

Bridging the gap between science deniers and voice of reason

Reviewed Book

MCINTYRE, L. (2021).
HOW TO TALK TO A SCIENCE DENIER: CONVERSATIONS WITH FLAT EARTHERS,
CLIMATE DENIERS, AND OTHERS WHO DEFY REASON.
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Reviewed by

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Abstract

In the 2021 book *How to Talk to a Science Denier: Conversations with Flat Earthers, Climate Deniers, and Others Who Defy Reason*, Lee McIntyre introduces different anti-science movements and their reasoning. Based on personal interactions with committed science deniers and literature from various disciplines including cognitive psychology, he argues that all these communities use the same playbook in terms of reasoning about evidence, argumentation, demands on scientific certainty and recruitment of new members. Such observations allow McIntyre to propose a universal strategy to combat these beliefs by using respectful in-person engagement and effective science communication tools. His argument is rooted in the idea that anti-science beliefs are built on identities, not on the content of specific beliefs.

Keywords

Community action; Public engagement with science and technology; Public perception of science and technology

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In the light of misinformation campaigns propelled by the coronavirus pandemic, post-truth relativism and decreasing trust in institutions, science becomes a target of those who defy reason. With a highly polarized environment, especially in the United States, one might wonder whether there exists a way to bridge this divide and reconnect deniers with science. In his book *How to Talk to a Science Denier: Conversations with Flat Earthers, Climate Deniers, and Others Who Defy Reason*, philosopher Lee McIntyre takes us on an engaging journey through different anti-science movements including their historical, political and philosophical contexts. Based on contact with science deniers, somewhat ethnographic research and diverse sources, the author answers the following question: can we change the

minds of hard-core science deniers? [McIntyre, 2021, p. xv] The 264 pages of the book show that change indeed is possible. The most challenging issue is: how?

Science deniers make up the focus of this book, exploring the origins and implications of their strongly rooted beliefs and long-term exposure to misinformation. The author's focus is centered around ways to overturn these intense beliefs by understanding how people form them, justify them and reason about them [McIntyre, 2021, p. 56]. He arrives at adequate strategies through interacting with science deniers in their natural environment like conventions or local towns. He dives into the proverbial lion's den to tell a compelling story that empowers readers.

McIntyre argues that — with a few exceptions or conditions outlined in Chapter 3 — “no amount of evidence is ever going to change the mind of a science denier” [McIntyre, 2021, p. 55]. In line with critics of the notorious information deficit model [Sturgis & Allum, 2004], he shows that providing facts without considering their epistemological context does not suffice for a change of beliefs. What deems conversion possible and most effective is to “build trust through direct personal engagement, showing humility and respect, while demonstrating transparency and openness about how science works [McIntyre, 2021, p. 178]. This can be done with the help of efficient rhetorical and science communication tools: emphasizing scientific consensus, using visual aids, acknowledging uncertainty as a hallmark of the scientific method and exercising content and technique rebuttal [McIntyre, 2021, p. 171].

This approach based on respectful interaction was already suggested by previous research [Shermer, 2017; Boghossian & Lindsay, 2019; West, 2018] but never empirically tested on committed science deniers which is exactly what McIntyre provides. The described tactic fits into the framework of the trust deficit model which is even favored by Flat Earthers themselves as an efficient recruitment strategy [McIntyre, 2021, p. 28]. Only then can we build a relationship that functions as a fertile ground for belief change. This process, however, is uneasy, challenging and time-demanding. In-person communication as the appropriate setting for achieving such relationship often requires repeated interaction that can last hours. As McIntyre hints, “there are no magic words you can say to convert someone on spot” [McIntyre, 2021]. Moreover, such radical change of beliefs is inevitably a change of one's identity because “content of the belief may not be as important as the social identity it affords” [McIntyre, 2021, p. 54]. As author documents, science deniers who often favor conspiracy theories were initially drawn to them as a way out of their personal struggles. These were often triggered by some kind of trauma (related for instance to health or crisis like 9/11), McIntyre hypothesizes.

Unlike other books that only speak of the mechanisms behind anti-science attitudes, McIntyre puts emphasis on how the whole ecosystem of science denialism is constructed. He traces the roots to the 1950s campaigns of the tobacco industry [Oreskes & Conway, 2010] which designed manufacturing of doubt as a blueprint for anti-science campaigns management (later used by the fossil-fuel lobby). The famous five tropes of science denialism (cherry-picking, conspiracy theories, fake experts, illogical reasoning, insistence that science must be perfect) that the publicity experts harvested back then are thriving in vulnerable

communities to this day, particularly those who oppose climate change, vaccines or GMOs. This is said to be yet another reason why digging deeper into the motivational and psychological reasons for science denial, including cognitive biases, trumps providing an endless body of evidence that simply fails to work as a strategy to combat anti-science. This proves efficient not only when talking to science deniers but also when interacting with science supporters to persuade them that they should care enough to change behavior and take action [McIntyre, 2021, p. 115].

McIntyre comes from the philosophical tradition with a unique take on the sociological issues within their historical and political context (beyond the simplistic explanations along bi-partisan lines). Drawing from scholarship on cognitive psychology (e.g. Dan Kahan or Stephan Lewandowsky) and extensive field observations, McIntyre explores the mechanisms behind the causal laws of attitudes and reasoning. This allows him to outline efficient strategies that he himself tested as part of the research. With these results, the author contributes to science communication theories that highlight two-way communication when promoting science, rather than a direct one-way approach.

Apart from the strong empirically tested argument about understanding how beliefs reinforce social identities [McIntyre, 2021, p. 55], the undeniable strength of the book is also its form. McIntyre's writing style echoes his vast experience with public engagement — challenging questions, vivid imagery teleporting us to coral reefs in the Maldives or the epicenter of “six hundred shouting, clapping true believers” [McIntyre, 2021, p. xvi] and witty linguistic collocations that prompt laughter as well as numerous aha moments. The conversational nature of the book is an embodiment of what the author calls for — a dialogue — and serves as an illustrative manual for how to approach difficult conversations.

In a few instances, his captivating and light writing style might detract from the overall message. For example, when describing the Flat Earth convention as a visit to the asylum [McIntyre, 2021, p. 5], when mocking flat-earthers by calling them the “worst of the worst” [McIntyre, 2021, p. xvi] with the justification that they are not respected even by other deniers or when using the label “anti-vaxxers” while simultaneously acknowledging that this term is considered offensive to them [McIntyre, 2021, p. 77]. In these cases, McIntyre breaks the commandment of respect which is hardly ever granted to science deniers who are ridiculed even by their closest friends and family (as the author points out empathetically throughout the book). The author's identity comes alive also through the admitted political stance — anti-trumpism and critique of the former president's fact-free ideology [McIntyre, 2021, p. 184]. Given the urgency of McIntyre's arguments including encouragement of science-based policymaking and a strong call for action, the ideological underpinnings of the book are nevertheless transparent and understandable.

What is missing from the book is a definition of its target audience in terms of who should take action. The author claims, that “anyone can fight back against science deniers” [McIntyre, 2021, p. xiii] and urges his readers to do so. Indeed, everyone can make use of the proposed strategies and combat denialist beliefs by engaging in conversation with friends, relatives and colleagues. However, continuous involvement can take its toll, especially on people who are not scientists or

communicators by profession. Moreover, debating requires resources and the responsibility should not lie on everyone equally since certain professionals and institutions are required to invest in public outreach. Clarifying who should primarily fight science denialism would contribute to the book's instrumental nature while not encouraging free labor. Perhaps in an epilogue to the book's future editions.

To sum up the key message of the book is to highlight that McIntyre provides hope. Hope that in the fatalistic milieu of a post-truth world, one might actually have an impact. He does so by providing empirical evidence that change of beliefs is possible even in committed science deniers and by underlying the common denominator between diverse world populations — our universal need for a better future and sustainable life on our planet (be it a round one or flat as he cleverly glosses). This humanistic notion is what makes this book memorable, approachable and most importantly applicable. Following the criticism related to the target audience's responsibilities, perhaps it is now up to the science communication scholars to continue McIntyre's work and suggest actionable steps tailored to various actors in public outreach including scientists, research institutions and other stakeholders.

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