



Psychological Inquiry

An International Journal for the Advancement of Psychological Theory

ISSN: 1047-840X (Print) 1532-7965 (Online) Journal homepage: <https://www.tandfonline.com/loi/hpli20>

Knowledge is Shared

Philip M. Fernbach & Nicholas Light

To cite this article: Philip M. Fernbach & Nicholas Light (2020) Knowledge is Shared, Psychological Inquiry, 31:1, 26-28, DOI: [10.1080/1047840X.2020.1722601](https://doi.org/10.1080/1047840X.2020.1722601)

To link to this article: <https://doi.org/10.1080/1047840X.2020.1722601>



Published online: 09 Mar 2020.



Submit your article to this journal [↗](#)



Article views: 15



View related articles [↗](#)



View Crossmark data [↗](#)



Knowledge is Shared

Philip M. Fernbach and Nicholas Light

Leeds School of Business, University of Colorado at Boulder, Boulder, Colorado

Human beings have a remarkable penchant for believing things that are not true. This has always been the case. Ancients believed in nature deities, bloodletting was thought to cure disease for many centuries, and physiognomy, the belief that humans possess the character traits of animals they resemble, fell out of favor only in the late nineteenth century. But there is something new and quite frightening about the current moment. There has always been an optimistic strain in public discourse that has assumed that truth will win out as knowledge and technology advance. After all, modern religions are (arguably) based on less preposterous beliefs than their ancient counterparts, relatively few people in the modern world believe in witchcraft or sorcery, and even science deniers invoke naturalistic explanations for their alternative theories. This optimism was the impetus behind well-intentioned attempts over the past 50 years to increase domain knowledge in areas like science, civics, and economics, with an eye to shaping a more enlightened public (Bodmer, 1985; Miller, 1987; Putnam, 2000). The Internet was promised to be the greatest innovation in this pursuit (Negroponte, 1996, 1998). The massive scale and openness would dramatically increase the flow of information. How could groups possibly maintain demonstrably false beliefs in the face of such information accessibility?

Society is in the midst of a dawning realization that technology is not making things better, and may very well be making them worse. In addition to increasing information accessibility, the Internet has also enabled online segregation and narrow targeting of information to ideologically homogeneous groups, much of it deceptive or biased (Rainie & Anderson, 2017). Though the magnitude of the role the Internet plays in creating so-called “filter bubbles” is disputed (Flaxman, Goel, & Rao, 2016), the current epistemic environment is concerning. Science denial is mainstream. Large numbers of the American public maintain beliefs that run counter to the scientific consensus on anthropogenic climate change (38%), the safety of genetically modified foods (49%), the safety and efficacy of vaccination (11%) and other vital issues (Funk, Kennedy, & Hefferson, 2018; Gustafson, Bergquist, Leiserowitz, & Maibach, 2019; Wellcome Global Monitor, 2018). In American politics, those on the left and right do not seem to agree on anything, even basic facts. A survey during the recent impeachment inquiry into President Trump and his infamous call with Ukrainian president Volodymyr Zelensky, found that among those who

say they have heard a lot about the call, 97% of Democrats believe an investigation was mentioned on the call, while only 50% of Republicans believe the same (Murray, 2019). Less mainstream are outlandish conspiracy theories that metastasize online like Flat Earth belief and QAnon. Troublingly, new conspiracy theories pop up constantly, many have remarkable staying power and have begun to influence public discourse.

This is disturbing stuff. We don't think it is hyperbole to say that it raises serious questions about the long-term viability of our technological society. As Clark and Winegard (this issue) point out, these phenomena are no mere coincidence. We seem to be built to believe things almost independent of their veracity. And once we come to believe something, it's nearly impossible to change our minds. This is deeply strange: a reasoning system where truth is, at best, a secondary consideration. This demands explanation, and we agree with Clark and Winegard that it must reflect our evolutionary beginnings and the most essential characteristics of how our minds and social systems operate. Given the stakes, we also think that understanding these phenomena and whether there is any way to influence them is the most important contemporary challenge for behavioral science.

Clark and Winegard's article adds to a growing literature that attempts to understand how we come to our beliefs not just in terms of what is going on our head, but how our cognition is shaped and constrained by the social group we affiliate with. Clark and Winegard focus on the social value of showing one's team spirit through selective belief in, attention to, or advocacy for in-group values and beliefs (cf. Mercier & Sperber, 2017). On this account, we are natural homers. Our minds are tuned to search out and preferentially interpret information that supports what our group happens to believe, so that we can reap the social benefits of being good members of the team.

While we believe the evidence for this argument is convincing, we also believe it is only part of the story. Humankind's great evolutionary adaptation was not that we could form groups, with strength in numbers. Rather it was that we could form groups where individuals specialize, mastering certain bits of knowledge, while others master other bits (Sloman & Fernbach, 2017; Stasser, Stewart, & Wittenbaum, 1995; Wegner, 1987). This knowledge sharing allowed us to jointly pursue ever more complex goals through cooperation (Tomasello, 1999). Because of this

development humans were able to build pyramids, cathedrals, and space ships when no one individual knew a fraction of the information necessary to successfully finish such complex endeavors. Our minds evolved not just to be team players, but to participate in a massively distributed knowledge network, a “community of knowledge” (Rabb, Fernbach, & Sloman, 2019).

To illustrate how difficult epistemology is for an individual in a community of knowledge, consider one of the most perplexing phenomena introduced above: Different communities can disagree on “basic facts.” But what is a basic fact? If I ask you how you know the Earth is round you may very well appeal to the basic fact that ships at a distance disappear below the horizon. At a recent meeting of the Flat Earth International Conference, we spoke with an individual who had gone to the beach with a high-powered camera to observe ships in the distance. “If ships disappears over the horizon, why does zooming in bring the ship back into view?” he asked us. We were not convinced by this argument, but we also did not have a good rebuttal. Neither of us knew enough about cameras or light to explain this optical trick.

What this example highlights is that we are almost never in a position to adjudicate the truth or falsity of a proposition on our own. This was a case of the easiest kind of verification for an individual: direct observation. And even here there was dispute. Most of the things we believe are much more difficult to verify and open to alternative interpretations of the evidence. Consider believing that single-payer healthcare will be good for our country, that the Earth is warming, or that President Trump committed impeachable offenses. Coming to a belief is almost always a process that involves a combination of (a little bit) of individual knowledge and (a lot) of knowledge stored elsewhere. We use our own knowledge to make sense of a claim, assess the credibility of the source, and perhaps to do some rudimentary analysis. But we rely on knowledge in the community to do the bulk of the work. What this means is that when we express a belief or attitude we are usually not doing so based on knowledge that resides in our head. We are usually just channeling what our community believes.

Because we do this so naturally, the boundaries between the knowledge that is in our head and what is outside of it are blurry. We often fail to recognize the distinction, feeling as though we ourselves understand issues better than we do just by virtue of participating in a community of knowledge. Merely telling people that experts have explained a new scientific finding—without detailing the explanation itself—causes them to increase self-assessments of their own understanding, as long as the explanation can be accessed (Sloman & Rabb, 2016). Similarly, just having access to knowledge on the Internet makes people feel like they know more than they do, because they confuse the Internet’s knowledge for their own (Fisher, Goddu, & Keil, 2015; Hamilton & Yao, 2018; Ward, 2013). Notably, these effects are not contingent on the beliefs at issue being ideologically important. These effects were observed for things like mundane trivia questions and explanations for everyday

phenomena like tornados or zippers. The false confidence cannot be explained by appealing to the social benefits of being a team player. It seems to reflect mere participation in a community of knowledge.

The danger of this elevated confidence is that it can enable us to hold beliefs with more fervor than we ought to given our often shaky understanding. If we feel we understand something we feel justified in holding the view and it’s hard to change our mind because we become less open to new information (Wood & Lynch, 2002). But if that feeling of understanding comes just by virtue of participating in a community that holds a particular view, the view becomes self-reinforcing. This seems to be a key ingredient in some cases of extreme beliefs such as science denial. We found that the most extreme opponents of genetically modified foods and gene therapy reported knowing the most about the topic, but actually knew the least, as measured by a set of general science and issue-specific questions (Fernbach, Light, Scott, Inbar, & Rozin, 2019). Similar findings have been reported for vaccination opposition (Motta, Callaghan, & Sylvester, 2018) and anti-establishment voting (van Prooijen & Krouwel, 2019). In these cases, extremists’ confidence reflects a mismatch between how much they know and how much they think they know.

Clark and Winegard make another astute point when they connect ideological epistemology and sacred values. One role that sacred values framing plays is to amplify the effects we have been discussing. Values framing makes people feel like they have enough knowledge to adjudicate an issue themselves. They don’t need to understand things like the costs and benefits, tradeoffs, uncertainties, or statistical evidence because their position is inherently right or wrong regardless of those things. Indeed, leaders sometimes tactically employ values framing to achieve these effects (Dehghani et al., 2010). The problem is that values framing is often an oversimplification. It can obscure similarities between opposing positions, making it seem like resolution is impossible. We have found that values framing is associated with an increased sense of understanding of an issue, a feeling that an issue is simpler, and also with the belief that compromise is impossible (Sloman & Fernbach, 2017; also see Marietta, 2008).

Our goal in this commentary was to broaden Clark and Winegard’s presentation of the sources of our ideological epistemology. We argue that it is not just about the social value of signaling one’s team spirit, though this clearly plays a role. It is also important to consider our nature as participants in communities of knowledge. Storing knowledge this way has been tremendously successful for the human race, but this success comes at a cost. Our attitudes and beliefs are not our own because we rely so much on knowledge that is not in our heads, and we often fail to recognize where our own knowledge ends and the community’s begins. As a consequence, we usually do not even try to verify most of what we believe. And when we do, the forces that Clark and Winegard discuss—selective exposure to information, the biased assimilation of evidence, the social costs of dissent—push us even more inexorably toward our

group's positions. As a result, groups achieve consensus on complex issues that individuals themselves do not understand, but at the cost of beliefs that are sometimes extreme or demonstrably false, ideological homogeneity within groups, polarization between groups, and minimal belief updating in the face of counter-evidence. As technology is exploited to weaponize these peculiarities of human cognition, the project of behavioral science is ever more vital to the wellbeing of our society.

References

- Bodmer, W. F. (1985). *The public understanding of science* (pp. 1–43). London, UK: Royal Society.
- Dehghani, M., Atran, S., Iliev, R., Sachdeva, S., Medin, D., & Ginges, J. (2010). Sacred values and conflict over Iran's nuclear program. *Judgment and Decision Making*, 5(7), 540.
- Fernbach, P. M., Light, N., Scott, S. E., Inbar, Y., & Rozin, P. (2019). Extreme opponents of genetically modified foods know the least but think they know the most. *Nature Human Behaviour*, 3(3), 251–256. doi:10.1038/s41562-018-0520-3
- Fisher, M., Goddu, M. K., & Keil, F. C. (2015). Searching for explanations: How the internet inflates estimates of internal knowledge. *Journal of Experimental Psychology: General*, 144(3), 674–687. doi:10.1037/xge0000070
- Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter bubbles, echo chambers, and online news consumption. *Public Opinion Quarterly*, 80(S1), 298–320. doi:10.1093/poq/nfw006
- Funk, C., Kennedy, B., & Hefferon, M. (2018). *Public perspectives on food risk*. Pew Research Center. Retrieved from <https://www.pewresearch.org/science/2018/11/19/public-perspectives-on-food-risks/>
- Gustafson, A., Bergquist, P., Leiserowitz, A., & Maibach, E. (2019). *A Growing Majority of Americans Think Global Warming is Happening and are Worried*. Retrieved from <https://climatecommunication.yale.edu/publications/a-growing-majority-of-americans-think-global-warming-is-happening-and-are-worried/>
- Hamilton, K. A., & Yao, M. Z. (2018). Blurring boundaries: Effects of device features on metacognitive evaluations. *Computers in Human Behavior*, 89, 213–220. doi:10.1016/j.chb.2018.07.044
- Marietta, M. (2008). From my cold, dead hands: Democratic consequences of sacred rhetoric. *The Journal of Politics*, 70(3), 767–779. doi:10.1017/S0022381608080742
- Mercier, H., & Sperber, D. (2017). *The enigma of reason*. Cambridge, MA: Harvard University Press.
- Miller, J. D. (1987). Scientific Literacy in the United States. In D. Evered & M. O'Connor (Eds.), *Communicating science to the public* (pp. 19–40). London: Wiley.
- Motta, M., Callaghan, T., & Sylvester, S. (2018). Knowing less but presuming more: Dunning-Kruger effects and the endorsement of anti-vaccine policy attitudes. *Social Science & Medicine*, 211, 274–281. doi:10.1016/j.socscimed.2018.06.032
- Murray, P. (2019). *Impeachment support up slightly but trump job rating steady*. Retrieved from https://www.monmouth.edu/polling-institute/reports/monmouthpoll_us_100119/
- Negroponte, N. (1996). *Being digital*. New York: Vintage.
- Negroponte, N. (1998). Beyond digital. *Wired*, 6, 288.
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon and Schuster. doi:10.2307/3089235
- Rabb, N., Fernbach, P. M., & Sloman, S. A. (2019). Individual representation in a community of knowledge. *Trends in Cognitive Sciences*, 23(10), 891–902. doi:10.1016/j.tics.2019.07.011
- Rainie, L., & Anderson, J. (2017). Code dependent: Pros and cons of the algorithm age. *Pew Research Center*. doi:10.1111/1467-9280.00384
- Sloman, S. A., & Fernbach, P. M. (2017). *The knowledge illusion: Why we never think alone*. New York: Riverhead Books.
- Sloman, S. A., & Rabb, N. (2016). Your understanding is my understanding: Evidence for a community of knowledge. *Psychological Science*, 27(11), 1451–1460. doi:10.1177/0956797616662271
- Stasser, G., Stewart, D. D., & Wittenbaum, G. M. (1995). Expert roles and information exchange during discussion: The importance of knowing who knows what. *Journal of Experimental Social Psychology*, 31(3), 244–265. doi:10.1006/jesp.1995.1012
- Tomasello, M. (1999). *The cultural origins of human cognition*. Cambridge, MA: Harvard University Press.
- van Prooijen, J.-W., & Krouwel, A. P. M. (2019). Overclaiming Knowledge Predicts Anti-establishment Voting. *Social Psychological and Personality Science*. <https://doi.org/10.1177/1948550619862260>
- Ward, A. F. (2013). *One with the "Cloud": Why people mistake the internet's knowledge for their own* (Doctoral dissertation). Harvard University, Cambridge, MA.
- Wegner, D. M. (1987). Transactive memory: A contemporary analysis of the group mind. In *Theories of group behavior* (pp. 185–208). New York: Springer. doi:10.1007/978-1-4612-4634-3_9
- Wellcome Global Monitor (2018). <https://wellcome.ac.uk/sites/default/files/wellcome-global-monitor-2018.pdf>
- Wood, S. L., & Lynch, J. G. (2002). Prior knowledge and complacency in new product learning. *Journal of Consumer Research*, 29(3), 416–426. doi:10.1086/344425