IRB Shopping, and the Normative Legitimacy of IRBs*, 40 J. L. MED. & ETHICS 990, 990 (2012) (arguing that IRB shopping “reflects problems of normative legitimacy for the IRB system itself”). Compare also the challenges in regulating international clinical trials, particularly in developing countries with less effectively enforced protections for patients. See, e.g., *Abdullahi v. Pfizer, Inc.*, 562 F.3d 163, 168 (2d Cir. 2009) (allowing suit under Alien Tort Statute to proceed based on allegations that “Pfizer violated a customary international law norm prohibiting involuntary medical experimentation on humans when it tested an experimental antibiotic on children in Nigeria, including themselves, without their consent or knowledge”). See generally Seth W. Glickman et al., *Ethical and Scientific Implications of the Globalization of Clinical Research*, 360 N. ENGL. J. MED. 816 (2009); RUTH MACKLIN, *DOUBLE STANDARDS IN MEDICAL RESEARCH IN DEVELOPING COUNTRIES* (2004).

researcher reports back on the brick-induced bleeding (carefully withholding any identifiable private information about subjects), and the researchers collectively draft a paper.

Fortunately—and obviously—the brick manipulation study is entirely hypothetical. But the rationalizations offered in defense of the emotional contagion study would also apply to the brick manipulation paper. The Stonewall IRB could conclude the research was “conducted independently by Brickbook” and that Stonewall affiliates’ “work was limited to initial discussions and analyzing the research results.” As a private company, Brickbook has no IRB, indeed no ethics review process of any sort; Stonewall has an IRB but not one that considers the ethics of work carried out at Brickbook. The same reasoning that led *PNAS* to publish the emotional contagion article would say that the blatantly unethical brick manipulation paper is also suitable for publication. By delegating the implementation of the study to Brickbook, the Stonewall investigators have successfully routed around their own IRB. Literally any research project, no matter how ethically troubling, could be smuggled through an institution with no ethical review process. The infamous Stanford Prison Experiment, for example, if “conducted independently” at the Facebook headquarters in nearby Menlo Park rather than on the Stanford campus, would avoid IRB review entirely under the reasoning given here.²⁰⁵

The reverse is true as well: unregulated institutions could launder unethical projects by giving them a nominal connection to an IRB-regulated institution. Suppose that Brickbook has been hitting people with bricks as part of its day-to-day business. Eager to prove that brick manipulation is harmless, Brickbook hits some people with cinder blocks instead and observes the aftermath. To turn this project into a publishable paper, the Brickbook research team approaches an investigator from Stonewall. Once again, if the Stonewall IRB followed the Cornell IRB’s reasoning, it would conclude that the research was “conducted independently by Brickbook.” And if the Proceedings of the National Academy of Skull Fractures followed *PNAS*’s reasoning, it would conclude that the study was IRB approved and set the paper for publication.

205. The actual Stanford Prison Experiment was submitted to Stanford’s Human Subjects Research Review Committee. See Philip G. Zimbardo, *Application for Institutional Approval of Research Involving Human Subjects*, HUM. SUBJECTS RES. REV. COMMITTEE (NON-MEDICAL) (July 31, 1971), available at <http://www.prisonexp.org/pdf/humansubjects.pdf>; cf. David Auerbach, *Here Are All the Other Experiments Facebook Plans to Run on You*, SLATE (June 30, 2014, 1:09 PM), http://www.slate.com/articles/technology/technology/2014/06/facebook_experiments_on_users_they_ve_got_more_in_store.html.

These concerns illustrate the excitement—and the dangers—of research at the border between the academy and industry.²⁰⁶ The remarkable datasets held by social media companies are deeply attractive to academic researchers, and academic researchers' expertise is often deeply attractive to companies.²⁰⁷ But to the extent that the industry side of the border is perceived to be unregulated, academic researchers will be tempted to conduct their studies under the much looser rules applicable to industry.

The argument that Brickbook research is “independent” of Stonewall as long as Brickbook would have conducted it anyway is also too clever for its own good. Some ethical vegetarians avoid meat because they want to avoid killing animals. It follows that it is acceptable for them to eat animals that are already independently dead but not to eat animals killed specifically for them. The Stonewall researcher is in the position of accepting an invitation to join a friend for a turkey dinner next week, or pointing at a fish in the restaurant's tank and asking the waiter to come back in the event the fish should happen to die of natural causes in the next five minutes. Even if sometimes the “independence” is real, the circumstances of the relationship offer an obvious temptation to shade the truth.

Much the same could be said of three other arguments given in excuse of the emotional manipulation and mismatching studies: that they are unregulated quality-improvement studies, that terms of service provide any necessary consent, and that the possibility of biasing the results excuses asking for consent. All of these arguments prove too much. Each of them, if taken at face value, would also apply to the brick manipulation study. Brickbook already hits people with bricks, so hitting people with bricks in new and different ways could easily be described as quality improvement. Brickbook has terms of

206. Yes, yes, hitting people with bricks is usually a crime and a tort. Failure to apply the Common Rule here would not also legalize battery. But turn the point around. What rational system of research ethics regulation would avoid reviewing university-affiliated researchers' participation in a criminal conspiracy on the grounds that it is the job of police, not IRBs, to enforce criminal laws?

207. Facebook's own user-research group provides a good example. As of February 25, 2015, Facebook had twelve job openings for “Data Scientists,” see *Data and Analytics*, CAREERS AT FACEBOOK, <https://www.facebook.com/careers/teams/data> (last visited Feb. 25, 2015), including a position with a focus on “Identity Research & Modeling” whose job mission includes “develop[ing] high-quality models of people's online identity to power next-generation people-centric products and gain deeper insights into how people interact with the digital world.”; *Data Scientist, Identity Research & Modeling*, CAREERS AT FACEBOOK, <https://www.facebook.com/careers/department?dept=data&req=a0IA000000CzAeDMAV> (last visited Mar. 29, 2015); see also Graeme Wood, *Anthropology Inc.*, ATLANTIC (Feb. 20, 2013), <http://www.theatlantic.com/magazine/archive/2013/03/anthropology-inc/309218/> (“Microsoft is said to be the second-largest employer of anthropologists in the world, behind only the U.S. government.”).

service that refer generically to “applying objects to improve the Service.” And if Brickbook told people when it was hurling bricks at them, they’d duck, undermining the validity of the experimental data by excluding the quick-moving.

Thus, even if you are unconvinced that social media experiments should be directly regulated in their own right, as long as you believe that the current system of regulating academic research is worth preserving, you should be interested in finding limiting principles on the kinds of arguments discussed in this section. Those who say that Cornell was not “engaged” in research need to explain how its situation is distinguishable from Stonewall’s. So do those who claim that anything a social media company does is quality improvement, that terms of service provide blanket consent, or that any form of notice would bias research results. Social media experiments require a narrower and more specific justification.

B. Toward a Framework for Social Media Experiments

As the title of the Silicon Flatirons symposium this paper was born from suggests, I am not the first to write about companies that conduct experiments on their customers. In particular, Ryan Calo has proposed a deliberative multi-stakeholder process for devising rules for “Consumer Subject Review Boards.”²⁰⁸ He expects that the end result would be “radically different” from the current IRBs.²⁰⁹

I am not so sure—or rather, I think the conversation should start from the Common Rule, even if it is unlikely to end there. True, the Common Rule has serious issues, and true, the social media context raises new and distinct issues of its own. But considerations of political economy suggest that it is the right place to start.²¹⁰

208. Calo, *supra* note 2. For a related proposal for “Human-Subjects Research Oversight Committees” at companies, see Matthew Salganik, *After the Facebook Emotional Contagion Experiment: A Proposal for a Positive Path Forward*, FREEDOM TO TINKER (July 7, 2014), <https://freedom-to-tinker.com/blog/mjs3/after-the-facebook-emotional-contagion-experiment-a-proposal-for-a-positive-path-forward/>; Duncan J. Watts, *Lessons Learned from the Facebook Study*, CHRON. HIGHER ED. CONVERSATION BLOG (July 9, 2014), <http://chronicle.com/blogs/conversation/2014/07/09/lessons-learned-from-the-facebook-study/> (“What we need is an ethics-review process for human-subject research designed explicitly for web-based research . . . the core principle is one of peer review.”); Solberg, *Regulating Human Subjects Research in the Information Age*, *supra* note 5, at 334–39 (calling for OHRP guidance to clarify (and minimize) the role of the Common Rule in regulating social media research).

209. Calo, *supra* note 2, at 102.

210. See Fairfield, *supra* note 2, at 732–36 (discussing implications for online research of impending rulemaking for revisions to the Common Rule); Human Subjects Research Protections: Enhancing Protections for Research Subjects and Reducing Burden, Delay, and Ambiguity for Investigators, 76 Fed. Reg. 44512 (proposed July 26, 2011) (advance notice of proposed rulemaking) (to be codified at 45 C.F.R. §§ 46, 160,

If every social media company had a research ethics review process like Facebook's, then self-regulation might be worth taking more seriously. But the factors that led Facebook to create one were a product of its unique circumstances, including the immense public outcry over the emotional contagion experiment.²¹¹ For every Facebook, there is an OkCupid, an Ashley Madison,²¹² and an Uber.²¹³ The history of privacy protections shows that self-regulation without corresponding regulatory oversight is a cruel joke at the expense of users. Unless we start from a place in which social media research is subject to ethical limits, we will not get there. If companies like Facebook and OkCupid know that they must deal with the Common Rule, they will have every incentive to work constructively to fix its imperfections.²¹⁴ If they believe that they fall outside it, they will fight tooth and nail to continue in their unregulated ethical free-fire zone.

So what should change about the Common Rule for social media, and what should stay? I began this essay by asking three questions:

When do social media experiments constitute regulated research involving people?

164 & 21 C.F.R. §§ 50, 56).

211. See Kashmir Hill, *The Guy Standing Between Facebook and Its Next Privacy Disaster*, FUSION (Feb. 4, 2015), <http://fusion.net/story/41870/facebook-privacy-yul-kwon/> (“Back then, a small group of people could move something forward without review from other departments. That doesn’t happen anymore,” says Kwon [the head of a cross-functional privacy team at Facebook created after the emotional contagion experiment], ‘We would have prevented that.’”).

212. Ashley Madison, a dating site for adulterers, has supported research “proving” that most of its users are in committed relationships—research that involved reading users’ private correspondence. See Belinda Luscombe, *Cheaters’ Dating Site Ashley Madison Spied on Its Users*, TIME (Aug. 16, 2014), <http://time.com/3120241/ashley-madison-cheaters-site-spies-on-its-users/>.

213. See Chris O’Brien, *Uber Removed Blog Post from Data Science Team that Examined Link Between Prostitution and Rides*, VENTUREBEAT (Nov. 24, 2014, 3:49 AM), <http://venturebeat.com/2014/11/24/uber-removed-blog-post-from-data-science-team-that-examined-link-between-prostitution-and-rides/> (analyzing user data to map the neighborhoods where users took “Rides of Glory,” i.e. using an Uber to get home from a one-night stand); Craig Timberg, *Is Uber’s Rider Database a Sitting Duck for Hackers?*, WASH. POST. SWITCH BLOG (Dec. 1, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/12/01/is-ubers-rider-database-a-sitting-duck-for-hackers/> (“A person who had a job interview in Uber’s Washington office in 2013 said he got the kind of access enjoyed by actual employees for an entire day, even for several hours after the job interview ended. He happily crawled through the database looking up the records of people he knew—including a family member of a prominent politician—before the seemingly magical power disappeared.”); Kashmir Hill, *‘God View’: Uber Allegedly Stalked Users For Party-Goers’ Viewing Pleasure (Updated)*, FORBES (Oct. 3, 2014), <http://www.forbes.com/sites/kashmirhill/2014/10/03/god-view-uber-allegedly-stalked-users-for-party-goers-viewing-pleasure/>.

214. One avenue for such conversations may be the impending DHHS rulemaking to revise the Common Rule. See Human Subjects Research Protections, *supra* note 210.

What does it take to obtain the informed consent of users?

What institutions are responsible for reviewing the ethics of such studies?

These questions are also helpful in framing the analysis of what the rules governing social media experiments ought to be. The thoughts that follow are tentative suggestions about some of the relevant considerations.

1. Scope of Regulation

The Facebook and OkCupid studies demonstrate that corporate research raises the same essential issues as academic research: we should not be less concerned on behalf of research participants when the research methods are essentially the same. Indeed, there are reasons to be more worried about corporate research because researchers' self-interest looms larger.²¹⁵ The Facebook emotional contagion study was designed to respond to social science work suggesting that exposure to friends' happy experiences on social media makes users sadder out of envy.²¹⁶ Facebook cannot have been upset when the emotional contagion study refuted this gloomy view of Facebook's emotional effects on users—which should give us pause about companies' motivations to conduct experiments. Similarly, while Christian Rudder has stated that OkCupid's mismatching study was driven by a laudable desire to validate OkCupid's matching algorithm,²¹⁷ the research results were also

215. See generally James Grimmelmann, *Ethical Culture Clashes in Social Media Research*, LABORATORIUM (2D SER.) (Jan. 18, 2015), <http://2d.laboratorium.net/post/108480841510/ethical-culture-clashes-in-social-media-research> (discussing ethics of different motivations for research on social media users).

216. See Kramer, *supra* note 124 ("We felt that it was important to investigate the common worry that seeing friends post positive content leads to people feeling negative or left out."). For an overview of the relevant literature, see Pranger, *supra* note 10. Some specific papers making such suggestions include Hanna Krasnova et al., *Envy on Facebook: A Hidden Threat to Users' Life Satisfaction?*, PROC. 11TH INT'L CONF. ON WIRTSCHAFTSINFORMATIK (2013), http://warhol.wiwi.hu-berlin.de/~hkkrasnova/Ongoing_Research_files/WI%202013%20Final%20Submission%20Krasnova.pdf; Ethan Kross et al., *Facebook Use Predicts Declines in Subjective Well-Being in Young Adults*, PLOS ONE (Aug. 14, 2013), <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0069841>; Moira Burke, *Reading, Writing, Relationships: The Impact of Social Network Sites on Relationships and Well-Being* (Dec. 28, 2011) (unpublished Ph.D. dissertation, Carnegie Mellon University) available at <http://repository.cmu.edu/dissertations/185/>. More recently, see Philippe Verduyn et al., *Passive Facebook Usage Undermines Affective Well-Being: Experimental and Longitudinal Evidence*, 144 J. EXPERIMENTAL PSYCHOL. GEN. 480 (2015).

217. See, e.g., TLDR: *An Imperfect Match*, *supra* note 154. The general point is valid,

packaged for public consumption in a way designed to redound to Rudder's and OkCupid's benefit. Other examples of potentially self-interested research are easy to find. Facebook has enjoyed the civic glow of the finding that it can increase voter turnout. The corporate conflicts of interest inherent in clinical trials and in social scientists' access to corporate datasets are recognized. We need a similar understanding of the potential conflicts of interest when the corporate research partners control access to experimental subjects and can manipulate their experiences for both research- and profit-oriented purposes.²¹⁸

The Common Rule distinguishes between unregulated practice and regulated "research" by defining research in terms of intended contribution to "generalizable knowledge."²¹⁹ For social media

although perhaps not on the facts of this case. The research ethics concept of "clinical equipoise" states that an experiment involving exposing participants to a potentially inferior treatment is permissible so long as "[t]here is no consensus . . . about the comparative merits of the alternatives to be tested" and the experiment is "designed in such a way as to make it reasonable to expect that . . . the results . . . should be convincing enough to resolve the dispute." Benjamin Freedman, *Equipoise and the Ethics of Clinical Research*, 317 NEW ENG. J. MED. 141 (1987). Even taking Rudder at his word that OkCupid did not have sufficient evidence to conclude that its matching algorithm was effective, it is not clear that the mismatching experiment was designed to resolve the question. Facebook executives have made similar arguments. See Samuel Gibbs, *Facebook Policy Head Says Emotional Experiments were 'Innovative'*, GUARDIAN (July 3, 2014, 6:20 AM), <http://www.theguardian.com/technology/2014/jul/03/facebook-emotion-experiments-monika-bickert>. For discussion of this proposed ethical imperative to test, see George Lawton, *Why Is It Ethical Not to Test for Emotional Impact*, TORQUE (Sept. 8, 2014), <http://torquemag.io/ethical-test-emotional-impact/>.

218. See generally Mark Barnes & Patrik S. Florencio, *Financial Conflicts of Interest in Human Subjects Research: The Problem of Institutional Conflicts*, 30 J.L. MED. & ETHICS 390 (2002) (distinguishing "institutional" conflicts of interest from those affecting individual investigators).

219. The Common Rule grew out of biomedical research, which is distinctive because doctors already have legal and ethical duties towards their patients. There, "research" is potentially problematic by the usual standards of the physician-patient relationship because it is driven by something other than the patient's own welfare. See Jay Katz, *Human Experimentation and Human Rights*, 38 ST. LOUIS U. L.J. 7, 14, 15 (1993) ("In therapeutic encounters, unlike research encounters, physicians are expected to attend solely to the welfare of the individual patient before them. . . . In clinical research, on the other hand, patient-subjects are also being used for the ends of science"). But if the research will generate knowledge for society, the doctor can potentially justify doing less for the individual by doing more for the population. See generally Nancy M.P. King, *The Line Between Clinical Innovation and Human Experimentation*, 32 SETON HALL L. REV. 573 (2002) (discussing relationship between clinical practice and research); Carl H. Coleman, *Duties to Subjects in Clinical Research*, 58 VAND. L. REV. 387 (2005) (discussing conflicting ethical duties of researchers). Without biomedical research regulations, there would thus be a serious loophole in the underlying professional duties; the regulations and the professional duties interlock. Informed consent is still required, but IRB review compensates for relaxed fiduciary duties. But in social science research, and even more so in social media research, there is no such underlying relationship. This is a major source of the discontinuity at the boundary between ethical realms involved in the

research, it might be useful to have more specific criteria for making the same general distinction. One possibility would be to ask whether an experiment deals only with how users interact with the service, or whether it aims to affect users in ways that go beyond user interface and user experience design.²²⁰ The Facebook emotional contagion experiment, for example, tried to shape users' moods, rather than just how they used Facebook. Another approach would be to focus primarily on risks to participants, triggering regulation when they involve identifiable data, vulnerable populations, deception, or other specific risk factors. Certain kinds of consumer manipulations should be regulated even if they have no recognizable "research" goal, while studies done for the sake of knowledge should be unregulated when they are clearly harmless.²²¹ The example of quality improvement shows that it is possible to draw such lines, so the conversation should be about where to best draw this one.

2. Informed Consent

The reason that waiver or alteration of informed consent looms so large in my analysis—as in others'²²²—is that full Common Rule informed consent is wildly disproportionate for many such studies.²²³ Everything therefore hinges on the minimal risk provisions, which relax or excuse informed consent and signed consent forms. Most but not all social media experiments are likely to be minimal risk. So a good system should be optimized for lightweight informed consent, should be able to make relevant distinctions among minimal-risk experiments, and should be able to identify quickly those experiments raising more than minimal

Facebook and OkCupid experiments: the "research" side of the boundary comes with significant ethical duties but the "routine practice" side does not. The discontinuity can have perverse effects. See Michelle N. Meyer, *Misjudgements will Drive Social Trials Underground*, 511 NATURE 265 (July 17, 2014), available at <http://www.nature.com/news/misjudgements-will-drive-social-trials-underground-1.15553> ("Permitting Facebook and other companies to mine our data and study our behaviour for personal profit, but penalizing it for making its data available for others to see and to learn from makes no one better off.").

220. Kate Crawford made this point in conversation.

221. See generally Grimmelmann, *supra* note 215.

222. E.g., Meyer, *supra* note 48; David Gorski, *Did Facebook and PNAS Violate Human Research Protections in an Unethical Experiment?*, SCIENCE-BASED MED. (June 30, 2014), <http://www.sciencebasedmedicine.org/did-facebook-and-pnas-violate-human-research-protections-in-an-unethical-experiment/>.

223. See, e.g., Michael Bernstein, *The Destructive Silence of Social Computing Researchers*, MEDIUM (July 7, 2014), <https://medium.com/@msbernst/the-destructive-silence-of-social-computing-researchers-9155cdf659>.

risk.²²⁴

Given concerns about biasing users or slowing down their experiences with full Common Rule disclosures, better social media rules might emphasize disclosures at a higher level of granularity, telling users about the general types of experiments a site will be running with enough detail to be representative of the range of manipulations it undertakes.²²⁵ Debriefing is cheap and easy; a revised informed consent system might put comparatively less weight on *ex ante* disclosures and more on *ex post* ones. And the question of opt-in versus opt-out protocols is particularly salient in social media: you do not get to $N=61,000,000$ with an opt-in protocol. So good rules for social media experiments might specifically provide for differing thresholds of disclosure in an opt-out versus an opt-in protocol.

Ironically, the Common Rule allows for waiving the use of signed consent forms more readily than it does for waiving or altering informed consent itself.²²⁶ I say “ironically” because social media platforms actually make it much easier to generate and retain consent forms. A “Yes, I consent” checkbox becomes a bit in a database, or one can design a workflow in which users who do not check the checkbox are never enrolled in a study.²²⁷ As for giving participants copies of the forms, it is easy to give them on-demand access to the forms by generating a fresh copy any time a user clicks on the appropriate link. But with great convenience comes mild responsibility. As it becomes easier to do more for participants, researchers should, because there is less and less reason not to.

3. IRB Review

An IRB is a heavyweight body that proceeds deliberately and keeps careful records. Social media IRB equivalents could be lighter and quicker without sacrificing much. Some rules could be waived entirely; it is hard to see the justification for telling Facebook that its IRB must have regularly scheduled meetings. Other rules could be streamlined. The Common Rule allows minimal-risk studies and

224. See Calo, *supra* note 2, at 101 (arguing for lightweight processes).

225. Disclosure at a higher level of abstraction might also mitigate some of the issues of OkCupid-style experiments involving deception. See David Wendler & Franklin G. Miller, *Deception in the Pursuit of Science*, 164 ARCH. INTERNAL MED. 597, 597 (2004) (“We argue, in contrast, that investigators can conduct deceptive studies, while respecting subject autonomy, by informing subjects prospectively that they are being deceived, but not informing them of the nature of the deception.”).

226. See 45 C.F.R § 46.117(c) (2005).

227. See Fairfield, *supra* note 2, at 765 (proposing use of “mandatory click-through regimes” for obtaining informed consent).

minor changes to existing studies to go through “expedited” review by a single member of the IRB.²²⁸ But even that is overkill for many projects. A better system would allow a social media IRB to consider and approve classes of research—e.g., encouraging users to share content using different prompts—and then allow any studies to proceed without further review so long as they remained within these classes.²²⁹ A Common Rule tradition worth maintaining, however, is independence. Precisely because conflicts of interest loom large in the corporate setting, their review boards would need to be able to say “no” to research without fear of being overridden by management or of retaliation.²³⁰

Traditional IRBs prioritize ethical review: informed consent and minimization of risks. In the social media setting, where consent will often be streamlined and risks minimal to start with, their oversight role may be more important, in three ways. First, a social media IRB can be an internal control for ensuring that a company understands all of the research its employees are conducting on users. To that end, the IRB would need to be sure that it has an accurate picture of the research taking place across the company, something any healthy social media company should want anyway.²³¹ Second, it can be a tool for regulatory transparency: its record-keeping should be oriented toward ensuring that regulators (the FTC and SEC, for example) have a high-level sense of what an industry is doing and can reconstruct what happened at particular companies in cases of

228. 45 C.F.R. § 46.110(b) (2005).

229. It might require that information on specific studies in these classes be sent to it before those studies commence, with the expectation that this information will go into its files, rather than holding up the research while the IRB reviews the update.

230. See generally Robert Klitzman, *Institutional Review Board Community Members: Who Are They, What Do They Do, and Whom Do They Represent?*, 87 ACAD. MED. 975 (2012) (discussing roles played by independent members); Steven Peckman, *Local Institutional Review Boards*, in 2 ETHICAL & POL’Y ISSUES IN RES. INVOLVING HUMAN PARTICIPANTS K-1, K-14–K-19 (Nat’l Bioethics Advisory Comm’n ed., 2001) (discussing theory of community participation). This issue interacts with the IRB system of local and typically institution-specific review boards rather than centralized oversight. Local IRBs are intended to be more responsive to institution-specific needs, but they have also shown a tendency to develop local, poorly communicated, and idiosyncratic precedents. See generally LAURA STARK, *BEHIND CLOSED DOORS: IRBS AND THE MAKING OF ETHICAL RESEARCH* (2011); Robert Klitzman, *The Myth of Community Differences as the Cause of Variations Among IRBs*, 2 AJOB PRIMARY RES. 24 (2011). Nominally “independent” IRBs, on the other hand, may be no less conflicted because of their desire to attract repeat business; see Ruth Macklin, *How Independent are IRBs?*, IRB: ETHICS & HUM. RES., May–June 2008, at 15 (discussing tradeoffs and options). On IRBs’ handling of their own members’ conflicts of interest, see Leslie E. Wolf & Jolanta Zandecki, *Conflicts of Interest in Research: How IRBs Address Their Own Conflicts*, IRB: ETHICS & HUM. RES., Jan.–Feb. 2007, at 6.

231. See also Calo, *supra* note 2, at 102 (discussing review processes as risk management tools).

research gone wrong. And third, it would also be a way for a company to ensure that it understands research law and ethics. Contra Christian Rudder's statement that an ethicist would "wring his hands all day for a hundred thousand dollars a year,"²³² a company that has decided it needs the expertise of academics trained in social science research methods also needs the ethical expertise that has traditionally gone along with academics' work.

Some of the concerns about oversight have almost nothing to do with research as such. Take the idea that Facebook could swing a close election, as shown by its experiments encouraging voter turnout.²³³ The issue here is not that Facebook experimented with encouraging voter turnout; it is that Facebook could swing a close election.²³⁴ The danger is twofold. First, social media companies can have outsized political influence through personalization and direct access to voters. Second, they can exercise that influence opaquely because each voter sees only her own personalized view; "the opacity of algorithms and private control of platforms alters the ability of the public to understand what is ostensibly a part of the public sphere."²³⁵ IRBs, or any comparable replacement for them we can imagine, are not likely to be good at addressing either of these systemic concerns systematically. The problems are serious, but we must look elsewhere to deal with them.

4. Gatekeepers

There are other possible gatekeepers here besides the Common

232. TLDR: *An Imperfect Match*, *supra* note 154.

233. See Bond et al, *supra* note 15.

234. See Jonathan Zittrain, *Facebook Could Decide an Election Without Anyone Ever Finding Out*, NEW REPUBLIC (June 1, 2014), <http://www.newrepublic.com/article/117878/information-fiduciary-solution-facebook-digital-gerrymandering>; Jonathan Zittrain, *Engineering an Election*, 127 HARV. L. REV. FORUM 335 (2014); Zeynep Tufekci, *Facebook and Engineering the Public*, MEDIUM (June 29, 2014), <https://medium.com/message/engineering-the-public-289c91390225>; Micah L. Sifry, *Why Facebook's 'Voter Megaphone' Is the Real Manipulation to Worry About*, TECHPRESIDENT (July 3, 2014), <http://techpresident.com/news/25165/why-facebooks-voter-megaphone-real-manipulation-worry-about>; Micah L. Sifry, *Facebook Wants You to Vote on Tuesday. Here's How It Messed With Your Feed in 2012*, MOTHER JONES (Oct. 31, 2014, 5:00 AM), <http://www.motherjones.com/politics/2014/10/can-voting-facebook-button-improve-voter-turnout>. See also Noah Grand, *Overstating and Understating the Influence of Facebook*, SCIENCE OF NEWS (July 4, 2014), <http://scienceofnews.wordpress.com/2014/07/04/overstating-and-understating-the-influence-of-facebook/> (discussing Facebook's agenda-setting power).

235. Zeynep Tufekci, *Engineering the Public: Big Data, Surveillance, and Computational Politics*, FIRST MONDAY (July 7, 2014), <http://firstmonday.org/ojs/index.php/fm/article/view/4901/4097>. See generally FRANK PASQUALE, *THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION* 216–18 (2015) (arguing for an "intelligible society").

Rule itself. Journals play a crucial role both in defining what will be recognized as “research” within the academic community and in setting the ethical standards for how that research is carried out. Just as they have led the way in requiring open access publication, disclosure of conflicts of interest, and advance registration of trials, they can play a leading role in holding social media research to appropriate ethical standards.

They cannot just defer to the letter of the Common Rule, because the Common Rule does not attempt to reach many non-federally funded projects. But journals can embrace the spirit of the Common Rule’s treatment of multi-institution research. When “cooperative research” is federally funded, the Common Rule states that “*each* institution is responsible for safeguarding the rights and welfare of human subjects.”²³⁶ Thus, journals should make explicit the broader policy at work. In the future, when considering articles describing research with human participants, they should insist on informed consent and IRB approval for the entire research project described in an article, unless that research would have been exempt for some reason other than its funding source.

The Federal Trade Commission’s consumer protection role also marks it as a good institution to monitor how companies experiment on their users.²³⁷ Leslie Meltzer Henry and I have argued that performing research on users without informing them can be a deceptive trade practice and sometimes an unfair one.²³⁸ The FTC is

236. 45 C.F.R. § 46.114 (2015) (emphasis added). Similarly, the Office for Human Research Protections treats grant-receiving institutions as “engaged” in human subjects research even when some other institution carries out the interventions and data collection. See OHRP GUIDANCE ON ENGAGEMENT, *supra* note 112, at III.A.1.

237. Other countries’ privacy regulators may also be in a good position to exercise oversight. See, e.g., *Facebook Emotion Study Examined by Privacy Commissioner*, CBC (July 3, 2014, 10:53 AM), <http://www.cbc.ca/news/business/facebook-emotion-study-examined-by-privacy-commissioner-1.2695145> (Canada); Lisa Fleisher, *Irish Data Privacy Watchdog To Probe Facebook’s Research Methods*, WALL ST. J. (July 10, 2014, 12:41 PM), <http://blogs.wsj.com/digits/2014/07/10/irish-data-privacy-watchdog-to-probe-facebooks-research-methods/> (Ireland); Hannah Kuchler, *UK Data Regulator Probes Facebook Over Psychological Experiment*, FINANCIAL TIMES (July 1, 2014, 11:18 PM), <http://www.ft.com/intl/cms/s/0/39b6b5aa-0146-11e4-9750-00144feab7de.html> (U.K.).

238. See Letter from James Grimmelman & Leslie Meltzer Henry, Professors of Law, Univ. of Md., to Edith Ramirez, Chairwoman, Fed. Trade Comm’n (July 17, 2014), <http://james.grimmelman.net/files/legal/facebook/FTC.pdf>; see generally FED. TRADE COMM’N, FTC POLICY STATEMENT ON DECEPTION (1983), <http://www.ftc.gov/public-statements/1983/10/ftc-policy-statement-deception>; FED. TRADE COMM’N, FTC POLICY STATEMENT ON UNFAIRNESS (1980), <http://www.ftc.gov/public-statements/1980/12/ftc-policy-statement-unfairness>; see also Elec. Privacy Info. Ctr., Complaint, Request for Investigation, Injunction, and Other Relief (complaint submitted by Elec. Privacy Info. Ctr. to FTC) (July 3, 2014), <https://epic.org/privacy/ftc/facebook/Facebook-Study-Complaint.pdf>; Letter from Sen. Mark Warner to FTC Commissioners (July 9, 2014),

well positioned to require that companies honestly disclose their research practices to users, just as they already must be honest in describing their privacy practices.²³⁹ When companies seriously violate that obligation, the FTC should seek consent orders requiring comprehensive research oversight and compliance programs just as it currently seeks consent orders requiring privacy compliance programs from companies that violate their privacy promises. The FTC is also well positioned to provide transparency. It can use its investigatory powers to gather information about how companies conduct human subjects research, their informed consent practices, and their institutional review structures, producing informative reports while also appropriately respecting companies' trade secrets.

IV. CONCLUSION

The Facebook and OkCupid experiments alarmed and frustrated many users and observers.²⁴⁰ It is not always clear that those who defended the experiments really engaged with what others found so troubling about them.²⁴¹ Reacting to the controversy over the emotional contagion experiment, its lead author wrote:

Having written and designed this experiment myself, I can tell you that our goal was never to upset anyone. I can understand why some people have concerns about it, and my coauthors and I are very sorry for the way the paper described the research and any anxiety it caused. In hindsight, the research benefits of the

<https://www.scribd.com/doc/233238030/Warner-Letter-to-FTC-7-9-14>.

239. European law goes further. Under the European Union's Data Protection Directive, users have a right of access to the actual data that companies like Facebook have on them, not just to honesty in companies' statements about what data they collect and how they use it. See generally EUROPE VERSUS FACEBOOK, <http://europe-v-facebook.org/EN/en.html> (last visited Mar. 18, 2015) (describing class action against Facebook and encouraging users to request copies of their data). Whether users' rights under the Directive include the right to obtain information about experiments conducted on them would make an excellent topic for a student note.

240. See Stuart Schechter & Christian Bravo-Lillo, *Using Ethical-Response Surveys to Identify Sources of Disapproval and Concern with Facebook's Emotional Contagion Experiment and Other Controversial Studies* (Oct. 30, 2014) (unpublished draft), <http://research.microsoft.com/pubs/220718/CURRENT%20DRAFT%20-%20Ethical-Response%20Survey.pdf>.

241. See, e.g., Tal Yarkoni, *In Defense of Facebook*, TALIYARKONI.ORG (June 28, 2014), <http://www.talyarkoni.org/blog/2014/06/28/in-defense-of-facebook/>. But see Scott Robertson, *Facebook's Going to be OK, but Science Is Taking a Hit*, MEDIUM (July 8, 2014), <https://medium.com/@scottrob/facebooks-going-to-be-ok-but-science-is-taking-a-hit-fd512b250f3e>.

paper may not have justified all of this anxiety.²⁴²

This is both right and wrong, both too generous to Facebook and not generous enough. Social media research can be scientifically valuable, and social media experiments are not inherently unethical.²⁴³ But at the same time, focusing on how the paper described the research misconstrues the ethical point. Social media experiments are not just about privacy; they also manipulate users and make users complicit in unsettling practices.²⁴⁴ Facebook users should not have had to find out about the experiment from the press

242. Kramer, *supra* note 124; accord R. Jai Krishna, *Sandberg: Facebook Study Was 'Poorly Communicated'*, WALL ST. J. (July 2, 2014, 10:49 AM), <http://blogs.wsj.com/digits/2014/07/02/facebooks-sandberg-apologizes-for-news-feed-experiment/> (“[I]t was poorly communicated,” Sandberg, Facebook’s chief operating officer, said . . . “And for that communication we apologize.”).

243. See, e.g., Brian Keegan, *The Beneficence of Mobs: A Facebook Apologia*, BRIANKEEGAN.COM (June 29, 2014), <http://www.brianckeegan.com/2014/06/the-beneficence-of-mobs-a-facebook-apologia/>; Clifford Lampe, *Facebook Is Good for Science*, CHRON. HIGHER ED. CONVERSATION BLOG (July 8, 2014), <http://chronicle.com/blogs/conversation/2014/07/08/facebook-is-good-for-science/>; Farhad Manjoo, *A Bright Side to Facebook’s Experiments on Its Users*, N.Y. TIMES (July 2, 2014), <http://www.nytimes.com/2014/07/03/technology/personaltech/the-bright-side-of-facebooks-social-experiments-on-users.html>; Duncan J. Watts, *Stop Complaining About the Facebook Study. It’s a Golden Age for Research*, GUARDIAN (July 7, 2014, 7:45 AM), <http://www.theguardian.com/commentisfree/2014/jul/07/facebook-study-science-experiment-research>.

244. See Ed Felten, *Privacy Implications of Social Media Manipulation*, FREEDOM TO TINKER (July 1, 2014), <https://freedom-to-tinker.com/blog/felten/privacy-implications-of-social-media-manipulation/>; danah boyd, *What Does the Facebook Experiment Teach Us?*, MEDIUM (July 1, 2014), <https://medium.com/message/what-does-the-facebook-experiment-teach-us-c858c08e287f>; Christian Sandvig, *Corrupt Personalization*, MULTICAST (June 26, 2014), <http://blogs.law.harvard.edu/niftyc/archives/1003>; Nicholas Carr, *The Manipulators: Facebook’s Social Engineering Project*, L.A. REV. OF BOOKS, Sept. 14, 2014, <http://lareviewofbooks.org/essay/manipulators-facebooks-social-engineering-project>; Tarleton Gillespie, *Facebook’s Algorithm—Why Our Assumptions Are Wrong and Our Concerns Are Right*, CULTURE DIGITALLY (July 4, 2014), <http://culturedigitally.org/2014/07/facebooks-algorithm-why-our-assumptions-are-wrong-and-our-concerns-are-right/>; Dave Winer, *About Facebook Users and Facebook*, SCRIPTING NEWS (July 4, 2014, 6:13 AM), <http://scripting.com/2014/07/04/aboutFacebookUsersAndFacebook.html> (“You say that A-B testing is done all the time on websites. . . . But this was different.”); Chris Peterson, *Nature and/of the News Feed*, MEDIUM (July 2, 2014), <https://medium.com/@peteyreplies/nature-and-of-the-news-feed-e9032e93eb6>; Tim Carmody, *Why Don’t OKCupid’s Experiments Bother Us Like Facebook’s Did?*, KOTTKE.ORG (July 28, 2014), <http://kottke.org/14/07/why-dont-okcupids-experiments-bother-us>; Daniel Solove, *Facebook’s Psych Experiment: Consent, Privacy, and Manipulation*, LINKEDIN PULSE (June 30, 2014), <https://www.linkedin.com/pulse/20140630055215-2259773-the-facebook-psych-experiment-consent-privacy-and-manipulation>; Tim Carmody, *The Problem with OkCupid Is the Problem with the Social Web*, KOTTKE.ORG (Aug. 1, 2014), <http://kottke.org/14/08/the-problem-with-okcupid-is-the-problem-with-the-social-web>. See generally Ryan Calo, *Digital Market Manipulation*, 82 GEO. WASH. L. REV. 995 (2014).

coverage.²⁴⁵

The Facebook and OkCupid experiments make vivid the collision between two ethical and regulatory cultures: Internet business and academic science.²⁴⁶ Companies are amassing huge volumes of data on their users; scientists have professional expertise working with data on people. Both sides are understandably eager to collaborate in gaining insight. On the academic side of this fence, we have had decades of conversations on appropriate ethical and regulatory principles. The Common Rule is not just a legal requirement; it is also the embodiment of a collective consensus about human dignity and research integrity. The corporate side of the fence is almost entirely unregulated, but not as a result of a conscious social decision that ethics are inapplicable or oversight would be inappropriate. Instead, the institutional practices of giant data storehouses, constant A/B testing, and rich analytics simply grew up, at first slowly and then quickly.

Nowhere is this division clearer than in the two cultures' attitudes towards consent. For industry, if consent is needed at all, it is a matter of terms of service. Users must be given notice of an opportunity to view a document that describes what the company will do. That description can be vague and general as long as it is not affirmatively dishonest. And users must indicate assent, but they can manifest it in something as simple as continued use of the service. This is a thin and formalistic understanding of "consent." For academia, consent as embodied in the Common Rule is a much thicker concept.²⁴⁷ Researchers must disclose in detail what they are studying, what they propose to do to participants, and what the consequences for participants are likely to be. Participants, in turn,

245. The researchers in the voter-turnout study argued to their IRB that publication of the resulting paper would prove sufficient debriefing to the tens of millions of users it would affect. Facebook Collaboration Research Plan, *supra* note 75 (arguing that publication of paper would provide sufficient debriefing to 61 million Facebook users in voting study). I disagree.

246. See Felten, *supra* note 204; Whitney Erin Boesel, *Facebook's Controversial Experiment: Big Tech Is the New Big Pharma*, TIME (July 3, 2014), <http://time.com/2951726/facebook-emotion-contagion-experiment/>; Sebastian Deterding, *Frame Clashes, or: Why the Facebook Emotion Experiment Stirs Such Emotion*, TUMBLING CONDUCT (June 29, 2014), <http://codingconduct.tumblr.com/post/90242838320/frame-clashes-or-why-the-facebook-emotion>; Janet Vertesi, *The Real Reason You Should Be Worried About That Facebook Experiment*, TIME (July 2, 2014), <http://time.com/2950699/facebook-experiment-social-science-funding/>.

247. Cf. Rosen, *supra* note 204 (distinguishing "thin" and "thick" legitimacy of institutions); Paul-Olivier Dehaye, *Thin Legitimacy at Whisper, Facebook, and Coursera*, PAULOLIVIER.DEHAYE.ORG (Oct. 20, 2014, 12:30 PM), <http://paulolivier.dehaye.org/posts/thin-legitimacy-at-whisper-facebook-and-coursera.html> (same).

must indicate their agreement with signed written consent forms.²⁴⁸

From the perspective of academia, industry “consent” is substantively empty. It’s an easily manipulated standard for getting participants to give you what you want through a combination of omission, misdirection, coercion, and confusion. Users who “consent” by using a company’s services may not be consenting at all. But from the perspective of industry, academic “consent” is also an empty shell. One of the strongest critiques of Common Rule informed consent is that all these additional disclosures do not significantly advance participants’ understanding of the research or significantly change their behavior in ways they are grateful for. This “consent” is an obstacle that gets in the way of valuable research.

This debate resonates with another contentious debate: over campus sexual assault.²⁴⁹ It may not be a coincidence that social-media-experiment and sexual assault stories circulated in the news at the same time last summer, or that the last few years have seen the development of a powerful feminist critique of the Internet industry.²⁵⁰ We are having a national crisis of consent. The arguments are familiar. On one side are victims’ advocates who claim that inferring consent from a sexual partner’s silence means turning a blind eye to what should properly be called rape. They prefer a rule of affirmative consent, in which sexual contact is presumed unwanted unless there are specific expressions of consent. On the other side are skeptics who argue that affirmative consent

248. As described *supra* part B.2, informed consent and written consent forms can frequently be waived. See generally David Wendler & Jonathan E. Rackoff, *Informed Consent and Respecting Autonomy*, IRB: ETHICS & HUM. RES., May–June 2001, at 1, 3 (“Any ethically valid process for enrolling competent subjects in research must satisfy three conditions: (1) sufficient evidence that subjects who enroll want to enroll; (2) subjects’ control over whether they enroll; and (3) sufficient evidence, accessible to observers independent of the research team, that conditions one and two have been satisfied when subjects are enrolled.”). Wendler and Rackoff’s argument that the Common Rule should allow alternative procedures meeting these conditions is well taken.

249. See, e.g., Walt Bogdanich, *Reporting Rape, and Wishing She Hadn’t*, N.Y. TIMES (July 12, 2014), <http://www.nytimes.com/2014/07/13/us/how-one-college-handled-a-sexual-assault-complaint.html>.

250. See, e.g., Erica Joy, *The Other Side of Diversity*, MEDIUM (Nov. 4, 2014), <https://medium.com/thelist/the-other-side-of-diversity-1bb3de2f053e>; SHANLEY KANE, YOUR STARTUP IS BROKEN: INSIDE THE TOXIC HEART OF TECH CULTURE (2014); Astra Taylor & Joanne McNeil, *The Dads of Tech*, BAFFLER (2014), <http://www.thebaffler.com/salvos/dads-tech>; Kate Losse, *The Speculum of the Other Programmer*, KATELOSSE.COM (Apr. 13, 2014), <https://katelosse.squarespace.com/latest/2014/4/13/the-speculum-of-the-other-programmer>; Kate Losse, *Sex and the Startup: Men, Women, and Work*, MODEL VIEW CULTURE (Mar. 17, 2014), <https://modelviewculture.com/pieces/sex-and-the-startup-men-women-and-work>; Kate Losse, *The Male Gazed*, MODEL VIEW CULTURE (Jan. 13, 2014), <https://modelviewculture.com/pieces/the-male-gazed>.

requirements undermine intimacy between willing partners but fail to deter those bent on rape.

The conversation about the right legal rule for consent in social media research should not be a distraction from the underlying ethical role of consent. The real goal, as in the sexual assault debates, should be enthusiastic consent.²⁵¹ Social media research should not be an adversarial setting in which researchers and companies try to wring from users whatever minimal threshold of informed consent the law tells them they need. Instead, they should seek enthusiastic consent from users, making them into valued partners who feel they have a stake in the research and are eager to contribute to its success. Researchers have stories to tell about what they can learn from interacting with users. Facebook has a story about how our friends' moods influence our own and another about promoting civic participation. OkCupid has a story about being sure it's making the best matches for its users (it has an even better story about how Shakespeare got it right in *Much Ado About Nothing*). Companies and the academics they work with should not be shy about telling these stories to users—not if they care about genuine consent.

251. See, e.g., JACLYN FRIEDMAN & JESSICA VALENTI, YES MEANS YES!: VISIONS OF FEMALE SEXUAL POWER & A WORLD WITHOUT RAPE (2008); Betsy Haibel, *The Fantasy and Abuse of the Manipulable User*, MODEL VIEW CULTURE (Apr. 28, 2014), <https://modelviewculture.com/pieces/the-fantasy-and-abuse-of-the-manipulable-user>; Panel Discussion: *New Topics in Social Computing: Consent and the Network*, EYEBEAM (Jan. 7, 2015), available at <https://soundcloud.com/eyebearnyc/new-topics-in-social-computing-consent-and-the-network> (discussion among Sarah Jeong, Karen Levy, and Alice Marwick).