



**Under what conditions is
information empowering?**

June 2018

Introduction

A 72% increase in students ceasing to abuse drugs. A 57 percentage point jump in vaccination rates. Fourteen percent higher odds of adults quitting smoking. The improvements in outcomes that people can achieve for themselves when armed with information can be striking.

Yet the above examples and many more show that information alone rarely empowers people to make their lives better. Information empowers when social and emotional factors induce people to reinterpret that information, and act on it.

In this report, we draw on 44 real-life examples and 168 research papers from 10 fields to develop **7 general principles** that seem to underlie information initiatives that successfully empower people. Principles 1, 2, and 3 speak to how information empowers through reinterpretation, and Principles 4 to 7 speak to how we can support that reinterpretation—and get people to act.

Based on the 7 principles, we then provide a **checklist of questions** a team can use to increase the likelihood that their initiative will empower the people they seek to serve.

Throughout, we provide **concrete illustrations** from a wide range of fields to show how applying these principles in practice has led to substantially better outcomes. We also consider examples with outcomes we might consider to be negative. The 7 principles are broadly applicable to how information empowers people to perceive, make and act on choices—but they are agnostic about whether the outcomes of those choices are positive or negative.

The way that the principles are applied in one context may not always work in another. But from the context-specific evidence summarized in this report we have extrapolated a framework that can be applied more broadly—in both theory and practice, for both funders and implementers. Although many of the in-depth case studies presented stem from the US, the principles are based on a wide range of examples and evidence from around the world. We believe the framework we construct here is powerful and can be applied globally; but it's also clear that much more remains to be understood, so we hope it also sparks ideas, experimentation, and new discoveries.

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7 Principles

These are the key principles, based on the research and experience synthesized in this report, for understanding how the reinterpretation of information may—or may not—empower people to make their lives better.

1. Interpretation is social.

The meaning people attach to information depends on the mix of social groups to which they belong. Information initiatives rooted in or targeted at existing social groups can be successful. Leaders and authority figures can have a major effect on how information is interpreted and framed.

2. Reinterpretation is power.

Empowerment at scale depends on encouraging collective, conversation-based reinterpretation. Reframing the present circumstances as an injustice to be righted rather than a misfortune can help create wider movements that go beyond empowering people one by one.

3. Demand rules.

The most effective intermediaries are able to provide the specific information and social bonds that people are looking for; domain expertise alone is not enough to support empowerment.

4. Vivid narratives persuade.

Using vivid and emotional narratives and explanation to describe experiences can persuade people to interpret events and information differently. This dynamic can both unite and polarize social groups.

5. Information must rise above the noise.

Empowerment is built via dialogue, which competes for time and attention with other causes, choices, and distractions. Institutions, individuals, and algorithms can help focus attention on information.

6. Incentives and repetition cement new behaviors.

Incentives can spark new behaviors, and practice; repetition helps make behavior change stick. Persistence is critical. When support is removed, desired behavior change slows or stops (and sometimes even reverses).

7. Ice cream melts.

The effectiveness of information-related tactics intended to empower may not generalize across either contexts or time. Empowerment demands long-term commitment, regular re-appraisal of strategies, and ongoing tactical adjustment.

The Checklist

Based on the 7 Principles, this checklist of questions is designed to increase the odds that an information initiative will empower.

1. Interpretation is social.

- Does the initiative target specific social groups?
- Does it have a hypothesis about how to appeal to social group identity in a way that will spur a common interpretation and action?
- Does it have ways of monitoring rejection or acceptance of the information by people in different social groups?

2. Reinterpretation is power.

- Does the initiative encourage collective acts of reinterpretation of information?
- Does it leverage the power of leaders and influential members to frame and interpret information in an empowering way?
- Does it have a mechanism to mitigate the likelihood that leaders use the new information to reinforce their own power rather than empower group members?

3. Demand rules.

- Does the initiative have a clear hypothesis about what specific pieces of information people are actually looking for and care about?
- Does it have a clear hypothesis about what relationships people want?
- Does it leverage intermediaries who can provide the specific information and/or social bonds that people desire?

4. Vivid narratives persuade.

- Does the initiative have a clear, emotional, vivid narrative about the information that is its focus?
- Does it leverage graphical elements and source characteristics in ways that bolster the credibility and trustworthiness of the information provided?

- Does it have ways of monitoring outcomes within social groups, and strategies to help different social groups find common ground rather than become increasingly polarized?

5. Information must rise above the noise.

- Does the initiative have a clear hypothesis about how the information it provides will compete for people's time and attention?
- Does it have strategies for overcoming inertia and inaction?
- Does it create containers to promote and enable interpretation of the information?

6. Incentives and repetition cement new behaviors.

- Does the initiative change existing incentives or provide new incentives that will support its empowerment aims?
- Does it have a mechanism for repetition and practice to reinforce people acting on choices?
- Does the initiative have ways to tie repeated behaviors back into a new sense of individual and/or social identity?

7. Ice cream melts.

- Does the initiative have multiple tactics to test?
- Does it have the means to manage adaptively—i.e., recognize and shift resources quickly to the tactics that are working, or as tactics degrade over time?
- Does it have the ability to facilitate an evolving conversation?

Illustrative Examples

Applying the 7 Principles is an art, not a science. But here are examples that illustrate how the principles can make a big difference in practice.

1. Interpretation is social.

300% increase in measles campaign coverage in Liberia in 2015 when leveraging social bonds.¹

2. Reinterpretation is power.

33% reduction in under-5 child mortality in Uganda in 2004 –2005 when information was delivered through face-to-face dialogue.²

3. Demand rules.

50% more positive court rulings for tenants in New York City when they were supported by a non-expert intermediary able to provide the information they demanded.³

4. Vivid narratives persuade.

57% increase in belief in a medication's effectiveness in the United States when information was accompanied by visual cues.⁴

5. Information must rise above the noise.

Social media sharing during the Arab Spring focused global attention on the movement.⁵

6. Incentives and repetition cement new behaviors.

20% decrease in water usage in Denver in 2014 when information was accompanied by more effective incentives to conserve water.⁶

7. Ice cream melts.

40% increase in Obama campaign email signups in 2008 after embracing insights generated through A/B testing.⁷

¹ Health Communication Capacity Collaborative (HC3), *Social Mobilization Lessons Learned: The Ebola Response in Liberia*, 40, (Baltimore: Johns Hopkins Center for Communication Programs, 2017), <http://reliefweb.int/sites/reliefweb.int/files/resources/Ebola-Lessons-Learned-ksm.pdf>.

² Martina Björkman and Jakob Svensson, *Power to the People: Evidence from a Randomized Field Experiment of a Community-Based Monitoring Project in Uganda*, 12, (The World Bank, 2007), <https://openknowledge.worldbank.org/handle/10986/7447>.

³ Rebecca L. Sandefur and Thomas M. Clarke, *Roles Beyond Lawyers: Summary, Recommendations and Research Report of an Evaluation of the New York City Court Navigators Program and its Three Pilot Projects*, 4, (American Bar Foundation and National Center for State Courts, 2016), http://www.americanbarfoundation.org/uploads/cms/documents/new_york_city_court_navigators_report_final_with_final_links_december_2016.pdf.

⁴ Aner Tal and Brian Wansink, "Blinded with science: Trivial graphs and formulas increase ad persuasiveness and belief in product efficacy," *Public Understanding of Science* 25, no. 1 (2014): 123-5, doi:10.1177/0963662514549688.

⁵ Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017), page xxv.

⁶ Bruce Finley, "Denver water use dips to 40-year low in 2014," *Denver Post*, February 9, 2015, <http://www.denverpost.com/2015/02/09/denver-water-use-dips-to-40-year-low-in-2014/>.

⁷ Brian Christian, "The A/B Test: Inside the Technology That's Changing the Rules of Business," *Wired*, April 25, 2012, https://www.wired.com/2012/04/ff_abtesting/.

Worksheet

As you read this report, how would you add to or adjust the principles or the checklist of questions to be most useful to you? What implications do you see for your work?

Principles

Checklist of Questions

Implications for Your Work

Why this report?

The last decade has seen serious investment in initiatives that provide information to people in the hopes of empowering them. From social media and the spread of mobile phones and internet access to the push for open government and transparency and accountability, there have been movements toward more information being available. But those who study and practice these trends agree that information provision alone has returned mixed results⁸ and not resulted in the empowerment we wish to see. Much good work has been done, but more is needed. If information provision is a necessary but not sufficient condition for empowerment, what are the other necessary conditions?

The goal of this report is to illustrate that information does not empower on its own. Rather, the act of reinterpreting information is empowering, and that act is driven by social and emotional factors. From the literature summarized in this report, we extrapolate principles by which the reinterpretation of information leads to empowerment.

We do not claim that the significant positive effects highlighted in this report are replicable across time or contexts, or that effects will always be of this large a magnitude. One of the main findings of this report is that **ice cream melts**; strategies of empowerment that work in one context at one time may not work as well in another context or time. Furthermore, this report finds that the empowering effect of reinterpreting information is mediated by many factors, not through one-to-one relationships with individual conditions. Individual-level, interpersonal, organizational, and institutional factors all contribute to how information is interpreted.⁹ Yet the examples explored in this report point to several important and specific conditions that contribute to information being empowering.

The principles laid out in this report are not definitive—the answer to the question *under what conditions is information empowering?* will emerge from iterative research, reflection and action. The purpose of this report is to indicate fruitful avenues for further inquiry, experimentation and investment.

⁸ See, e.g., Stephen Kosack and Archon Fung, "Does Transparency Improve Governance?," *Annual Review of Political Science* 17, no. 1 (2014), doi:10.1146/annurev-polisci-032210-144356, also Vanessa Williamson and Norman Eisen, *The impact of open government: Assessing the evidence*, (Center for Effective Public Management at Brookings, 2016), https://www.brookings.edu/wp-content/uploads/2016/12/gs_20161208_opengovernment_report.pdf; Jonathan Fox, *Social Accountability: What does the evidence really say?*, (Global Partnership for Social Accountability Working Paper 1, 2015), <http://gpsaknowledge.org/wp-content/uploads/2015/04/Social-Accountability-What-Does-Evidence-Really-Say-GPSA-Working-Paper-1-with-Foreword.pdf>; Jonathan Fox, "The uncertain relationship between transparency and accountability", *Development in Practice* 17: 4-5, 663-671 (2007), doi: 10.1080/09614520701469955.

⁹ Melanie Punton, *How Can Capacity Development Promote Evidence-based Decision Making?*, (itad literature review, April 2016), http://www.itad.com/wp-content/uploads/2016/04/BCURE-Literature-Review-Section-2-010416_ref-edit.pdf.

Scope

This report draws on a broad range of disciplines and expertise, from media to behavioral economics, marketing to international development, to reflect on the question *under what conditions is information empowering?* Evidence, examples and literature have been drawn from around the world. We synthesize evidence from literature, input from an advisory panel of experts, and consultations with Omidyar Network staff.

In this report:

- 10 fields
- 15 interviews
- 44 examples
- 168 papers

The report's goals are to outline practical considerations for practitioners and funders seeking to ensure their information initiatives are empowering and to suggest future lines of inquiry and experimentation. This report is grounded in Omidyar Network's working definition of empowerment: the ability to perceive, make, and act on a choice, and the possibility that the action will lead to results.

We touch on numerous fields in this report, none of which quite consider the research question in the same way. Many of the sources do not examine the effect of information on empowerment as we define it.

Rather, they look only at someone's ability to perceive a choice, or make a choice, or act on a choice. From their findings, we have inferred lessons for empowerment.

The focus of this report is on practical principles that can be adapted, evaluated, and expanded upon by practitioners, researchers, and investors. Examples considered range from massive, multi-year anti-tobacco campaigns to experiments on rumor correction to the Black Lives Matter movement. Together, they illustrate the effects on empowerment that are possible when the key principles synthesized in this report are applied.

Empowerment of whom? For what?

The question *under what conditions is information empowering?* is broad and, as our advisory panel pointed out, leads to the most meaningful answers when we specify empowerment of whom and for what end. The conditions under which information empowers governments to make policy decisions may be different than the conditions under which information empowers regular people to come together in a movement, for example.

Who is the subject of the literature summarized in this report? Mainly it is regular people; just under 75% of the sources cited in this report focus on regular people. Of those sources, 23% look at regular

people specifically in their role as citizens, while 21% look at regular people who are part of movements. Approximately 10% of all the sources cited in this report look at government policy makers, and 8% look at service providers, mainly government service providers.

What aspects of empowerment does the literature examine, given that we define empowerment as the ability to perceive, make, and act on a choice? It is fairly evenly split between perceiving a choice and acting on a choice. Thirty-one percent of the sources cited in this report examine perceiving a choice, and 37% examine acting on a choice. Making a choice is implied in acting on a choice, and only approximately 5% of the sources cited in this report look at how people make a choice specifically. Note that these statistics do not add to 100% as some sources defy categorization.

The sources in this report, therefore, speak largely to how regular people perceive and act on choices, with some important consideration of policy makers and service providers. This report weaves together the literature such that the principles we extract are applicable more broadly.

What do we mean by information?

Two definitions of information emerge from the literature. The first, originating in the field of information science, is the Data-Information-Knowledge-Wisdom hierarchy (DIKW). In this hierarchy, information is derived from data, knowledge from information, and wisdom from knowledge. As Gamble explains, data in this case “refers to chunks of information about the world,” whereas information is “data that are endowed with meaning and purpose.”¹⁰ The definition that emerges from information theory differs somewhat. Claude Shannon and Warren Weaver break down information into the smallest possible unit: the resolution of binary uncertainty (a 1 or 0). Here, information is a message, composed of signal. It might even be a physical thing.

For the purposes of this report, we align more closely with the second definition: information is a signal, subject to interpretation. We consider information in the broadest possible sense, anything renderable in bits, which then allows us to examine how people interpret, assign meaning to, and internalize that information, and how that process of interpretation and the ecosystem of conditions that supports it can be empowering. Note that much of the literature focuses on information that is spread with a purpose in mind, for example as part of a behavior change campaign, rather than information that is passively available in the environment. Again, the principles we extract should be applicable to both kinds of information—examining whether they hold for passive information would be a useful line for future inquiry.

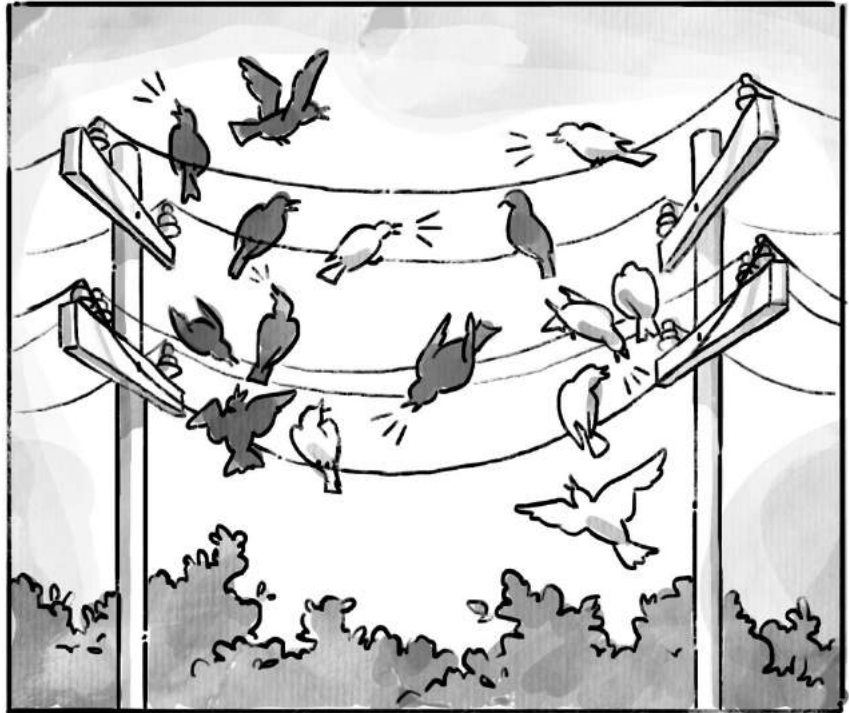
¹⁰ Paul R. Gamble and John Blackwell, *Knowledge Management: A State of the Art Guide*, (London: Kogan Page Limited, 2004).

7 Principles

1

Interpretation is social.

The literature suggests that interpretations of information and events are socially mediated. The groups we join shape our beliefs, and we resist information that conflicts with those beliefs.¹¹ We intuitively trust our peers and other members of our ‘in-group’ for information.¹² For example, a recent study by the William and Flora Hewlett Foundation found that “funders prefer communications with peers and colleagues over specific knowledge producers for much of their knowledge acquisition.”¹³



We viscerally reject information that may conflict with the beliefs of the groups to which we belong. This may be fundamental to our humanity; we join groups to survive, and we respond to threats to the group as though they were threats to self.¹⁴ As Kahan puts it, “Individuals tend to adopt the beliefs common to members of salient ‘in-groups.’ They also resist revision of those beliefs in the face of contrary factual information, particularly when that information originates from ‘out-group’ sources who are likely to be perceived as less knowledgeable and less trustworthy than ‘in-group’ ones.”¹⁵

¹¹ Dan M. Kahan, "Culture and Identity-Protective Cognition: Explaining the White Male Effect in Risk Perception." Faculty Scholarship Series, Paper 101, 6, (2007).

¹² See, e.g. William and Flora Hewlett Foundation, “Peer to Peer: At the Heart of Influencing More Effective Philanthropy” (February 2017)

¹³ Ibid.

¹⁴ See, e.g., Dan M. Kahan, "A Risky Science Communication Environment for Vaccines," *Science* 342, no. 6154 (2013): 53, doi:10.1126/science.1245724 (arguing that individuals are under pressure to conform to social frames in order to “protect their ties to others”); But see: Bertram F. Malle, "The actor-observer asymmetry in attribution: A (surprising) meta-analysis," *Psychological Bulletin* 132, no. 6 (2006), doi:10.1037/0033-2909.132.6.895 (a meta-analysis showing that the actor-observer effect hypothesis only held with negative events.)

¹⁵ Dan M. Kahan, "Culture and Identity-Protective Cognition: Explaining the White Male Effect in Risk Perception." Faculty Scholarship Series, Paper 101, 6, (2007), citing Roy F. Baumeister and Mark R. Leary, "The need to belong: Desire for interpersonal attachments as a fundamental human motivation," *Psychological Bulletin* 117, no. 3 (1995): 504, doi:10.1037//0033-2909.117.3.497; Diane M. Mackie and Sarah Quellar, "The Impact of Group Membership on Persuasion: Revisiting “Who Says What to Whom with What Effect?,”" in *Attitudes, Behavior, and Social Context: The Role of*

A person's level of general education may not change this visceral rejection of contrary information—in fact, it may make it worse. For example, polarization of views on climate change between groups with different social values *increased* with greater scientific literacy and numeracy.¹⁶

The mix of social groups we belong to influences how we see the world. Political and religious beliefs are strong predictors for polarization over climate change,¹⁷ and social biases are embedded directly in language.¹⁸ The social groups to which we belong also strongly affect how we behave, and may determine actual outcomes in our lives. For example, obesity may spread through social networks.¹⁹ Your risk of becoming obese nearly triples if your friend becomes obese, as obesity can spread along close friendship, family and coworker ties in a social network.²⁰ Changing norms within the social network likely cause this contagiousness.²¹ Emotions also spread through social networks: a person is 6% more likely to be happy if a friend of a friend of a friend is happy, whereas an extra \$5,000 in annual income was only associated with a 2% increase in a person's chance of being happy.²²

The behavior of leaders of social groups and other authority figures has a particularly strong ability to effect shifts in societal norms.²³ For example, during the Ebola crisis self-imposed quarantines led by local and religious leaders appeared to be more effective than top-down methods that relied primarily on coercion.²⁴

When social group membership cannot be leveraged to support empowering interpretation of information, the literature suggests that information campaigns that create personal connections also work. Door-to-door canvassing remains arguably the most “effective and efficient method of voter

Norms and Group Membership, ed. Deborah J. Terry and Michael A. Hogg (Mahwah, N.J.: L. Erlbaum Associates, 2000); Russell D. Clark and Anne Maass, "The role of social categorization and perceived source credibility in minority influence," *European Journal of Social Psychology* 18, no. 5 (1988); Diane M. MacKie, M. C. Gastardo-Conaco, and John J. Skelly, "Knowledge of the Advocated Position and the Processing of In-Group and Out-Group Persuasive Messages," *Personality and Social Psychology Bulletin* 18, no. 2 (1992).

¹⁶ See Dan M. Kahan et al., "The polarizing impact of science literacy and numeracy on perceived climate change risks," *Nature Climate Change* 2, no. 10 (2012): 732-735, doi:10.1038/nclimate1547. See also Dan M. Kahan, Ellen Peters, Erica Cantrell Dawson, and Paul Slovic, "Motivated Numeracy and Enlightened Self-Government", (September 3, 2013). Behavioural Public Policy, 1, 54-86; Yale Law School, Public Law Working Paper No. 307, doi: 10.2139/ssrn.2319992.

¹⁷ See Cary Funk and Brian Kennedy, "The Politics of Climate", Pew Research Center, October 2016, <http://www.pewinternet.org/2016/10/04/the-politics-of-climate/>; David Sleeth-Keppler, Robert Perkowitz, and Meighen Speiser, "It's a Matter of Trust: American Judgments of the Credibility of Informal Communicators on Solutions to Climate Change," *Environmental Communication* 11, no. 1 (2015): Abstract ("political conservatism positively predicts trust in religious leaders, and religiosity further predicts trust in congregants, neighbors, co-workers, bosses and health professionals on solutions to climate change."). But see Stephan Lewandowsky, Gilles E. Gignac, and Samuel Vaughan, "The pivotal role of perceived scientific consensus in acceptance of climate change", *Nature Climate Change* 3 (April 2013): 399-404, doi:10.1038/NCLIMATE1720 (highlighting scientific consensus among domain experts may help attenuate influence of ideology.)

¹⁸ See Aylin Caliskan, Joanna J. Bryson, and Arvind Narayanan, "Semantics derived automatically from language corpora contain human-like biases," *Science* 356, no. 6334 (2017). (Machine learning programs absorb human stereotypes and biases, such as racial and gender biases, merely from analyzing language semantics.)

¹⁹ See Scott Stossel, "You and your Friend's Friend's Friends", review of *Connected*, by Nicholas A. Christakis and James H. Fowler, *New York Times*, October 1, 2009

²⁰ Nicholas A. Christakis and James H. Fowler, *Connected*, (New York Times: October 1, 2009).

²¹ *Ibid.*

²² *Ibid.*

²³ Maria Konnikova, "How Norms Change," *New Yorker*, October 11, 2017. <https://www.newyorker.com/science/maria-konnikova/how-norms-change>

²⁴ Glenn Laverack and Erma Manoncourt, "Key experiences of community engagement and social mobilization in the Ebola response," *Global Health Promotion* 23, no. 1 (2015): 80.

mobilization," likely due to the "personal, face-to-face" nature of the approach.²⁵ More recent studies have found that telephone calls that deliver personalized, conversational messages can be just as effective,²⁶ while impersonal methods like mass emails are consistently ineffective and inefficient.²⁷ BRAC's famous oral rehydration campaign in Bangladesh relied on hundreds of people going door-to-door and personally convincing parents of young children to use oral rehydration.²⁸ People who interacted with door-to-door canvassers encouraging empathy with transgender people were subsequently 0.36 scale points (on a -3 to 3 point Likert scale) more supportive of a law protecting transgender people than the control group.²⁹ This effect persisted even after those people were exposed to an ad attacking the law.³⁰

At the other extreme, the literature suggests that information campaigns that ignore or challenge the audience's group identities are likely to fail. A national legislative campaign to mandate a vaccine for human papilloma virus (HPV) entangled the vaccine in a broader partisan and cultural conflict and resulted in woeful vaccination rates: just 33% for girls, and 7% for boys in 2013.³¹ The vaccination rate for the Hepatitis B vaccine, by contrast, for which information flowed through trusted doctors, was 57 percentage points higher in 2013.³²

CASE STUDY

Leaders affect interpretation of vaccination information

Social interpretation of information can also, of course, lead people to perceive, make and act on choices in ways that many readers of this report might not find ideal. Consider the 2003 case in which three northern Nigerian states halted the World Health Organization's (WHO) polio immunization campaign.³³ Although polio cases in Nigeria accounted for 45% of polio cases worldwide in 2003³⁴, religious and traditional leaders in three states led a boycott of the immunization campaign.

Religious and political leaders in Kano, Zamfara, and Kaduna states called on parents not to immunize their children against polio, claiming that the vaccine was contaminated by anti-fertility

²⁵ Yale Institution for Social and Policy Studies, *Lessons from GOTV experiments*, (n.d), <http://isps.yale.edu/node/16698>.

²⁶ Nickerson, D. W., "Volunteer phone calls can increase turnout: Evidence from eight field experiments." *American Politics Research* (2006), 34, 271-292.

²⁷ Nickerson D.W., "Does email boost turnout?" *Quarterly Journal of Political Science*; 2(4) (2007): 369-379; Stollwerk AF, "Does e-mail affect voter turnout? An experimental study of the New York City 2005 election." Unpublished manuscript, Institution for Social and Policy Studies, Yale University, USA (2006).

²⁸ See Atul Gawande, "Slow Ideas," *New Yorker*, July 29, 2013, citing A. M. Raza Chowdhury, *A Simple Solution: Teaching Millions to Treat Diarrhoea at Home* (Dhaka: University Press Ltd, 2000).

²⁹ David Broockman and Joshua Kalla, "Durably reducing transphobia: A field experiment on door-to-door canvassing," *Science* 352, no. 6282 (2016): 223. <http://science.sciencemag.org/content/352/6282/220.full>.

³⁰ *Ibid*, 223.

³¹ Dan M. Kahan, "A Risky Science Communication Environment for Vaccines," *Science* 342, no. 6154 (2013): 54, doi:10.1126/science.1245724

³² *Ibid*.

³³ Ayodele Samuel Jegede, "What Led to the Nigerian Boycott of the Polio Vaccination Campaign?" *PLoS Medicine*, 4(3): e73. <https://doi.org/10.1371/journal.pmed.0040073>

³⁴ Elisha Renne, "Perspectives on polio and immunization in northern Nigeria," *Social Science & Medicine*, 63(7) (2006): 1857-1869. <https://doi.org/10.1016/j.socscimed.2006.04.025>

drugs and HIV.³⁵ This effectively brought the immunization campaign to a stop.³⁶ Although the federal government tried to counteract the rumors, their assurances that the vaccine was safe were rejected.³⁷

Facts about the vaccination itself were not the only pieces of information being interpreted. The war in Iraq happening at the time was interpreted by some Muslim Northern Nigerians as America waging a war on all Muslims.³⁸ This, in addition to a controversial 1996 Pfizer trial in one of the boycotting states led many to interpret American support for the WHO campaign as indicative of sinister intentions.³⁹ Furthermore, following population-control policies in the 1980s many Nigerians believed that immunization campaigns included population control methods.⁴⁰

Aspects of the campaign that attempted to leverage personal connections to build trust in the vaccines were not suitable to the context in the three boycotting states. Door-to-door canvassing has proven effective in changing behavior, from encouraging voting in the US to the use of oral rehydration salts in Bangladesh.⁴¹ However, in Nigeria where it is often difficult to access even basic healthcare, encountering someone offering free medication at your door raised suspicions rather than changing minds.⁴²

The polio immunization campaign was eventually restarted after dialogue with religious and traditional leaders. Importantly, leaders from the three states traveled to South Africa, Indonesia, and India to observe testing for whether the vaccine contained any harmful agents. Confirmation that the vaccine was safe from a firm in Indonesia, a predominantly Muslim country, appears to have been particularly effective at helping leaders from the predominantly Muslim states to reinterpret the situation and accept the immunization campaign.⁴³

This case demonstrates the power of social interpretation of information. It further cautions that strategies for leveraging social connections to encourage a change of mind or change of behavior can work, but need to be thoughtfully chosen to match the context.

³⁵ Ayodele Samuel Jegede, "What Led to the Nigerian Boycott of the Polio Vaccination Campaign?" *PLoS Medicine*, 4(3): e73.

<https://doi.org/10.1371/journal.pmed.0040073>.

³⁶ Ibid.

³⁷ Ibid.

³⁸ John Murphy, "Distrust of US foils effort to stop crippling disease" *Baltimore Sun*, January 4, 2004. <http://www.baltimoresun.com/news/nationworld/bal-polio0104,1,6396183.story?ctrack=1&cset=true>.

³⁹ Ibid.

⁴⁰ Odumosu O, Robert FN, Jegede AS, "Regional differential and implementation of the National Policy on population: Pilot study of Borno and Oyo states of Nigeria". In Phillips AO and Ajakaiye DO (eds.) *Population-Environment Interactions in Nigeria: NISER Studies in Sustainable Development in Nigeria*, NISER, Ibadan (1996): 7-42.

⁴¹ See Atul Gawande, "Slow Ideas," *New Yorker*, July 29, 2013, citing A. M. Raza Chowdhury, *A Simple Solution: Teaching Millions to Treat Diarrhoea at Home* (Dhaka: University Press Ltd, 2000).

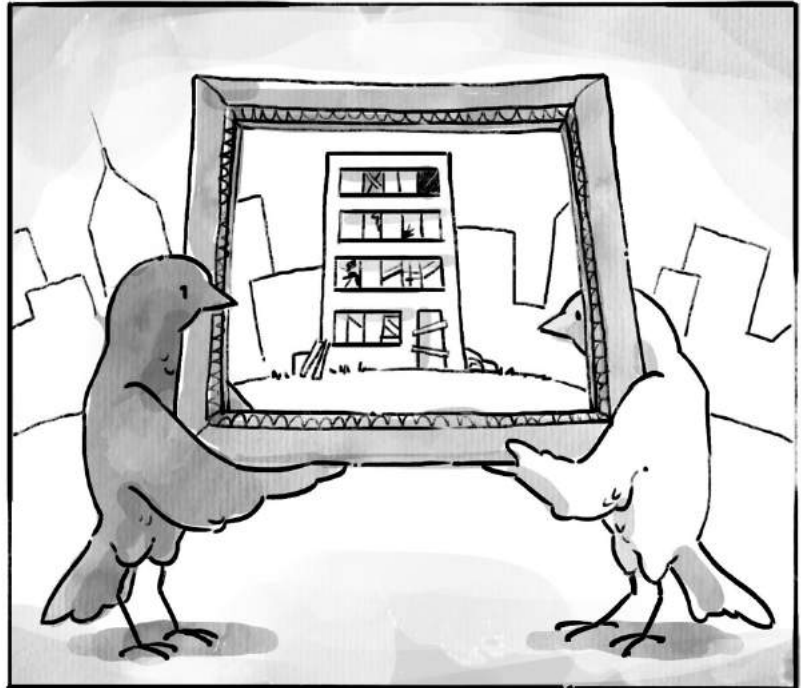
⁴² John Murphy, "Distrust of US foils effort to stop crippling disease" *Baltimore Sun*, January 4, 2004. <http://www.baltimoresun.com/news/nationworld/bal-polio0104,1,6396183.story?ctrack=1&cset=true>.

⁴³ Maryam Yahya, "Polio Vaccines – Difficult to Swallow. The Story of a Controversy in Northern Nigeria." *Institute of Development Studies Working Paper 261*, January 2006. <http://www.ids.ac.uk/publication/polio-vaccines-difficult-to-swallow-the-story-of-a-controversy-in-northern-nigeria>.

2

Reinterpretation is power.

Changing long-term power relationships may depend on collective acts of reinterpretation. Sociologists Robert Benford and David Snow argue that to effect change, people must interpret their situation as an injustice that can be changed, rather than as a misfortune that cannot.⁴⁴ In a metareview of transparency initiatives, Steven Kosak and Archon Fung note these initiatives must, as a precondition, “convince citizens to want a service and be dissatisfied with its delivery.”⁴⁵



A seminal paper on the power of information to catalyze health service reform in Uganda suggests this reinterpretation can drive significant improvements in outcomes. The study found that a pure participatory approach without any information provision had no effect.⁴⁶ This suggests that the act of co-creating a new interpretation of the information by community members and health clinic officers helped lead to the improvement in health outcomes. These outcomes were substantial: a 33% reduction in under-5 child mortality in the treatment group.⁴⁷

Benford and Snow argue that social movements are collective acts of dialectical, discursive interpretation, formed as people negotiate their ongoing participation in a movement.⁴⁸ Studies of social movements such as the U.S. Civil Rights Movement reinforce the interdependency between shared social bonds and movement building. The strong social bonds between congregation

⁴⁴ David A. Snow et al., "Frame Alignment Processes, Micromobilization, and Movement Participation," *American Sociological Review* 51, no. 4 (1986): 466, doi:10.2307/2095581.

⁴⁵ Stephen Kosack and Archon Fung, "Does Transparency Improve Governance?," *Annual Review of Political Science* 17, no. 1 (2014): 72, doi:10.1146/annurev-polisci-032210-144356.

⁴⁶ Martina Björkman and Jakob Svensson, "Power to the People: Evidence from a Randomized Field Experiment of a Community-Based Monitoring Project in Uganda," *Quarterly Journal of Economics*, 124(2) (2009): 735-69, <https://doi.org/10.1162/qjec.2009.124.2.735>. See also Martina Björkman Nyqvist, Damien de Walque and Jakob Svensson, "Experimental Evidence on the Long-Run Impact of Community Based Monitoring" *AEJ Applied* 9(1) (2017):33-69. <https://www.aeaweb.org/articles?id=10.1257/app.20150027>

⁴⁷ Ibid.

⁴⁸ David A. Snow et al., "Frame Alignment Processes, Micromobilization, and Movement Participation," *American Sociological Review* 51, no. 4 (1986): 466, doi:10.2307/2095581.

members of the African American church helped fuel participation in Arkansas's civil rights movement, for example.⁴⁹ The spread of household TV ownership in the US enabled millions of Americans to become familiar with Black protests.⁵⁰ The overall frame of the civil rights movement promoted by its leaders and participants resonated with the value of equal opportunity held by diverse groups in American society, enabling a widespread reinterpretation of the movement.⁵¹

A person's ability to participate in conversations and collective acts of reinterpretation therefore is of particular importance. This ability is not guaranteed. Participation on digital platforms drops precipitously with income.⁵² Students of massive open online courses (MOOCs) are more likely to already have university and advanced degrees.⁵³ Computing power and engineering skill are required to use big data sets.⁵⁴ Feedback systems on government services are used by small minorities of people, and not by "poor people who have no access to services in the first place."⁵⁵

Shifts in a person's identity vis-à-vis information affects how they reinterpret information. Jeremy Heimans and Henry Timms argue that people are increasingly able and motivated to shape, fund, produce, and co-own ideas, rather than passively consuming them.⁵⁶ As the opportunities for participatory experiences multiply across people's lives, people increasingly expect to actively participate in how information is shaped and produced.⁵⁷ This engenders changes in how they reinterpret information they receive. A teenager with her own YouTube channel, for example, will engage with information delivered through the media from the perspective of a content creator in her own right.⁵⁸

Taken together, this literature suggests that an individual's own empowerment is deeply intertwined with social acts of reinterpretation. It also suggests that social movements must co-opt information

⁴⁹ Johnny E. Williams, *African American Religion and the Civil Rights Movement in Arkansas*, (Jackson: University Press of Mississippi, 2003).

<http://www.jstor.org/stable/j.ctt2tvbkr>

⁵⁰ Aldon D. Morris, "A Retrospective on the Civil Rights Movement: Political and Intellectual Landmarks," *Annual Review of Sociology*, 25 (1999): 517-39, <http://www.jstor.org/stable/223515>.

⁵¹ David A. Snow et al., "Frame Alignment Processes, Micromobilization, and Movement Participation," *American Sociological Review* 51, no. 4 (1986): 466, doi:10.2307/2095581.

⁵² "Fact Sheet: Demographics of Internet and Home Broadband Usage in the United States," Pew Research Center: Internet, Science & Tech, last modified January 12, 2017, <http://www.pewinternet.org/fact-sheet/internet-broadband/>.

⁵³ See John D. Hansen and Justin Reich, "Socioeconomic status and MOOC enrollment: enriching demographic information with external datasets," in *LAK 2015: Fifth International Conference on Learning Analytics and Knowledge: 21-20 March 2015, Poughkeepsie, NY, USA* (2015). Longer version hosted on http://harvardx.harvard.edu/files/harvardx/files/ses_and_mooc_enrollment_lak_colloquium_hx_working_paper_submission3.pdf at 4.

⁵⁴ danah boyd and Kate Crawford, "Six Provocations for Big Data," *SSRN Electronic Journal* (September 2011) 12, doi:10.2139/ssrn.1926431.

⁵⁵ *An Upside-down View of Governance*, (Institute of Development Studies, 2011), 36, <http://www2.ids.ac.uk/gdr/cfs/pdfs/AnUpside-downViewofGovernance.pdf> ("Even in modern cities such as Sao Paulo and Mexico City, only a very small minority of poor people raise complaints or make demands on public officials about public services or infrastructure."). See also Tiago Peixoto and Jonathan Fox, "When Does ICT-Enabled Citizen Voice Lead to Government Responsiveness?" *IDS Bulletin* 41, no. 1 (2016), doi:10.19088/1968-2016.104, citing Berdou, E. and Abreu-Lopes, C. (2015) 'The Case of UNICEF's U-Report (Uganda): Final Report to the Evaluation Framework for Digital Citizen Engagement', Digital Engagement Evaluation Team document, World Bank, unpublished. (In Uganda, participation in UReport, a tool that allows young people to connect with members of parliament, was disproportionately weighted toward people with some university education (47%) and government employees (25%). An evaluation found "no systematic evidence of UReport affecting policy or MP behavior.")

⁵⁶ Jeremy Heimans and Henry Timms, "Understanding "New Power"," *Harvard Business Review*, December 2014, <https://hbr.org/2014/12/understanding-new-power>.

⁵⁷ Jeremy Heimans and Henry Timms. *New Power*, (New York: Doubleday, 2018), page 24.

⁵⁸ Ibid.

campaigns and flows in order to be successful. In a study of fourteen indigenous institutions in Ecuador, successful mobilizations depended not on information and communication technology platforms, but on the extent to which local leaders strategically appropriated and creatively adapted technology platforms to engage with government and their audiences.⁵⁹ A report from the Centre For the Future State argues that “productive bargaining between public and private actors” is key to improving local political economy, and that the bargaining process can “strengthen opportunities and incentives for collective action”.⁶⁰ As a result, the report argues, donors should focus less on short-term policy outcomes and more on shifting elite incentives and stimulating ongoing collective action.⁶¹ The lack of specific practical guidance on how to do this suggests that this would be a fruitful avenue for further research and experimentation.

CASE STUDY

Information powers Black Lives Matter

The Black Lives Matter (BLM) movement has recently emerged as a force for social change in the United States, going beyond protest of extrajudicial killings of Black people by police to redefine the narrative about Blackness in America. Activists and academics agree that one of many reasons for the movement’s success was the way information, shared mostly online, triggered a collective response against racial and social injustice. Some refer to the movement as “the hashtag [that] leapt from social media into the streets.”⁶²

It is tempting to overstate how the movement emerged mainly out of peer-to-peer information sharing. The online sharing of images and video clips showing police killing unarmed black citizens certainly evoked strong emotions and responses. While peer-to-peer sharing is an important part of the story of how information empowered this movement, there is more to it.

In its early days, when the three co-founders created the hashtag #blacklivesmatter in 2013, there were at least six other online communities discussing racial police brutality and demanding justice for the victims.⁶³ Twitter activity was episodic, however, peaking in the immediate aftermath of violence and when police officers were acquitted, but with less fervor in between events. It would take a deliberate strategy, and some time, for the Black Lives Matter movement leadership to channel the energy that went into information sharing online—still largely within an echo chamber of like-minded peers—to a physical manifestation of action on the ground and a broadening of the movement’s base.

⁵⁹ Lindsay N. Green-Barber, "Information and communication technologies and social mobilization: The case of the indigenous movement in Ecuador," iv, 1-2, (PhD diss., City University of New York, 2012).

⁶⁰ Center for the Future State, *Societies, States and Citizens*, 14, (2010),

<http://www2.ids.ac.uk/gdr/cfs/pdfs/Future%20State%20DRC%20Policy%20Briefing%20SSC10.pdf>. See also “An Upside-Down View of Governance”

⁶¹ Ibid. at 15. See also Merilee S. Grindle, *Good Enough Governance Revisited*, 6, (2005), <http://www.gsdc.org/docs/open/ret283.pdf>. (Governance research “short-changes methodological and empirical ambiguities that challenge researchers” and glosses over insistences that achievements in good governance “cannot be isolated from the contextual factors that made [them] possible.”).

⁶² Rickford, R., ‘Black Lives Matter: Toward a Modern Practice and Mass Struggle’, New Labor Forum 2016. Vol. 25(1) 34-42, New York

⁶³ Freelon, D., et al, “Beyond the Hashtags,” Center for Media & Social Impact, School of Communications, American University, Washington D.C

Over the last three years, the Black Lives Matter communications team has worked with cognitive scientists (rather than the usual PR team) to build their narrative. They don't see BLM as an information campaign, but rather as an "intervention in collective consciousness" about race reform in the US.

"We use social media, but we're also really mindful that our base lives real lives offline," Shanelle Matthews, Director of Communications for the Black Lives Matter Global Network explained in a recent interview.⁶⁴ Beyond just getting the message out, their information-sharing approach has focused on how people in the movement reinterpret, use, and repeat information individually and collectively, and how the movement enables them to do so.

Creating a system of repetition around the issue was a deliberate strategy. Another strategy was to keep the narrative consistent around one clear, vivid message—stop killing Black people. Within that boundary, however, police brutality was portrayed as indicative of broader racial divides which have never been properly dealt with in the American consciousness. The founders themselves have said that, "...We are broadening the conversation around state violence to include all of the ways in which black people are intentionally left powerless at the hands of the state."⁶⁵ Vivid narratives were used to convey this message, with one of the most re-tweeted images depicting side by side scenes from the civil rights struggle in the 1960s and Black Lives Matter protests in 2014, implying that not much has changed over time.⁶⁶

Touching a wider and more diverse audience with awe and disbelief that this could be happening in the US today, the Black Lives Matter movement gained a wider appeal than parallel online communities dealing with similar topics.⁶⁷ Their website became a go-to source for rapid generation of news content with 75% of those with direct connections to Blacklivesmatter.com being other news sites which in turn connected to each other, amplifying and repeating the movement's messages.⁶⁸

Social media was and remains a powerful information and communications channel to reach a youthful movement.⁶⁹ Online peer-to-peer information-sharing helped trigger emotions and created a desire to collectively act on them. But a deliberate strategy was needed to anchor the movement's messages in the mainstream so that collective organizing and protests would resonate with a broader base. It also aided young Black leaders to make the message their own—going from the safe space of sharing with peers to being empowered to take a stronger stand in their real lives and in public.⁷⁰

⁶⁴ Taylor Tringali, "How the Black Lives Matter Movement is Using Stories and Science to Drive Change," frank (February 24, 2017), <http://frank.jou.ufl.edu/2017/02/16286/>

⁶⁵ "About," Black Lives Matter, <http://blacklivesmatter.com/about/> (April 2017).

⁶⁶ Freelon, D., et al, "Beyond the Hashtags," Center for Media & Social Impact, School of Communications, American University, Washington D.C.

⁶⁷ Ibid.

⁶⁸ Ibid.

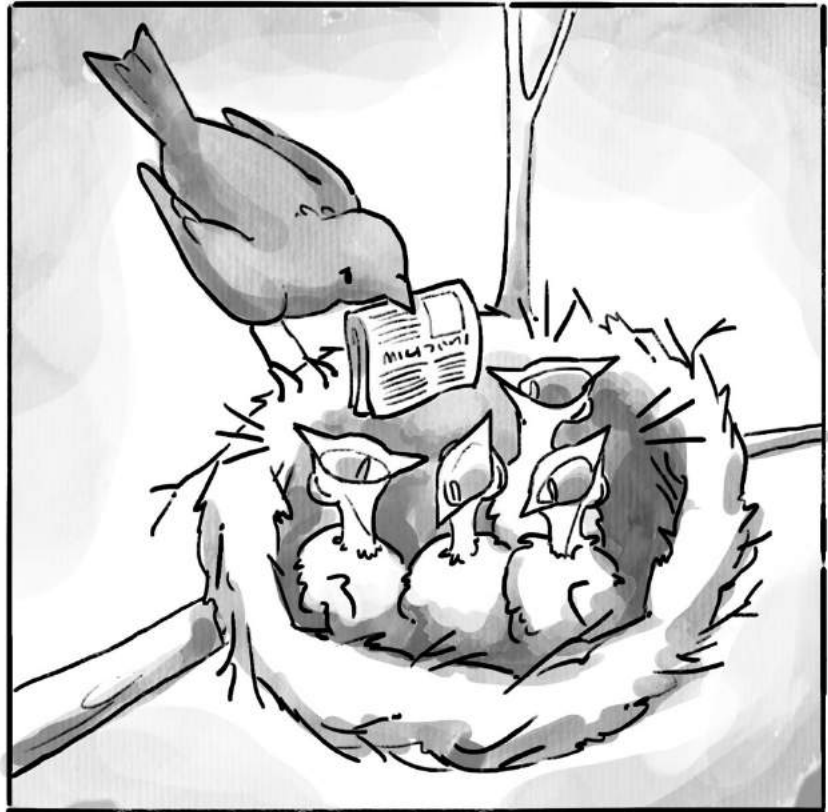
⁶⁹ W. Lance Bennett, "Changing Citizenship in the Digital Age," in *Civic Life Online: Learning How Digital Media Can Engage Youth*, ed. W. Lance Bennett (Cambridge, MA: MIT Press, 2008), 1–24; Russell J. Dalton, *The Good Citizen: How a Younger Generation Is Reshaping American Politics* (Thousand Oaks, CA: Sage, 2008).

⁷⁰ For an inspirational news clip about what can happen during a Black Lives Matter resistance protest, see: <https://www.youtube.com/watch?v=2KHEwLaxULc>

3

Demand rules.

The literature suggests that intermediaries can help build new shared interpretations that can change behavior and support empowerment. Here, we might consider a definition of intermediaries as both broad and literal: someone who intermediates between one group and another, or between a person and a system. An intermediary need not be an expert—technically, they may not even need be people: a well-designed interface may be considered an intermediary. Here, though, we will mostly consider human intermediaries.



Traditionally, we might think of intermediaries as people with subject matter or domain expertise, such as lawyers or doctors. Such experts do have a place in building shared reinterpretations of information. Nutritionists in grocery stores may help improve shopping habits and nutrition outcomes in low-income neighborhoods.⁷¹ Parents are more likely to accept a vaccine if the advice comes from their pediatrician.⁷²

However, even non-experts with some but not complete domain expertise can, when they meet demand, help individuals and communities assert their rights, improve their lives, and protect themselves. Legal navigators placed in NYC courthouses helped self-representative litigants assert more defenses in court and feel that they'd told their side of the story.⁷³ These navigators were not legal experts but were trained in the processes of courthouse proceedings and were in the right place at the right time to meet a clear demand. Litigants assisted by a legal navigator were "87% more likely than unassisted tenants to have their defenses recognized and addressed by the

⁷¹ See, e.g., Laurent Belsie, "'Food deserts' sprout groceries that nourish people – and communities," *Christian Science Monitor*, April 11, 2017, <https://www.csmonitor.com/Business/2017/0411/Food-deserts-sprout-groceries-that-nourish-people-and-communities>.

⁷² See, e.g. Dan M. Kahan, "A Risky Science Communication Environment for Vaccines," *Science* 342, no. 6154 (2013): 54, doi:10.1126/science.1245724.

⁷³ Rebecca L. Sandefur and Thomas M. Clarke, *Roles Beyond Lawyers: Summary, Recommendations and Research Report of an Evaluation of the New York City Court Navigators Program and its Three Pilot Projects*, 4, (American Bar Foundation and National Center for State Courts, 2016), http://www.americanbarfoundation.org/uploads/cms/documents/new_york_city_court_navigators_report_final_with_final_links_december_2016.pdf.

court."⁷⁴ In countries where land governance is weak or maturing, so-called "barefoot paralegals" can help communities assert defenses of their land rights.⁷⁵ In both these cases, the intermediary does not have complete domain expertise, but provides the information that people want.

Ultimately, existing social bonds might be as powerful as they are because they allow the information provider to be in the right place at the right time to meet demand. During the Ebola crisis in Liberia, public health messaging efforts were more effective when they leaned on local community and religious leaders.⁷⁶ The adoption of this approach for a measles vaccination campaign in Liberia in 2015 was associated with a 300% increase in campaign coverage.⁷⁷ *De Correspondent*, a Dutch crowd-funded publication, distinguishes themselves from traditional journalists by trying to meet demand for information: focusing on solving problems and answering questions that their readers present.⁷⁸ This, they hope, may in turn cultivate their readers as potential sources of information, on the theory that information is shared more freely within a community.⁷⁹

Taken together, the literature suggests that intermediaries may need to bridge the gap between existing public interpretations and select social systems.⁸⁰ Intermediaries that provide the information that people demand, in addition to or even instead of subject matter expertise, may be well suited to that task.

⁷⁴ Ibid.

⁷⁵ See "Poor Law," *The Economist*, October 20, 2016, <https://www.economist.com/news/middle-east-and-africa/21709011-rise-paralegals-poor-law>. Note that Namati is a former Omidyar Network grantee.

⁷⁶ Glenn Laverack and Erma Manoncourt, "Key experiences of community engagement and social mobilization in the Ebola response," *Global Health Promotion* 23, no. 1 (2015): 80. See also Health Communication Capacity Collaborative (HC3), *Social Mobilization Lessons Learned: The Ebola Response in Liberia*, 40, (Baltimore: Johns Hopkins Center for Communication Programs, 2017), <http://reliefweb.int/sites/reliefweb.int/files/resources/Ebola-Lessons-Learned-ksm.pdf>, Amaya M. Gillespie et al., "Social Mobilization and Community Engagement Central to the Ebola Response in West Africa: Lessons for Future Public Health Emergencies," *Global Health: Science and Practice* 4, no. 4 (2016): 626-646, doi:10.9745/ghsp-d-16-00226.

⁷⁷ Ibid.

⁷⁸ Ernst-Jan Pfauth, "A short guide to crowdfunding journalism," *The Correspondent*, April 16, 2015, <https://medium.com/de-correspondent/a-short-guide-to-crowdfunding-journalism-b495ecba710>.

⁷⁹ See Ernst-Jan Pfauth, "How reader engagement helped unearth the Shell tape," *The Correspondent*, March 6, 2017, <https://medium.com/de-correspondent/reader-engagement-shell-4bb6d0b8fb84>.

⁸⁰ David A. Snow et al., "Frame Alignment Processes, Micromobilization, and Movement Participation," *American Sociological Review* 51, no. 4 (1986): doi:10.2307/2095581.

CASE STUDY

Intermediaries improve courthouse outcomes in New York City

Court settings can be chaotic and intimidating. Moreover, in New York City, around 90% of tenants facing eviction do not have a lawyer present, while the vast majority of landlords do.⁸¹ But since 2014, chances for tenants to be heard and get a better outcome have increased since the New York City Court Navigators pilots were introduced.

The initiative has made use of trained volunteers—or ‘Navigators’—with no formal legal background to provide one-on-one assistance to unrepresented litigants. Navigators provide information, assist litigants in accessing and completing court-required forms, assemble documents, attend settlement negotiations, and accompany unrepresented litigants into the courtroom. If judges address direct factual questions to a Navigator, the Navigator is authorized to respond. A significant role is also to provide moral support to the litigant, explaining what to expect before entering the courtroom and what the roles are of each person present.

After two years of trying out the Navigators pilots, researchers from the American Bar Association and the National Center for State Courts found some promising indicative results. Litigants who were supported by a Navigator were 56% more likely to feel that they were able to tell their side of the story than unassisted litigants, and they were 87% more likely than unassisted tenants to have their defenses recognized and addressed by the court. They experienced better outcomes too: for example, judges ordered landlords to make needed repairs about 50% more often in Navigator-assisted cases.⁸²

The findings suggest that intermediaries who provide the information people most need and demand can empower those at a disadvantage, even when large power asymmetries are at play. This is true even if intermediaries provide only process and not domain expertise.⁸³

⁸¹ Rebecca L. Sandefur and Thomas M. Clarke, *Roles Beyond Lawyers: Summary, Recommendations and Research Report of an Evaluation of the New York City Court Navigators Program and its Three Pilot Projects*, 4, (American Bar Foundation and National Center for State Courts, 2016), http://www.americanbarfoundation.org/uploads/cms/documents/new_york_city_court_navigators_report_final_with_final_links_december_2016.pdf.

⁸² *Ibid.*

⁸³ *Ibid.*

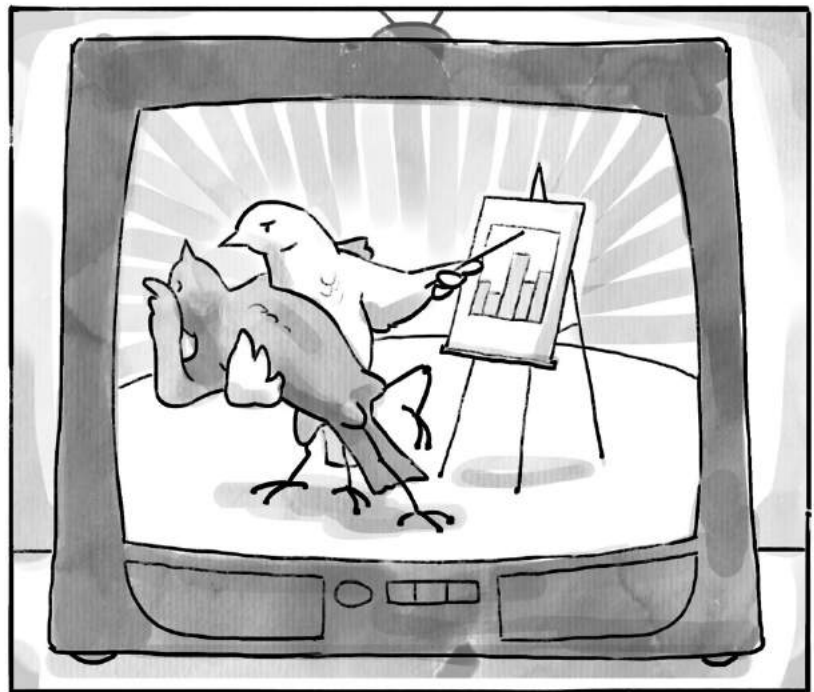
4

Vivid, emotional narratives persuade.

The literature suggests that vivid narratives can effectively change behavior, particularly those that lean on socially mediated relationships and associations. Effective anti-tobacco campaigns focus on the impact of smoking on one's livelihood and family, as opposed to merely explaining that smoking is harmful.⁸⁴ Massachusetts adults had 14% higher odds of quitting smoking when exposed to emotionally evocative anti-smoking ads, compared to the control group.⁸⁵ Theater and dramatic plays have been shown to significantly increase HIV/AIDS awareness.⁸⁶

Evidence suggests that smaller

families portrayed on popular soap operas affected family planning decisions in Brazil.⁸⁷ The fight to legalize gay marriage gained traction in part by pivoting from a rights-based message to a vivid narrative about love.⁸⁸ As the cases studies presented in this section illustrate, the way in which vivid narratives are delivered, and from whom, affect how persuasive they are.



⁸⁴ See Sarah J. Durkin, Lois Biener, and Melanie A. Wakefield, "Effects of Different Types of Antismoking Ads on Reducing Disparities in Smoking Cessation Among Socioeconomic Subgroups," *American Journal of Public Health* 99, no. 12 (2009): 2217-2223, doi:10.2105/ajph.2009.161638.

⁸⁵ Ibid.

⁸⁶ J.D. Hovey, V. Booker, and L. D. Seligman, "Using theatrical presentations as a means of disseminating knowledge of HIV/AIDS risk factors to migrant farmworkers: An evaluation of the effectiveness of the infórmate program." *Journal of Immigrant and Minority Health*, 9, no.2; 147-56; doi: <http://dx.doi.org/10.1007/s10903-006-9023-9>; Valente, T. W., & Bharath, U., "An evaluation of the use of drama to communicate HIV/AIDS information." *AIDS Education and Prevention*, 11, no. 3; 203-11; <https://search.proquest.com/docview/198014155?accountid=167280>; Jonathan N. Livingston et al, "Dramatic Plays as a Tool to Educate Young African-American Females about HIV/AIDS," *Journal of Health Disparities Research and Practice* 7, no.7 (2014), <http://digitalscholarship.unlv.edu/jhdrp/vol7/iss7/2/>; Tamara Taggart et al, "AMPI: A Cross-site Analysis of the Effects of a Theater-based Intervention on Adolescent Awareness, Attitudes, and Knowledge about HIV," *Prevention Science*, 17, no. 5 (2016): 544-553; <https://link.springer.com/article/10.1007/s11121-016-0645-4>

⁸⁷ Eliana La Ferrara, Alberto Chong and Suzanne Duryea, "Soap Operas and Fertility: Evidence from Brazil." *American Economic Journal: Applied Economics* 2012, 4(4): 1-31; <http://dx.doi.org/10.1257/app.4.4.1>

⁸⁸ Molly Ball, "What other activists can learn from the fight for gay marriage," *The Atlantic*, July 14, 2015.

<https://www.theatlantic.com/politics/archive/2015/07/what-other-activists-can-learn-from-the-fight-for-gay-marriage/398417/>

Graphics may persuade skeptics better than text⁸⁹—even the mere appearance of charts and formulas are more likely to persuade people that a medicine is effective.⁹⁰ Similarly, explanations that connect science to experience may work better than logic alone: learning about the effects of adversity on a child’s development can help child welfare staff and foster parents validate and understand their own experiences.⁹¹ Robert Bernays, a founding father of public relations, argued that the effective sales method is not exhortation, but building an environment and group custom that leads to a customer “naturally think[ing]” to make a purchase.⁹²

CASE STUDY

Graphics improve positive perception

Including trivial visual cues on medication packaging—like a simple graph or a chemical formula—can lead to an up to 57% increase in belief in a medication’s effectiveness in the United States.⁹³

Aner Tal and Brian Wansink of Cornell University found that when a simple graph was included on medicine packaging next to claims about the drug’s effectiveness, 42% more people thought the drug would be effective compared to a control group not shown the graph.⁹⁴ This result occurred even though the graph did not contain any additional information about the drug. The same was true when, in a different series of tests with different participants, the medicine’s chemical formula was included on the packaging. This led to a 57% higher perceived effectiveness of the drug on the part of those who saw the chemical formula. This result held even for people who knew nothing about chemistry. However, there was no difference in how well people actually remembered the information afterwards.⁹⁵

The authors warn that the ‘prestige of science’ can be blinding rather than objectively communicating the quality of content. This could be abused as a marketing trick rather than being associated with the patient’s empowerment.⁹⁶

However, another lesson is that information is more convincing if presented in a way that relates it to things we find credible, or trust. Formulas evoke the credibility of science. Graphs remind us drugs have been tested and found effective. These cues, though not empowering in themselves, affect the perception of choice, and the likelihood someone will act on it.

⁸⁹ Flynn, Nyhan, and Reifler, “The Nature and Origins of Misperceptions,” 131. See also Russell Chun, “6 Lessons Academic Research Tells Us About Making Data Visualizations,” Poynter, last modified October 15, 2015, <https://www.poynter.org/2015/6-lessons-academic-research-tells-us-about-making-data-visualizations/381168/> (reviewing academic research on the effectiveness of visualizations).

⁹⁰ Aner Tal and Brian Wansink, “Blinded with science: Trivial graphs and formulas increase ad persuasiveness and belief in product efficacy,” *Public Understanding of Science* 25, no. 1 (2014): 123-5, doi:10.1177/0963662514549688.

⁹¹ Center on the Developing Child at Harvard University, *Applying the Science of Child Development in Child Welfare Systems*, 12, (2016), <http://www.developingchild.harvard.edu>

⁹² Edward L. Bernays, *Propaganda* (New York: Ig, 2005), 77-79.

⁹³ Aner Tal and Brian Wansink, “Blinded with science: Trivial graphs and formulas increase ad persuasiveness and belief in product efficacy,” *Public Understanding of Science* 25, no. 1 (2014): 123-5, doi:10.1177/0963662514549688.

⁹⁴ *Ibid.*

⁹⁵ *Ibid.*

⁹⁶ *Ibid.*

Interpretation is a social act, and vivid narratives can unite social groups, but the literature cautions that vivid narratives can also perpetuate polarization. Of particular note are blue lies, which benefit an in-group to the disadvantage of an out-group, and which thrive in “an atmosphere of anger, resentment, and hyperpolarization.”⁹⁷ For example, a campaign against a Salvation Army homeless shelter focused not on the Salvation Army’s charitable activities, but on the perceived, vivid danger of “transient men” that they supported.⁹⁸

The literature offers few insights on how to unwind polarization, suggesting that it requires painstakingly building bridges between social groups by negotiating common goals, maintaining credible, accurate information, and relying on trusted members of each group to slowly socialize new ideas.⁹⁹ Yet reducing polarization may be essential: a 2013 study found that simply telling study participants that an issue had strongly polarized Democratic and Republican elites changed the degree of their support for an issue by up to 15%.¹⁰⁰

A polarized political environment may still offer opportunities to combat blue lies and rumor. A 2015 study found that rumor correction by “unexpected sources,” that is sources who were ideologically aligned with the rumor, increased rumor rejection rates by 8 percentage points.¹⁰¹

CASE STUDY

Vivid narratives ‘unstick’ misinformation

Misinformation can be difficult to correct. This was confirmed by Brendan Nyhan and Jason Reifler in their 2012 study of how to change people’s perceptions of false information.¹⁰²

Study participants were presented with a series of short news dispatches about a fictional Alaskan state senator who had suddenly resigned.¹⁰³ Some also saw a news clip containing innuendo that the resignation was linked to a bribery scandal. This clearly affected their views of the politician negatively compared to the control group that was not shown the suggestive video. Yet when the connection to the bribery scandal was debunked and contested, it was not enough for the

⁹⁷ See Jeremy A. Smith, “How the Science of “Blue Lies” May Explain Trump’s Support,” *Scientific American (Blog)*, March 24, 2017, <https://blogs.scientificamerican.com/guest-blog/how-the-science-of-blue-lies-may-explain-trumps-support/>. See also e.g., Rick Perlstein, “The Long Con”, *The Baffler*, no. 21 (November 2012), <https://thebaffler.com/salvos/the-long-con> (describing a right-wing fundraising ecosystem based in part on antagonizing elites).

⁹⁸ David A. Snow et al., “Frame Alignment Processes, Micromobilization, and Movement Participation,” *American Sociological Review* 51, no. 4 (1986): 469, doi:10.2307/2095581.

⁹⁹ See Smith, “How the Science of “Blue Lies” May Explain Trump’s Support”. See also generally Flynn, Nyhan, and Reifler.

¹⁰⁰ James N. Druckman, Erik Peterson and Rune Slothust, “How Elite Partisan Polarization Affects Public Opinion Formation,” *American Political Science Review*, 107, no.1 (2013): 57-79; doi:10.1017/S0003055412000500; See also Levendusky, Matthew S. 2010. “Clearer Cues, More Consistent Voters: A Benefit of Elite Polarization.” *Political Behavior* 32, no.1: 111–131.

¹⁰¹ Adam J. Berinsky, “Rumors and Health Care Reform: Experiments in Political Misinformation,” *British Journal of Political Science* 47, no. 02 (2015), doi:10.1017/s0007123415000186.

¹⁰² Brendan Nyhan and Jason Reifler, “Displacing misinformation about events: An experimental test of causal corrections,” *Journal of Experimental Political Science*, 2, no.1(2015), 81-93: <https://doi.org/10.1017/XPS.2014.22>

¹⁰³ Ibid.

participants who saw the video to just receive the corrected information. Those who only got the correct facts (that the resignation was not connected to bribery) continued to have an equally negative perception of the politician. Only those who also received an alternative causal explanation for the resignation had a somewhat better perception of the senator.

The authors conclude that changing people's interpretation of events and facts by replacing one dominant explanation of cause and effect with another was effective in that it reduced and mitigated the innuendo's reputational effect. New, correct facts alone were not enough.¹⁰⁴

In an earlier experiment,¹⁰⁵ participants are told there was a fire in a warehouse in which there were flammable chemicals that were improperly stored. Participants assumed the fire was caused by the chemicals. Some participants were then told that there were no flammable chemicals in the warehouse. Even with this corrected information at hand, they tended to continue to believe the fire was caused by flammable chemicals. Only when they were given an alternative explanation about the real cause of the fire—arson—were they able to let go of their view of flammable chemicals being the cause of the fire.

In other words, simply providing correct information does not necessarily mean that the causal inferences that followed from the incorrect information are automatically updated unless the correct information is part of a new and more convincing narrative.

CASE STUDY

Unexpected sources provide convincing narratives

If a piece of information has proven to be factually incorrect, why does it still linger? At least part of the answer lays in how—and from whom—we hear about the correction,¹⁰⁶ according to Adam Berinsky, an MIT professor who specializes in the political behavior of citizens.

Looking at political rumors surrounding the health care reforms enacted by the United States Congress in 2010 (the Affordable Care Act, ACA), he concludes that receiving a correction of false information from the person least likely to gain any political or personal benefits from issuing the correction is the most effective strategy to induce someone to reject a rumor. This suggests the source of a corrective narrative affects how convincing the narrative is.

Given the polarized politics around ACA (a bill introduced by the Democratic administration), the "unlikely source" in this case was a Republican Senator whose party opposed the bill. When the correction from this unlikely source from within the Republican party was given to a group of participants in Berinsky's study, the rejection rate of the rumor rose 8 percentage points (from 50% to 58%) compared to the control group. This was double the 4% increase in the rejection rate of the rumor among those who received a correction from a Democrat. It was also one percentage point

¹⁰⁴ Ibid.

¹⁰⁵ Wilkes, A.L. and M. Leatherbarrow. 1988. "Editing Episodic Memory Following the Identification of Error," *The Quarterly Journal of Experimental Psychology*, 40A (2): 361-387.

¹⁰⁶ Adam J. Berinsky, "Rumors and Health Care Reform: Experiments in Political Misinformation." *British Journal of Political Science* 47, no. 02 (2015), 241-262. doi:10.1017/s0007123415000186.

higher than the rumor rejection rate of the group who was exposed to a correction from a non-partisan source.

In fact, when President Obama tried to address rumors about the ACA himself at town hall meetings in 2009, polls showed it made no difference. If anything, he inadvertently cemented the 'stickiness' of the rumors by repeating them publicly. This resonates with several studies within the field of psychology which point to the fact that information that has been presented frequently will be more familiar, and thereby more likely accepted as the truth.

Work by Brendan Nyhan and Jason Reifler corroborates the idea that the source of corrective information matters. In their 2013 study, they found that corrective information is most persuasive when the news outlet and expert are not perceived as ideologically aligned with the content of the correction.¹⁰⁷

But there is a difference between containing the rumor momentarily and having it classified as false information for good. A second study by Berinsky demonstrated that rumors regained strength over time as the effect of the corrections faded. Simply asking people to repeat the rumor, or questions about it, after some time increased participants' willingness to believe it.¹⁰⁸ This points to the need for sustained and iterative delivery of corrective narratives from the sources that are most convincing.

¹⁰⁷ Brendan Nyhan and Jason Reifler, "Which Corrections Work?" (New America Foundation Research Paper, October 2013), <https://www.dartmouth.edu/~nyhan/nyhan-reifler-report-naf-corrections.pdf>

¹⁰⁸ Adam J. Berinsky, "Rumors and Health Care Reform: Experiments in Political Misinformation." *British Journal of Political Science* 47, no. 02 (2015), 241-262. doi:10.1017/s0007123415000186.

Information must rise above the noise.

Movements are built via dialogue. This dialogue must compete for time and attention with other causes, choices, and distractions. Information must win battles for attention, elaboration, and choice in order to improve, for example, civic competence.¹⁰⁹ Empowerment campaigns, then, must build ways for information to rise above the noise.

People are consistently poor multitaskers and remain so even with the emergence of digital



tools.¹¹⁰ This may help build a presumption against action:¹¹¹ A 2002 study by political scientists John R. Hibbing and Elizabeth Theiss-Moore argues that Americans have little desire to participate in politics or the process of government.¹¹² Access to many and disparate information channels may make people less knowledgeable, more susceptible to distraction, and less likely to engage politically. A study in *Nature* suggests that the volume of information on social networks combined with the “attention of the real world” makes it impossible for people to identify quality information.¹¹³ Another study, from Markus Prior, found that an increase in media choice produces “gaps in political knowledge and turnout, between people who prefer news and people who prefer entertainment”.¹¹⁴

¹⁰⁹ See Arthur Lupia, *Necessary Conditions for Improving Civic Competence: A Scientific Perspective*, (manuscript, 2015), <https://www.princeton.edu/csdp/events/Lupia111705/Lupia111705.pdf>.

¹¹⁰ Paul A. Kirschner, Pedro De Bruyckere, “The myths of the digital native and the multitasker”, *Teaching and Teacher Education* 67 (October 2017): 135-142, doi: 10.1016/j.tate.2017.06.001. Christopher Jones and Binhui Shao, “The Net Generation and Digital Natives”, The Open University (2011) <https://www.heacademy.ac.uk/system/files/next-generation-and-digital-natives.pdf> (“There is no evidence that there is a single new generation of young students entering Higher Education and the terms Net Generation and Digital Native do not capture the processes of change that are taking place”).

¹¹¹ See Michael S Evans, “Algorithms: The Future That Already Happened”, review of *The Master Algorithm*, by Pedro Domingos, *Los Angeles Review of Books*, May 31, 2016, <https://lareviewofbooks.org/article/algorithms-future-already-happened/>. (arguing that people “want processes that work without our intervention”)

¹¹² John R. Hibbing and Elizabeth Theiss-Morse, *Stealth Democracy: Americans' Beliefs About How Government Should Work* (Cambridge: Cambridge University Press, 2007)

¹¹³ Xiaoyan Qiu et al., “Limited individual attention and online virality of low-quality information,” *Nature Human Behaviour* 1, no. 7 (2017), doi:10.1038/s41562-017-0132. The study’s authors argue that high quality discrimination and high information diversity can co-exist on a social network, but only if attention is also high.

¹¹⁴ Markus Prior, “News vs. Entertainment: How Increasing Media Choice Widens Gaps in Political Knowledge and Turnout,” *American Journal of Political Science* 49, no. 3 (2005):577, <https://www.princeton.edu/~mprior/Prior2005.News%20v%20Entertainment.AJPS.pdf>

Gary King, Jennifer Pan, and Margaret E. Roberts argue that the Chinese government social media strategy takes advantage of this overload in its social media strategy, which aims to distract people from “discussions or events with collective action potential.”¹¹⁵ Roberts argues that the Chinese government’s practice of flooding the public with distracting or competing information increases the relative cost of obtaining information the government considers dangerous.¹¹⁶ Even small increases in the relative cost of obtaining “dangerous” information are effective at diverting the attention of Chinese citizens toward information the government considers fit for consumption.¹¹⁷

Information may win battles for attention without winning the battle for use, reinterpretation, or empowerment. During the Arab Spring, for example, social media sharing helped information about the Tahrir Square protests rise above the noise and capture global attention.¹¹⁸ However, the attention paid to the information did not translate into the collective decision-making and carrying out of increasingly challenging tasks needed to develop and strengthen the capabilities of the movement.¹¹⁹ This left the movement without the competencies needed to adapt to new challenges and sustain long-term empowerment.¹²⁰

That may indicate that an institution that encourages social interpretation of the information and collective action based on it is necessary for information to win the battles for attention and elaboration that contribute to empowerment. Otto Scharmer argues that this “container,” the context in which social interpretation occurs,¹²¹ is “the holding space through which information turns either into noise or into a vehicle for changing consciousness.”¹²² In the US, churches that served the African-American community acted as one such container, helping bring attention to and frame the reinterpretation of messages of non-violence in the civil rights movement, in addition to facilitating collective action.¹²³ Churches in the former German Democratic Republic were safe havens in which people could express their true beliefs in the years leading up to the fall of communism.¹²⁴

In today’s era of multiplying media channels (including social media), containers may not only be established institutions. Important focusers of attention include not only institutions but also individual curators, celebrities, and algorithms such as those that determine trending topics on Twitter.¹²⁵

¹¹⁵ Gary King, Jennifer Pan, and Margaret E. Roberts, “How the Chinese Government Fabricates Social Media Posts for Strategic Distraction, Not Engaged Argument,” *American Political Science Review* 111, no. 03 (2017), doi:10.1017/s0003055417000144.

¹¹⁶ Margaret E. Roberts, *Censored: Distraction and Diversion Inside China’s Great Firewall*, (Princeton and Oxford: Princeton University Press, 2018), page 41.

¹¹⁷ *Ibid*, page 215.

¹¹⁸ Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017), page xxv.

¹¹⁹ *Ibid*, page 75

¹²⁰ *Ibid*, page 77

¹²¹ Otto Scharmer, *Theory U: Leading from the Future as it Emerges*, (Oakland: Berrett-Kohler Publishers Inc, 2009).

¹²² Otto Scharmer, e-mail correspondence, November 25, 2017.

¹²³ Allison Calhoun-Brown, “Upon this Rock: The Black Church, Nonviolence, and the Civil Rights Movement,” *PS: Political Science and Politics*, 33, no. 2 (2000), 168-174.

¹²⁴ Andrew Curry, “Before the Fall,” *The Wilson Quarterly* (1976-), vol. 33, no. 4, 2009, pp. 16–25, www.jstor.org/stable/20700623.

¹²⁵ Zeynep Tufekci, “Not This One: Social Movements, the Attention Economy, and Microcelebrity Networked Activism,” *American Behavioral Scientist*, 57, no. 7(2013); 848-870; <https://doi.org/10.1177/0002764213479369>. See also “Algorithmic Accountability: A Primer,” Data & Society, Last modified April 18, 2018, https://datasociety.net/wp-content/uploads/2018/04/Data_Society_Algorithmic_Accountability_Primer_FINAL-4.pdf.

CASE STUDY

Facebook amplifies election information

The power of social media, and Facebook in particular, to help information rise above the noise was demonstrated in the 2016 United States presidential election. While a causal link between information sharing patterns on Facebook and the outcome of the presidential election has not been established, there is reason to believe that the way in which the platform amplified and spread specific pieces of information, and affected their reinterpretation, had a significant effect on how some Americans perceived, made and acted on their electoral choice.

Sixty-two percent of US adults access news on social media,¹²⁶ while 44% access news from Facebook specifically.¹²⁷ News feeds on Facebook are tailored to the individual user—the platform displays posts and stories that it predicts the user will like and doesn't show other posts or stories.¹²⁸ The prediction is based on the user's engagements with previous posts. When a user likes, comments on, or shares a post, they will receive more content similar to that post. In this way, over time and through invisible means, content becomes filtered to align with the user's preferences and worldview, creating what Eli Pariser termed "filter bubbles."¹²⁹ Increasingly, Facebook users exist in personalized information ecosystems in which the information that is displayed (in other words, that is algorithmically being raised above the noise) is based on their ideological and social group preferences.

Furthermore, Facebook allows for dark ads, posts displayed as advertisements that are only ever visible to a small, select group of targeted users. It is estimated that hundreds of millions of dollars were spent on dark ads during the election.¹³⁰ The Trump campaign deployed dark ads micro-targeted at specific personality types¹³¹ in order to "suppress idealistic white liberals, young women, and African Americans."¹³²

In addition to dark ads, Facebook uncovered 470 pages linked to Russian operatives. Just six of those pages are estimated to have created posts that were shared over 340 million times.¹³³ Facebook itself estimated that Russian-backed content on their platform reached 126 million Americans during and after the 2016 election.¹³⁴ How that content was targeted is unknown.

Much has also been made of how Facebook amplified so-called fake news related to the US election, false reports containing incorrect information originating from both ideologically motivated and

¹²⁶ Jeffrey Gottfried and Elisa Shearer, "News Use across Social Media Platforms 2016," *Pew Research Center*, May 26, 2016.

<http://www.journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/>

¹²⁷ *Ibid.*

¹²⁸ Alexis Madrigal, "What Facebook did to Democracy," *The Atlantic*, October 12, 2017. <https://www.theatlantic.com/technology/archive/2017/10/what-facebook-did/542502/>

¹²⁹ Eli Pariser, *The Filter Bubble: How the New Personalized Web is Changing What We Read and How We Think* (London: Penguin Books, 2011).

¹³⁰ Alexis Madrigal, "What Facebook did to Democracy," *The Atlantic*, October 12, 2017. <https://www.theatlantic.com/technology/archive/2017/10/what-facebook-did/542502/>

¹³¹ Issie Lapowsky, "What Did Cambridge Analytica Really Do for Trump's Campaign?" *Wired*, October 26, 2017. <https://www.wired.com/story/what-did-cambridge-analytica-really-do-for-trumps-campaign/>

¹³² Joshua Green and Sasha Issenberg, "Inside the Trump Bunker with 12 Days to Go," *Bloomberg Businessweek*, October 27, 2016.

<https://www.bloomberg.com/news/articles/2016-10-27/inside-the-trump-bunker-with-12-days-to-go>

¹³³ Jonathan Albright, "Total Reach by Page," *Tow Center for Digital Journalism at Columbia University*, December 4, 2017.

<https://public.tableau.com/profile/d1gi#!/vizhome/FB4/TotalReachbyPage>

¹³⁴ Olivia Solon and Sabrina Siddiqui, "Russia-backed Facebook posts 'reached 126m Americans' during US election," *The Guardian*, October 30, 2017.

<https://www.theguardian.com/technology/2017/oct/30/facebook-russia-fake-accounts-126-million>

economically motivated sources.¹³⁵ In the final three months before the US presidential election, Craig Silverman found that “the top-performing fake election news stories on Facebook generated more engagement [such as likes, comments and sharing] than the top stories from major news outlets.”¹³⁶ All but three of the 20 top-performing fake news stories favored Donald Trump.¹³⁷

This pattern was not unique to the US presidential election. Researchers found that although established French and Italian news brands have far greater reach online than fake news websites, certain fake news outlets were able to exceed the number of interactions generated by those established brands on Facebook specifically.¹³⁸

The filter bubbles that emerged in the lead-up to the US presidential election were “deep but narrow” according to Andrew Guess, Brendan Nyhan and Jason Reifler.¹³⁹ The group of Americans consuming the most fake news accessed 33 fake news articles on average and represented only 10% of the American public.¹⁴⁰ They tended to be Americans who consumed the most conservative information online and they were not reached by fact-checks of fake news.¹⁴¹ In fact, consumption of fact-checks was concentrated among non-fake news consumers.¹⁴²

Taken together, this paints a picture of how Facebook enabled hyper-partisan, ideologically unchallenged and sometimes false information to rise above the noise. That information was compelling to the users who saw it: in their study of fake news Allcott and Gentzkow found that both Democrats and Republicans are 15% more likely to believe ideologically aligned headlines. This effect was substantially stronger for people in stronger filter bubbles, that is people with more ideologically segregated more ideologically segregated social media.¹⁴³

The hidden nature of dark ads and more generally of content shared only within specific filter bubbles likely made social reinterpretation of information difficult. Much of the information consumed about the election on Facebook was likely ideologically unchallenging to the people who consumed it, and within their community of like-minded Facebook users there was likely an easy, comforting interpretation of the information. For alternative reinterpretations of the information to emerge, ideologically disparate communities on Facebook likely would have had to engage in collective reinterpretation of the same information. This was difficult. As Eli Pariser wrote, “The most serious political problem posed by filter bubbles is that they make it increasingly difficult to have a public argument.”¹⁴⁴

¹³⁵ Alexis Madrigal, “What Facebook did to Democracy,” *The Atlantic*, October 12, 2017. <https://www.theatlantic.com/technology/archive/2017/10/what-facebook-did/542502/>

¹³⁶ Craig Silverman, “This Analysis Shows How Viral Fake News Election News Stories Outperformed Real News on Facebook,” *BuzzFeed*, November 16, 2016. https://www.buzzfeed.com/craigsilverman/viral-fake-election-news-outperformed-real-news-on-facebook?utm_term=.jsVlr1ajx6#.ye2GMy8o1g

¹³⁷ *Ibid.*

¹³⁸ “Fact Sheet: Measuring the reach of “fake news” and online disinformation in Europe.” Reuters Institute for the Study of Journalism and University of Oxford. February, 2018. <https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2018-02/Measuring%20the%20reach%20of%20fake%20news%20and%20online%20distribution%20in%20Europe%20CORRECT%20FLAG.pdf>

¹³⁹ Andrew Guess, Brendan Nyhan and Jason Reifler, “Selective Exposure to Misinformation: Evidence from the consumption of fake news during the 2016 U.S. presidential campaign,” <https://www.dartmouth.edu/~nyhan/fake-news-2016.pdf>

¹⁴⁰ *Ibid.*

¹⁴¹ *Ibid.*

¹⁴² *Ibid.*

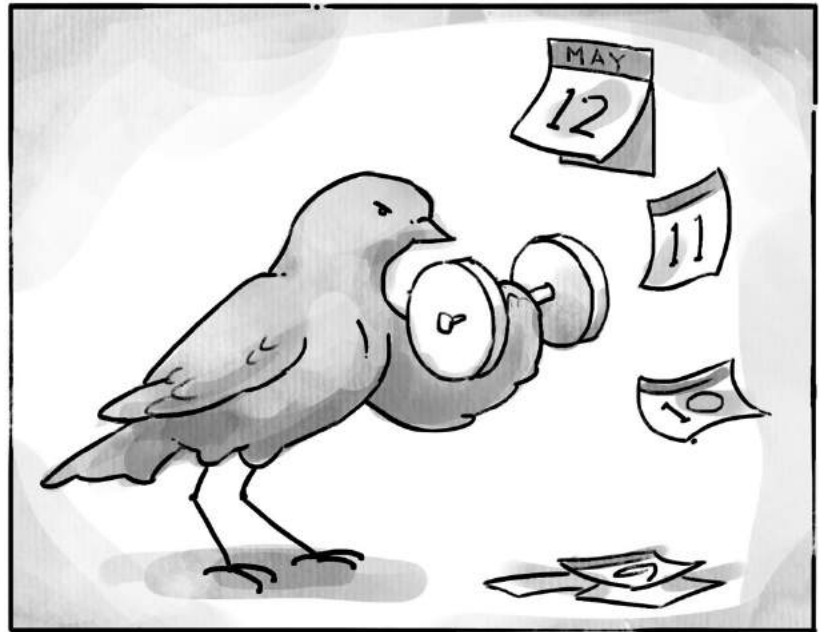
¹⁴³ Hunt Allcott and Matthew Gentzkow, “Social Media and Fake News in the 2016 Election,” *The Journal of Economic Perspectives*, 31, no.2(2017), page 211-235. <http://www.jstor.org/stable/44235006>

¹⁴⁴ Eli Pariser, *The Filter Bubble: How the New Personalized Web is Changing What We Read and How We Think* (London: Penguin Books, 2011).

The literature suggests that incentives are effective in sparking new behaviors. Financial incentives have been shown to be effective to engender health behavior changes¹⁴⁵ and are perhaps the most widely applied type of incentive.¹⁴⁶ Water conservation efforts in the western United States were most effective after changes in financial incentives, when rebates were offered for water-saving appliances and higher per-unit pricing was introduced for high users.¹⁴⁷

However, non-financial incentives can also work. In Brazil, perceptions of corruption were largely unchanged since 2000,¹⁴⁸ despite the introduction of a transparency portal in 2004 and an open data portal in 2012.¹⁴⁹ It was arguably a 2013 law that allowed prosecutors to strike plea bargains that helped break open the massive Car Wash corruption scandal—an example of legal rather than financial incentives changing behavior as well as perceptions of corruption.¹⁵⁰ Peer pressure and the reward of “good grades” effectively incentivized households in the United States to reduce their energy consumption.¹⁵¹

The literature also suggests that practice and repetition are effective for building information campaigns and behavior change. Successful anti-drug programs are interactive and last for years,



¹⁴⁵ M.C. Lynagh, R. Sanson-Fisher and B. Bonevski, “What’s good for the goose is good for the gander. guiding principles for the use of financial incentives in health behaviour change,” *International Journal of Behavioral Medicine*, 20, no.1(2013); 114-20; doi: <http://dx.doi.org/10.1007/s12529-011-9202-5>

¹⁴⁶ K. Strohacker, O. Galarraga and D.M. Williams, “The impact of incentives on exercise behavior: A systematic review of randomized controlled trials,” *Annals of Behavioral Medicine*, 48, no. 1(2014), 92-9; doi: <http://dx.doi.org/10.1007/s12160-013-9577-4>

¹⁴⁷ See Bruce Finley, “Denver water use dips to 40-year low in 2014,” *Denver Post*, February 9, 2015, <http://www.denverpost.com/2015/02/09/denver-water-use-dips-to-40-year-low-in-2014/> (“rebates for those who switch to water-saving appliances, tiered water rates that encourage using less, summer lawn-watering restrictions, and a rule that all new development must include soil “amendments” so that soil retains more water.”); See also Adam Nagourney and Ian Lovett, “In Sharp Reversal, California Suspends Water Restrictions,” *New York Times*, May 18, 2016, <https://www.nytimes.com/2016/05/19/us/california-suspends-water-restrictions.html> (on California’s experiment with mandated restrictions).

¹⁴⁸ Brazil’s CPI rating from year to year has largely stayed within the high-low range of the year before. See, e.g., “Corruption Perceptions Index 2000,” Transparency International, accessed July 30, 2017, https://www.transparency.org/research/cpi/cpi_2000/0/, “Corruption Perceptions Index 2016,” Transparency International, accessed July 30, 2017, https://www.transparency.org/news/feature/corruption_perceptions_index_2016.

¹⁴⁹ Andrew Young and Stefaan Verhulst, “Brazil’s Open Budget Transparency Portal,” *The Global Impact of Open Data* (Sebastopol, CA: O’Reilly Media, 2016), PDF e-book, 44-46.

¹⁵⁰ See Jonathan Watts, “Operation Car Wash: Is this the biggest corruption scandal in history?” *Guardian*, June 1, 2017, <https://www.theguardian.com/world/2017/jun/01/brazil-operation-car-wash-is-this-the-biggest-corruption-scandal-in-history>.

¹⁵¹ Mark Joseph Stern, “A Little Guilt, a Lot of Energy Savings,” *Slate*, March 1, 2013, http://www.slate.com/articles/technology/the_efficient_planet/2013/03/opower_using_smiley_faces_and_peer_pressure_to_save_the_planet.html; See also Allcott, Hunt, and Todd Rogers, “The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation,” *The American Economic Review* 104, no. 10 (2014): 3003-037. <http://www.jstor.org/stable/43495312>.

helping students build behaviors to turn down drugs.¹⁵² Merely lecturing students about the dangers of drugs is unhelpful.¹⁵³ Anti-tobacco campaigns fund helplines and nicotine treatment programs to help convert intentionality into action.¹⁵⁴ More persistent campaigns seem to have greater effects: adults in Massachusetts had 11% higher odds of quitting smoking for every 10 additional anti-smoking ads to which they were exposed.¹⁵⁵ Even rituals—simple, repeated behaviors—may help people perform better or deal with anxiety and grief.¹⁵⁶

The power of repetition may lie in the fact that consistency is a path to identity. As Robert Cialdini has pointed out, repetition of a behavior may shift an individual's view of themselves to a "person who does x," even if before engaging in those incremental actions they did not perceive themselves as such.¹⁵⁷

CASE STUDY

Practice over years helps students turn down drugs

Knowing all about "the stuff that kills you" may not be very helpful unless you have also learned—through repetition and practice—how to avoid it.

This may seem obvious in retrospect. Yet it took nearly three decades and over 30 evaluations for the United States nation-wide Drug Abuse Resistance Education (D.A.R.E.) program to change its course from being lecture-based to being focused on youth practicing good decision-making.¹⁵⁸

The US eventually picked a new curriculum called keepin' it REAL—a program that numerous studies had found to be successful. The largest study from 2003 asked 6,000 students about their attitudes and use of alcohol, tobacco, and marijuana over a two-year period. A sub-set of 1,300 students who were already using some form of drugs showed a reduced substance use at a rate that was 72% higher than the control group.¹⁵⁹ For non-users, the program also seemed to work. Students who completed keepin' it REAL could, for example, refer to a wider variety of strategies to stay sober than those who did not take part in the training.¹⁶⁰

¹⁵² Lillienfeld and Arkowitz, citing Melissa H. Stigler, Emily Neusel, and Cheryl L. Perry, "School-Based Programs to Prevent and Reduce Alcohol Use among Youth," *Alcohol Research & Health* 34, no. 2, and Pim Cuijpers, "Effective ingredients of school-based drug prevention programs," *Addictive Behaviors* 27, no. 6 (2002): 1009-1023, doi:10.1016/s0306-4603(02)00295-2. See also Amy Nordrum, "The New D.A.R.E. Program—This One Works," *Scientific American*, September 10, 2014, <https://www.scientificamerican.com/article/the-new-d-a-r-e-program-this-one-works/>

¹⁵³ Lillienfeld and Arkowitz, citing Pan and Bai.

¹⁵⁴ See LF Stead, T. Lancaster, and R. Perera, "Telephone counselling for smoking cessation," *Cochrane Database of Systematic Reviews*, 2003, doi:10.1002/14651858.cd002850; C. Silagy et al., "Nicotine replacement therapy for smoking cessation," *Cochrane Database of Systematic Reviews*, 2003, doi:10.1002/14651858.cd000146.pub2.

¹⁵⁵ Sarah J. Durkin, Lois Biener, and Melanie A. Wakefield, "Effects of Different Types of Antismoking Ads on Reducing Disparities in Smoking Cessation Among Socioeconomic Subgroups," *American Journal of Public Health* 99, no. 12 (2009): 2217-2223, doi:10.2105/ajph.2009.161638.

¹⁵⁶ Francesca Gino and Michael I. Norton, "Why Rituals Work," *Scientific American*, May 14, 2013, <https://www.scientificamerican.com/article/why-rituals-work/>.

¹⁵⁷ Cialdini, Robert, "Influence: The Psychology of Persuasion," *Harper Business* rev. ed. 2006

¹⁵⁸ Amy Nordrum, "The New D.A.R.E. Program - This One Works," *Scientific American*, September 10, 2014, <https://www.scientificamerican.com/article/the-new-d-a-r-e-program-this-one-works/>

¹⁵⁹ S. Kulis, T. Nieri, S. Yabiku, L.K. Stromwall, and F.F. Marsiglia, "Promoting Reduced and Discontinued Substance Use among Adolescent Substance Users: Effectiveness of a Universal Prevention Program," *Prevention Science: The Official Journal of the Society for Prevention Research*, 8, no.1(2007), 35–49. <http://doi.org/10.1007/s11121-006-0052-3>

¹⁶⁰ Amy Nordrum, "The New D.A.R.E. Program - This One Works," *Scientific American*, September 10, 2014, <https://www.scientificamerican.com/article/the-new-d-a-r-e-program-this-one-works/>

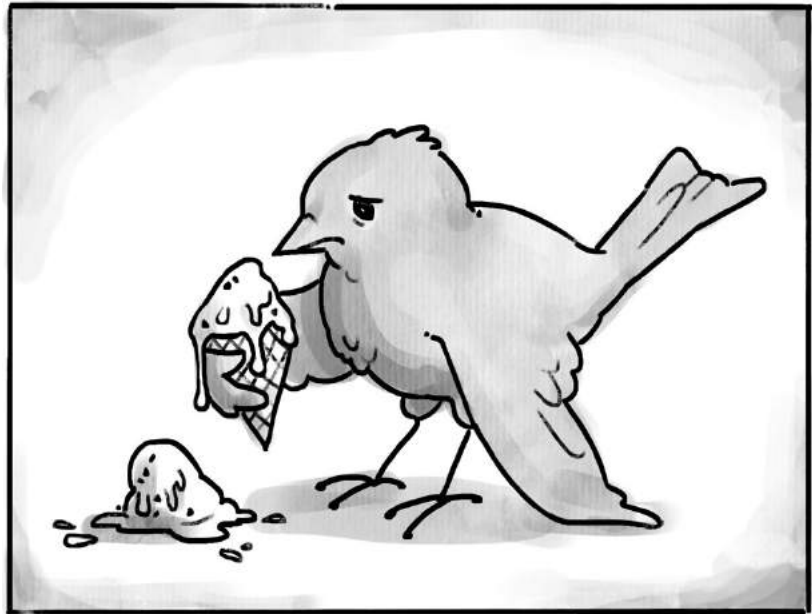
The main difference is that keepin' it REAL is not an anti-drug program, as researchers Michael Hecht and Michelle Miller-Day who co-developed the program like to point out. Instead, it focuses on being honest, safe, and responsible, which also explains the rule of thumb expressed by the acronym: Refuse, Explain, Avoid, and Leave. The four strategies that make up the acronym were teased from 300 interviews that the two researchers conducted with kids across the country.¹⁶¹

This quick recall trick, rather than long and technical details about the harmful effect of drugs, is meant to help someone poised at the critical juncture of whether or not to use a drug. Drug avoidance habits and attributes can be practiced at a younger age than previously thought, and students in the program are encouraged to explore those habits with their peers. Rather than listening to 45-minute long lectures, students get an 8-minute introduction and spend the rest of the time role-playing and practicing how to handle tough decisions together with their friends. Early trials show that the new curriculum has reduced substance abuse and maintained anti-drug attitudes over time—an achievement that largely eluded the D.A.R.E. program.¹⁶²

¹⁶¹ M.L. Hecht et al, "Culturally Grounded Substance Use Prevention: an Evaluation of the keepin' it R.E.A.L. curriculum," *Prevention Science*, 4, no.4(2003): 233-48.

¹⁶² Amy Nordrum, "The New D.A.R.E. Program - This One Works," *Scientific American*, September 10, 2014, <https://www.scientificamerican.com/article/the-new-d-a-r-e-program-this-one-works/>

The literature suggests that individual tactics for supporting empowerment, or indeed nearly any endeavor related to human behavior, may not last long. In *Puppet Masters*, a World Bank research report on stolen asset recovery, the authors caution that “[a]ction...begets a never-ending chain of reactions. It is important to bear this point in mind, for any proposed ‘solution’ to uncovering the concealment, whether through government regulation or otherwise, inevitably will address only the problem as it exists at that point in time.”¹⁶³



While that report was not speaking about information and empowerment, their caution captures the key point that any solution, including those intended to support empowerment, will engender opposing reactions and must adapt to a constantly changing context. In other words, the other side learns and our tactics must change as theirs do.

Effective campaigns and organizations are tactic-agnostic and nimble. From design-based implementation research in education¹⁶⁴ to the rapid adoption of A/B testing in online commerce,¹⁶⁵ organizations succeed when they develop flexible methods for identifying and adapting to changes in their working environment.¹⁶⁶ The 2008 Obama campaign saw a 40% increase in online email signups after embracing insights generated through A/B testing.¹⁶⁷ To keep campaigns nimble, Greenpeace Argentina allows departments full tactical autonomy after a planning stage where all departments agree on common goals and division of labor.¹⁶⁸

¹⁶³ Emile van der Does de Willebois, J. C. Sharman, and Robert A. Harrison, *The Puppet Masters: How the Corrupt Use Legal Structures to Hide Stolen Assets and What to Do About It* (Washington: World Bank Publications, 2011), 12.

¹⁶⁴ See generally Barry J. Fishman et al., "Design-Based Implementation Research: An Emerging Model for Transforming the Relationship of Research and Practice," *National Society for the Study of Education* 112, no. 2 (2013): 136-156

¹⁶⁵ See, e.g., Brian Christian, "The A/B Test: Inside the Technology That's Changing the Rules of Business," *Wired*, April 25, 2012, https://www.wired.com/2012/04/ff_abtesting/.

¹⁶⁶ See also K.M. Sutcliffe and K. Weber, "The high cost of accurate knowledge," *IEEE Engineering Management Review* 31, no. 3 (2003), doi:10.1109/emr.2003.24900.

¹⁶⁷ Brian Christian, "The A/B Test: Inside the Technology That's Changing the Rules of Business," *Wired*, April 25, 2012, https://www.wired.com/2012/04/ff_abtesting/.

¹⁶⁸ Mobilisation Lab, "Integration Toolkit - "Campaign Brief" Agreements," n.d., <https://mobilisationlab.org/campaign-brief-agreements/>.

Successful empowerment campaigns need to continuously re-align their tactics to their objectives, and should revisit their tactics to verify that they still work, even within a given context. The literature suggests that the process of interpretation and action is dialogical: an ongoing conversation.

CASE STUDY

7 Principles at play during the Arab Spring

Information shared via social media played a key role in igniting the Arab Spring.^{169,170} It enabled political dialogue, especially among young, urban, relatively well-educated individuals.¹⁷¹ It attracted growing numbers of protesters after initial protests.¹⁷² It enabled citizens to put pressure on their governments, and spread democratic ideas across borders.¹⁷³ While many factors contributed to the Arab Spring, both its rise and fall illustrate the 7 principles outlined in this report.

Interpreting events as they unfolded was clearly a social act: in each country, the nexus of protests began with people with shared social groups,¹⁷⁴ who connected and strengthened existing networks by sharing information online.¹⁷⁵ Information shared on social media by fellow citizens was perceived as more credible than information provided by domestic media sources.¹⁷⁶

The reinterpretive dialogue on social media was powerful: the immediacy of social media sharing united protestors.^{177,178} Social media intermediaries fulfilled unmet demand. One mapping of information flows during protests in Egypt and Tunisia found that social media users shared information from Western news sites to the exclusion of regional sources, suggesting *as intermediaries they were meeting demand from their fellow citizen for credible information.*¹⁷⁹

¹⁶⁹ Nahed Eltantawy and Julie B. Wiest, "Social Media in the Egyptian Revolution: Reconsidering Resource Mobilization Theory," *International Journal of Communication*, 5(2011), 1207-1224: <http://ijoc.org/index.php/ijoc/article/view/1242/597>.

¹⁷⁰ Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017)

¹⁷¹ Philip N. Howard et al, *Opening Closed Regimes: What Was the Role of Social Media During the Arab Spring?*, (Project on Information Technology and Political Islam Working Paper 2011.1), <https://poseidon01.ssrn.com/delivery.php?ID=213111027084003125073075117077069111054012095037049059100028107027113021105023084112107031020125060007097095095067097021117127010025006078000112084064025083120125006050081040025003005096107000096030095101103004089067074009121007103004107123091120102097&EXT=pdf>.

¹⁷² Gadi Wolfsfeld, Elad Segev and Tamir Sheafer, "Social Media and the Arab Spring: Politics Comes First," *The International Journal of Press/Politics*, 18, no.2(2013), 115-137: <http://journals.sagepub.com/doi/pdf/10.1177/1940161212471716>.

¹⁷³ Ibid.

¹⁷⁴ Anderson, Lisa. "Demystifying the Arab Spring: Parsing the Differences Between Tunisia, Egypt, and Libya," *Foreign Affairs* 90, no. 3 (2011): 2-7. <http://www.jstor.org/stable/23039401>.

¹⁷⁵ Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017), page 13.

¹⁷⁶ Gadi Wolfsfeld, Elad Segev and Tamir Sheafer, "Social Media and the Arab Spring: Politics Comes First," *The International Journal of Press/Politics*, 18, no.2(2013), 115-137: <http://journals.sagepub.com/doi/pdf/10.1177/1940161212471716>.

¹⁷⁷ Anderson, Lisa. "Demystifying the Arab Spring: Parsing the Differences Between Tunisia, Egypt, and Libya," *Foreign Affairs* 90, no. 3 (2011): 2-7. <http://www.jstor.org/stable/23039401>.

¹⁷⁸ Nahed Eltantawy and Julie B. Wiest, "Social Media in the Egyptian Revolution: Reconsidering Resource Mobilization Theory," *International Journal of Communication*, 5(2011), 1207-1224: <http://ijoc.org/index.php/ijoc/article/view/1242/597>.

¹⁷⁹ Philip N. Howard et al, *Opening Closed Regimes: What Was the Role of Social Media During the Arab Spring?*, (Project on Information Technology and Political Islam Working Paper 2011.1), <https://poseidon01.ssrn.com/delivery.php?ID=213111027084003125073075117077069111054012095037049059100028107027113021105023084112107031020125060007097095095067097021117127010025006078000112084064025083120125006050081040025003005096107000096030095101103004089067074009121007103004107123091120102097&EXT=pdf>.

Vivid narratives also played a part: initial protests were sparked by the sharing of video of Mohammed Bouazizi's self-immolation in protest of the government in Tunisia,¹⁸⁰ and by images showing Khaled Said's beaten, dead body alongside pictures of an alive and smiling Khaled in Egypt.^{181,182} Clearly, information shared during the Arab Spring rose above the noise.

The information shared on social media empowered regular people to engage in political dialogue, join protests, and put immense pressure on their governments. But it did not necessarily empower people to act on all choices. Zeynep Tufekci argues that *social media sharing didn't encourage the practice needed to strengthen the Arab Spring.*¹⁸³ Repetition and practice of challenging tasks, like designing, printing, and distributing thousands of flyers, build a social movement's internal capabilities, the muscles that enable increasingly more audacious actions. Social media sharing brought the Arab Spring to widespread attention before it had developed those muscles.¹⁸⁴

In most countries, with the exception of Tunisia, the Arab Spring has given way to the Arab Winter.¹⁸⁵ The spread of fake news aimed at discrediting dissidents has undermined the movement.¹⁸⁶ Governments have learned from the Arab Spring and changed tactics to fight back.¹⁸⁷ Clearly, *empowerment tactics needed to change.* Empowering movements need internal capabilities and resilience to persist as circumstances change.

What Next?

The research shows that we already know a lot that we can act on now. This report summarizes and synthesizes seven key principles that emerge from theory, research, and in-depth case studies spanning many fields. Applying these principles can support empowering social reinterpretation of information. The good news is that these principles can be put into practice, using the Checklist provided, for ongoing initiatives and new projects being designed or considered.

However, as the report points out, we don't yet fully know how to prioritize the application of the principles. For example, do all these principles apply equally or do some take precedence over others? For practitioners who are constrained by time and resources, which principles should they prioritize? Specific pairs or subsets of principles might reinforce each other for different types of initiatives, and understanding that could help practitioners and funders to target limited resources.

¹⁸⁰ Ibid.

¹⁸¹ Nahed Eltantawy and Julie B. Wiest, "Social Media in the Egyptian Revolution: Reconsidering Resource Mobilization Theory," *International Journal of Communication*, 5(2011), 1207-1224: <http://ijoc.org/index.php/ijoc/article/view/1242/597>.

¹⁸² Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017), page 22.

¹⁸³ Ibid, page 75.

¹⁸⁴ Ibid, page 75.

¹⁸⁵ "The Arab Winter," *Wired*, January 9, 2016.

¹⁸⁶ Zeynep Tufekci, *Twitter and Tear Gas*, (New Haven and London: Yale University Press, 2017), page 266.

¹⁸⁷ Ibid., page 226.

Furthermore, we need more guidance on how to nurture the social and emotional factors that this report highlights as the key to driving empowering acts of reinterpretation of information. The evidence map in Annex A shows where evidence for each principle is strong and where gaps remain. The questions outlined in Annex B describe just a few enticing future lines of inquiry.

We invite your thoughts on how the principles summarized in this report will influence your work. How would you apply the ideas contained in this report? What additional evidence or guidance would you like to see? We hope the framework we've developed sparks new ideas, experimentation, and inquiry.

Finally, additional principles surely remain to be discovered. What do you think should be added or changed to the framework we've presented?

Annex A | Evidence Map

	Academic journal article detailing an experiment	Academic journal article without an experiment	White paper or working paper	Newspaper or magazine article	Book citing academic sources	Account of experiences	Website
1. Interpretation is social.	●●● ●●	●● ●●	●●●	●●	●	●	
2. Reinterpretation is power.	●	●●●	●● ●●	●●		●	●
3. Demand rules.	●	●●	●	●		●	
4. Vivid narratives persuade.	●●● ●●●	●	●	●●	●		
5. Information must rise above the noise.		●● ●●	●●	●●● ●●●	●●	●	●
6. Incentives & repetition cement new behaviors.	●●● ●●		●	●●●	●	●	
7. Ice cream melts.		●	●	●	●	●	

Annex B | *Future Lines of Inquiry*

1. Interpretation is social.

The meaning people attach to information depends on the mix of social groups to which they belong. Information initiatives rooted in or targeted at existing social groups can be successful. Leaders and authority figures can have a major effect on how information is interpreted and framed.

- ❑ Are close or loose social ties more efficient at supporting empowering interpretation?
- ❑ Can one affect social group membership to create more favorable conditions for empowerment?
- ❑ How can we avoid reinforcing in-group behavior and increasing isolation of social groups?

2. Reinterpretation is power.

Empowerment at scale depends on encouraging collective, conversation-based interpretation. Reframing the present circumstances as an injustice to be righted, rather than a misfortune can help create wider movements that go beyond empowering people one by one.

- ❑ How can we encourage people to interpret situations as an injustice that can be changed, rather than as a misfortune that cannot?
- ❑ How can we improve the ability of disadvantaged communities to engage in collective acts of reinterpretation?
- ❑ What are practical approaches to creating incentives for leaders to support empowering reinterpretation?

3. Demand rules.

The most effective intermediaries are able to provide the specific information and social bonds that people are looking for; domain expertise alone is not enough.

- ❑ What are specific strategies for discerning and understanding what kind of intermediaries communities are demanding?
- ❑ What approaches have organizations successfully adopted to meet community demand for effective intermediaries?
- ❑ Does collective demand, under some circumstances, help create a social context?

4. Vivid narratives persuade.

Using vivid and emotional narratives and explanation to describe experiences can persuade people to interpret events and information differently. This dynamic can both unite and polarize social groups.

- ❑ Does a narrative that is self-generated persuade better than a narrative that is provided for you?
- ❑ What are the specific characteristics of an emotional narrative that is more likely to persuade?
- ❑ Can any topic be made into an emotional narrative? If so, how?

5. Information must rise above the noise.

Empowerment is built via dialogue, which competes for time and attention with other causes, choices, and distractions. Institutions, individuals and algorithms can help focus attention on information.

- ❑ What information channels and platforms are most effective at enabling information to rise above the noise?
- ❑ How can empowering movements spread primarily through social media develop the capabilities that underpin resilience and sustainability?
- ❑ What practical strategies work to build containers that enable empowering dialogue?

6. Incentives and repetition cement new behaviors.

Incentives can spark new behaviors, and practice; repetition helps make behavior change stick. Persistence is critical. When support is removed, desired behavior change slows or stops (and sometimes even reverses).

- ❑ How are the repetitions and practices that support empowerment similar to or different from those that support behavior change in specific campaigns?
- ❑ How does repetition and practice of new behaviors reinforce or create new social groups?
- ❑ What degree of persistence is required to support sustained empowerment?

7. Ice cream melts.

The effectiveness of information-related tactics intended to empower may not generalize across either contexts or time. Empowerment demands long-term commitment, regular re-appraisal of strategies, and ongoing tactical adjustment.

- ❑ What empirical or experimental results corroborate this principle?
- ❑ What practical guidance exists to help practitioners act on this principle?
- ❑ How should practitioners balance agile testing with the care needed to avoid negative or disempowering outcomes?

Annex C | *Examples Cited*

This report cites a number of real-world examples related to information and empowerment. These include:

- Drug prevention programs in American schools.
- Patient feedback on health clinics in Uganda.
- Hepatitis B and human papilloma virus (HPV) vaccination programs.
- Civil Rights movement in the US.
- Attitudes on climate change.
- How foundations acquire knowledge.
- Obesity spreading along social networks.
- Happiness spreading along social networks.
- Machine learning absorbing racial and gendered biases.
- Social media usage in the Arab Spring.
- Information sharing in the Black Lives Matters movement.
- The fight to legalize gay marriage in the US.
- Get out the vote efforts.
- Efforts to increase support for laws supporting transgender rights.
- Oral rehydration campaigns in Bangladesh.
- Ebola crisis in Sierra Leone and Liberia.
- Strategies for rumor correction.
- Credibility of information from ideological sources.
- Chinese propaganda strategies on social media.
- Water conservation in Colorado and California.
- Energy conservation efforts in the US.
- Theatre as a means of raising HIV/AIDS awareness.
- Alcohol and tobacco cessation campaigns.
- Studies of American attitudes toward civic engagement.
- Grief rituals.
- Corruption in Brazil.
- Internet use by income levels.
- Participation in massively open online courses.

- Feedback systems on government services in Sao Paulo and Mexico City.
- Navigators in NYC courthouses.
- Barefoot paralegals in Chad and Uganda.
- Improving nutrition outcomes in low-income neighborhoods.
- Experiments in reader-focused journalism.
- Study on the effect of charts on persuading someone of a medicine's effectiveness.
- Improving child welfare outcomes by explaining effects of adversity on a child's development.
- ICT mobilization among indigenous communities in Ecuador.
- Mobilization tactics from Greenpeace Argentina/Mobilisation Lab.
- Campaign against a Salvation Army homeless shelter.
- A/B testing during the 2008 Obama campaign.
- Information usage by government agents.
- Experiences of open government and transparency initiatives.
- Anti-communist movement in Eastern Europe.
- Polio vaccination boycott in Northern Nigeria.
- Effects of information sharing on social media on the 2016 US presidential election.

Annex D | *Expert Advisory Panel*

The advisory panel comprised experts from diverse fields, from international development to marketing, media to campaigning. The panelists contributed their expertise to this report through individual interviews, group discussions and commentary on drafts of the report. Their input was essential to weaving together the evidence and ideas presented in this report.



Shaida Badiee

Managing Director & Co-Founder

Open Data Watch

Shaida brings several decades of experience in managing global development statistics as the long-time Director of the World Bank's Development Data Group. During her tenure, flagship global statistical products were launched such as the World Development Indicators, Global Development Finance, and the Atlas of Global Development. In

2010, she led the World Bank's Open Data Initiative, a ground-breaking program to provide full and free access to the World Bank's extensive statistical databases. Prior to that, she played a key role in the creation and operation of PARIS21 as well as leading international efforts to coordinate technical and financial support for statistics through initiatives like the Marrakech Action Plan.



Zack Brisson

Principal

Reboot

Zack Brisson is a Founder and Principal at Reboot, a social enterprise dedicated to inclusive development and accountable governance. A practicing theorist, Zack has extensive experience bringing community-driven, human-centered approaches to policymaking, program design, and implementation.

In his 7 years at Reboot, he has helped the World Bank develop new public financial management diagnostic instruments, advised UNICEF and USAID through processes of organizational transformation, and established Reboot's first country office in Nigeria. He has worked in some of the world's most challenging political environments, including post-revolutionary Tunisia, rural Pakistan, the Niger Delta, and Washington D.C. And, ahead of the first elections held in Libya, Zack led the team that assembled and managed a global consortium of 14 subcontractors working on 3 continents, guiding the design and deployment of the world's first mobile-based voter administration system. Zack served as an advisor to five state and municipal governments as part of the Open Government

Partnership's Subnational Pilot program. And in the home of Reboot's headquarters, Zack has led projects advising offices of the Mayor of New York City on criminal justice reform and on the creation of a streamlined open records system.

Zack speaks regularly on emerging models of governance and open data and how they can help organizations become more responsive to the communities they serve. He has spoken at conferences including Slush, TEDx Carthage, and at the Center for International Development at Harvard University.



Harpinder Collacott

Executive Director

Development Initiatives

Harpinder Collacott is the Executive Director of Development Initiatives (DI), an independent organization focusing on the role of data in efforts to eradicate global poverty. Harpinder has worked closely on projects to improve data use in development and led the production and delivery of DI's flagship Development Data Hub. She also leads the organization's work on IATI and participated regularly as DI's representative on the IATI Steering Committee.

Harpinder has a diverse background in development and conflict including working as a Political Advisor with the War Crimes tribunal for Sierra Leone, Programme Officer for the Oak Foundation and as Director of Strategic Planning at Citizens for Global Solutions. Harpinder holds an undergraduate from Cambridge University and a post-graduate in international relations from London School of Economics.



Damien de Walque

Senior Economist

Development Research Group

The World Bank Group

Damien is a Senior Economist in the Development Research Group (Human Development and Public Services Team) at the World Bank. He received his Ph.D. in Economics from the University of Chicago in 2003. His research interests include health and education and the interactions between them. His current work is focused on evaluating the impact of financial incentives on health and education outcomes. He is currently evaluating the education and health impacts of conditional cash transfers linked to school

attendance and/or health center visits in several African settings.

He has edited a book on risky behaviors for health (smoking, drugs, alcohol, obesity, risky sex) in the developing world and is working on evaluating the impact of HIV/AIDS interventions and policies in several African countries. He is leading two evaluations of the impact of short-term financial incentives on the prevention of HIV/AIDS and other sexually transmitted infections (STIs): individuals who test negatively for a set of STIs receive regular cash payment in Tanzania, while in Lesotho they receive lottery tickets. On the supply side of health services, he is managing a large portfolio of impact evaluations of results-based financing in the health sector. He also contributed to the evaluation of an intervention disseminating information collected about the performance of health facilities in Uganda as a basis for a community-based discussion on how to improve the quality of health services.



Duncan Edwards

Program Manager

Making All Voices Count, Institute of Development Studies

Duncan focuses on building an evidence base from over 60 applied research projects on citizen engagement and accountable responsive governance. His current research interests include the use of knowledge in development, and the roles of innovation and technology in governance, voice, transparency, and accountability work. A long-standing advocate of opening up IDS data and

knowledge, he has supported partner organizations by strengthening their technical capacity and articulating their theories of change and the role of data in them.

Duncan edited the timely and well-received “Opening Governance” which reviews recent scholarship to pinpoint contributions to more open, transparent, accountable, and responsive governance via improved practice, projects and programmes in the context of the ideas, relationships, processes, behaviours, policy frameworks and aid funding practices of the last five years. “Opening Governance” discusses the questions and weaknesses that limit the effectiveness and impact of this work, offers a series of definitions to help overcome conceptual ambiguities, and identifies hype and euphemism.



Mizuko (Mimi) Ito

Professor & Research Director

Digital Media and Learning Hub

University of California, Irvine

Mizuko Ito is a cultural anthropologist of digital culture and an advocate for connected learning—learning that is youth-centered, interest-driven, hands-on, and social. Decades of research on geeks, gamers, fans, activists, and artists has convinced Ito that kids learn best when they are pursuing things they care about with people who “get” and inspire them. Her co-authored book, “Hanging Out, Messing Around, and Geeking Out: Youth Living and Learning with New Media” describes new opportunities for interest-driven learning fueled by games, social media, and digital tools. In “Connected Learning: An Agenda for Research and Design,” Ito and her colleagues in the Connected Learning Research Network map out how education can embrace today’s technology to make meaningful learning available to all young people; learn more by visiting: http://dmlhub.net/sites/default/files/ConnectedLearning_report.pdf

She is co-founder of Connected Camps that provide online creative learning opportunities for kids in all walks of life. Ito pursues research and educational change as the Research Director of the MacArthur Foundation funded Digital Media and Learning Hub at the University of California Irvine. She is the MacArthur Foundation Chair in Digital Media and Learning and Professor in Residence.



Jim Manzi

Founder and Partner

Foundry.ai

Jim Manzi is a Founder and Partner of Foundry.ai, a technology studio focused on conceptualizing and building AI application software businesses. He was founder, CEO and Chairman of Applied Predictive Technologies, which became the world’s largest cloud-based Artificial Intelligence software company, and was sold to MasterCard in 2015. Previously, he worked at Bell Labs and as a corporate strategy consultant. Jim is the author of several software patents, as well as the 2012 book “Uncontrolled,” which has been widely reviewed in the *New York Times*, *Wall Street Journal* and other national publications. He received a B.S. in mathematics from MIT, and was subsequently awarded a Dean’s Fellowship in statistics to the doctoral program at the Wharton School of the University of Pennsylvania.



Bill Shapiro

Editor and Author

Bill Shapiro is an award-winning editor who has been creating and curating content for large-scale audiences for 30 years. He is currently at work on a book, "Just One Thing," to be published by Hachette.

Previously, he served as Fast Company's Director of Editorial & New Business Ventures where he oversaw the brand's expansion on to all new platforms, creating products and services that tapped new revenue streams. Prior to that, he was the Editor-in-Chief of LIFE, the legendary photo magazine; LIFE's relaunch in 2004 as a weekly magazine was the largest in Time Inc. history. Later, he was the founding Editor-in-Chief of LIFE.com, which drove a billion pageviews

in its second year while winning Webby awards in both 2010 and 2011, as well the 2011 National Magazine Award for digital photography.

Previously, he was the top editor of Time Inc.'s Custom Publishing division, where he developed magazines for American Express, Hallmark, Target, and Ford, among other Fortune 500 companies. Shapiro's first book, "Other People's Love Letters," is now in its seventh printing and was recently acquired by producer Laurence Mark (Dreamgirls, Jerry Maguire). While running LIFE magazine, Shapiro spun-off the popular last page, Picture Puzzle, into a #1 New York Times best-selling book. His most recent book, "Gus & Me," a children's book which he co-wrote with Rolling Stones' guitarist Keith Richards, reached #2 on the New York Times Bestseller list for children's books. A fine-art photography curator for New York galleries, he also serves on the Art Advisory Board for the SXSW festival; he has more than 30,000 Instagram followers. Shapiro has appeared on the Today Show, NPR, and in The New York Times, and was listed as one of Mediaite's top 20 magazine titans.



Michael Silberman

Global Director
Mobilisation Lab

Michael Silberman leads the Mobilisation Lab, a global learning and collaboration network powering the future of social change campaigns. Amidst growing threats—to people, the planet, and the very right to advocate for change—MobLab equips progressive movements and leaders to adapt and thrive in the digital, people-powered era.

A senior digital campaigns strategist, Silberman is recognized as one of the U.S.'s 50 most influential leaders by The NonProfit Times and one of LinkedIn's "Top Professionals 35 and Under" transforming the social impact sector. He teaches digital-era advocacy and campaigning to graduate students as adjunct faculty with George Washington University's School of Media and Public Affairs.

Silberman got his start on Governor Howard Dean's 2004 presidential campaign where he built one of the first successful digital organizing programs in American politics and mobilized over 200,000 grassroots volunteers through "meetups." Prior to launching the MobLab, Silberman was a partner and co-founder at Echo & Co, an award-winning digital strategy firm.



Priyanka Singh

Chief Executive

Seva Mandir

Priyanka Singh has been the Chief Executive of Seva Mandir since April 2011. She is responsible for leading a team of almost 300 colleagues. Seva Mandir's work extends to over 600 villages and the annual budget is close to 16 crores. Apart from raising money, she is responsible for the overall effectiveness of and coherence within Seva Mandir programs, and for representing Seva Mandir at various external forums.

She has worked in Seva Mandir for 17 years and before becoming the Chief Executive, headed its Education and Health Program and one of the geographical locations. In both the program areas, she was closely involved with several pioneering research studies conducted in collaboration with the Massachusetts Institute of Technology.

In addition to her responsibilities within Seva Mandir, Priyanka has undertaken evaluations of other organizations and participated in external studies and reviews.

She is also a member of the following boards:

- Board Member of the Institute of Rural Management, Anand (IRMA)
- Governing Board Member of ARAVALI, a State level NGO set up by the government to promote collaboration between the government and the voluntary sector
- Governing Board Member of Rejuvenate India Movement (RIM), a multi-State collaborative initiative of several NGOs to encourage voluntarism in the country
- Working Committee Member of VANI (Voluntary Action Network of India)



Banker White

Executive Director

WeOwnTV

Banker White is the Executive Director of WeOwnTV, a 501(c)(3) nonprofit organization based in San Francisco. WeOwnTV's mission is to create artistically bold media that explores the critical issues of our time and reinforces a culture of creativity and engagement. With all of their projects, WeOwnTV works to cultivate deep community engagement that inspires, educates, and transforms audiences into socially engaged citizens. In 2009 Banker and his team co-founded the WeOwnTV Freetown Media Center together with local Sierra Leonean filmmakers Arthur Pratt and Lansana Mansaray. The media center is an important educational and creative hub in the heart of the capital city in Sierra Leone.

Banker is also an award-winning filmmaker and his work has been broadcast on PBS, HBO, Netflix, the New York Times and exhibited at museums and galleries nationwide. Banker is the director of the award-winning documentary *The Genius of Marian* which was broadcast on PBS's award-winning series *POV* in September 2014. Banker also directed Sierra Leone's *Refugee All Stars* (*POV* 2007) and is currently in post-production on *Survivors*, a documentary about the Ebola outbreak scheduled to be broadcast on PBS in 2018. Recent work has been supported by Sundance Institute Documentary Fund, National Endowment for the Arts, National Endowment for the Humanities, MacArthur Foundation, Creative Capital, Tribeca Film Institute, the Bertha Foundation, and the Kenneth Rainin Foundation.

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