

This is an Open Access document downloaded from ORCA, Cardiff University's institutional repository: <https://orca.cardiff.ac.uk/id/eprint/100370/>

This is the author's version of a work that was submitted to / accepted for publication.

Citation for final published version:

Maxwell, Richard and Miller, Toby 2016. The propaganda machine behind the controversy over climate science: can you spot the lie in this title? *American Behavioral Scientist* 60 (3) , pp. 288-304. 10.1177/0002764215613405

Publishers page: <http://dx.doi.org/10.1177/0002764215613405>

Please note:

Changes made as a result of publishing processes such as copy-editing, formatting and page numbers may not be reflected in this version. For the definitive version of this publication, please refer to the published source. You are advised to consult the publisher's version if you wish to cite this paper.

This version is being made available in accordance with publisher policies. See <http://orca.cf.ac.uk/policies.html> for usage policies. Copyright and moral rights for publications made available in ORCA are retained by the copyright holders.



The Propaganda Machine Behind the Controversy Over Climate Science: Can You Spot the Lie in This Title?

Abstract

The essay examines various communication strategies for advocating acceptance of climate science in the face of psychological and ideological impediments. It surveys some key literature, offers case studies of Lego, Shell, Greenpeace, Edelman, and public relations, and culminates with a hortatory logic based on the recent Papal encyclical. The focus is on issues pertaining to the United States but with examples and ideas from elsewhere.

Keywords

activism, advocacy, climate change, communication, conservatism, environmentalism, global warming, Greenpeace, Lego, ideology, neuroscience, political economy, psychology, Pope Francis, public relations, Shell

Introduction

This is an unusual essay for *American Behavioral Scientist*, in that it adopts a clear stance on a question of political, but not scientific, disagreement. It also draws on a wide variety of approaches, acknowledging the importance of ideas from the humanities, the sciences, and the social sciences as well as advocacy and activism to make the following point: The reality of the ecological crisis is such that the presentation of scientific fact alone is insufficient to persuade policy makers and the population alike that change is needed. In addition to the clear communication of knowledge, a variety of approaches is necessary that draws on the theories, practices, and skills not only of climate science but of ideological analysis, psychology, and power structure analysis from a critical political-economic perspective.

Our principal site is the United States of America, because it has been, and continues to be, responsible for so much planetary risk. Seventy-five percent of the U.S. public believes the atmosphere is warming to dangerous levels; half of them believe that humans have caused this destructive trend; and most demand political action to protect the environment. Latin@s and Blacks are more likely than White Americans to identify humans as the primary cause of global warming—a telling difference, as we will see, when we consider the racial composition of environmental organizations in the following section (Krogstad, 2015). We also know that there is political polarization over the science, with Republicans the least prepared to acknowledge the truth (Guber, 2013). A more important question to pose

is, given how clear the science is on this subject, why do 25% of Americans (the majority of them White) continue to doubt the very idea of climate change? The answer cannot be simply attributed to the media and other real-life thinking machines, but to a range of communication channels and strategies, conscious propaganda efforts of so-called contrarians and denialists to distort facts, religious superstition coupled with suspicion of secular expertise (though here, Pope Francis offers a powerful counter, as we will discuss below), and serious lack of political tenacity to smash the power structure ruled by fossil fuel industrialists.

Ideology and Communication Strategies

Let us say you want to advocate for a greener school or workplace. You have an initial list of ecologically sound goals: recycling, green cleaning chemicals, water filtration to reduce plastic bottle use, organic waste composting, solar-powered rechargers, and so on. Once these institutional changes are in place, you will have created the conditions for part-time environmentalism: Everyone in the institution will have the opportunity to act in environmentally conscious ways.

But being a part-time environmentalist is not a gateway to full-time involvement. Getting “involved” is time-consuming and difficult to fit into what sociologists call habits of thought. And green habits of thought are prerequisites for thorough and effective full-time environmentalism through everyday social routines.

To persuade people to make environmentalism more than a part-time activity, you could use a green media campaign. The media (as broadly defined) play a pivotal role in spreading knowledge of the scientific, social, and political variables on which environmental literacy depends (Boykoff & Yulsman, 2013).¹ But it is never a simple matter of persuasion by reason. Most scholars would agree that media campaigns must account for preexisting biases and ideologies. Such beliefs help explain how and when green persuasion works—or does not.

One common bias associates environmentalism with affluent, or economically comfortable sectors of the population. The idea is that working stiffs just want to survive and are too busy making a living to invest in a movement that appears to run counter to the model of economic growth on which they rely. But that assumption is old-fashioned. As environmentalism has developed, it has shown increasing concern for just those workers whose livelihoods depend on the extractive and manufacturing sectors. And with that change has come a diffusion of environmental understanding across class boundaries (Pampel & Hunter, 2012).

We are also peddled myths about “American Exceptionalism,” which argue that the country is different from everybody else. The grounds for this claim are that the United States is an immigrant nation (as if it were the only one) and a beacon for the rest of the world. In fact, U.S.

citizens' environmental behavior and attitudes are remarkably consonant with the rest of the world's (Hadler & Haller, 2013). One exception is arguably the incompetence of our mainstream media, because they persist, by and large, in allowing equal time to different perspectives along a right-left continuum, however fraudulent some of the claims they report may be (Hart & Feldman, 2014). We know, for instance, that Fox News and the *Wall Street Journal* generally misinform the public about climate science, and much entertainment programming distorts the context, history, and social impact of global warming—when such themes are presented at all (T. Miller & Pollak, 2012). Commercialization and disinvestment in investigative reporting have not only diminished public trust in journalism but have disabled informational media from responding in a robust and consistent manner to widespread distortion and confusion (Boykoff & Yulsman, 2013).

Activist communication strategies also play a role in the media distortions. Studies have shown that many people experience activists as militant and eccentric, which foregrounds their otherness in such caricatures as tree-hugging hippies, dangerous ecoterrorists, antigrowth evangelists, economic ignoramuses, middle-class layabouts, vapid vegans, or romantic dreamers. While that otherness may be a core part of environmentalists' identities (behaving differently in public, grabbing attention, securing column inches), it severely limits their ability to communicate effectively across a range of constituencies, leaving them stuck in a self-fulfilling vanguardist politics (Bashir, Lockwood, Chasteen, Nadolny, & Noyes, 2013). Such vanguardism may preach to the choir, gain press coverage, and buttress fundraising potential among true believers. But it does not persuade ordinary people, and in the process fails to live up to its grassroots mythology (an exception might be the example from Greenpeace we discuss below).

Major environmental organizations also suffer from a crippling paradox in their racial composition. Whereas the majority of people involved in some form of activist environmentalism are White, the majority of people responding favorably to climate science and proenvironmental messages are Latin@ and Black. This is a disturbing and durable trend: The proportion of non-Whites involved in agencies that work on the environment (NGOs, government, and grant-giving organizations) has held steady at between 12% and 16% for decades (Taylor, 2014).

Perhaps the reason minority opinion differs when it comes to acceptance of climate science and promotion of green political action is that non-White populations are disproportionately affected by environmental harms, giving rise to the terms “environmental racism” and “environmental justice” (Mohai, Pellow, & Roberts, 2009). For instance, the Federal Government’s Office of Minority Health, which is part of the Department of Health and Human Services, says Native Americans suffer from asthma at an 80% higher rate than Whites. African Americans are 20% likelier to visit hospitals due to asthma than White folks and Latinos are 30% likelier (Office of Minority Health, 2014). While there are numerous causes of asthma, many correlate with environmental hazards concentrated in minority communities. In any case, these are appalling statistics.

We know that people who do not regard themselves as directly affected tend to embrace environmental values when stimulated to think beyond their own lives and engage the cross-generational impact of climate change in order to consider the lives of those yet to be (Zavall, Markowitz, & Weber, 2015). This should be a hallmark of conservatism. Two centuries ago, one of the ideology’s founders and patron saints, Edmund Burke, famously called for “a partnership not only between those who are living, but between those who are living, those who are dead, and those who are to be born” to sustain “the great primeval contract of eternal society” (Burke, 1909-1914). Such intergenerational care is a centerpiece of sustainability. Why does this conservative attitude not seep into right-wing ideologies when confronted with evidence of climate change?

Psychology and Communication Strategies

Recent social and neuropsychological studies suggest that the effectiveness of the message depends to a significant extent on how well it communicates across liberal and conservative partisan lines. This might seem like another “duh” moment in the annals of science, like testing whether or not people feel happier when it is sunny rather than cloudy. After all, on the topic of environmental risk, the conventional wisdom (especially in the United States and somewhat in the United Kingdom) is that climate change is a liberal concern, while conservatives attack the notion as hokum. But along with the opinion research outlined above, these psychological studies show that concerns over the environment do not always hue strictly to political ideology.

Researchers have investigated the impact of “environmental discourse” in newspaper editorials and public-service announcements and found that the media primarily frame environmental risk through

moral arguments about social harm and care. These resonate most effectively with liberals. When proenvironmental discourse shifts into the “moral domain” of purity and disgust, its messages resonate better with conservatives. The researchers recommend that reframing proenvironmental messages using both harm/care and purity/disgust “can reduce the gap between liberals and conservatives in environmental concerns” (Feinberg & Willer, 2013, p. 56).

Another recent study—a collaboration between political scientists and neuroscientists in the United States and Europe—raises related questions by examining the brain functions of liberals and conservatives exposed to risk taking. Using functional magnetic resonance imaging, they found that both groups are willing risk takers, but liberals and conservatives differ dramatically in their brain activity when doing so. Conservatives activate the right amygdala, which is attuned to external threats and potential rewards. Liberals, by contrast, have greater activity in the area associated with social and self-awareness. The researchers observe that “acting as a partisan in a partisan environment may alter the brain, above and beyond the effect of heredity” (Schreiber et al., 2013). The first of these studies tells us that conservatives react to repellent imagery of environmental disaster in proenvironmental ways because it elicits disgust or poses threats to bodily purity—contaminated water, toxic spills, smog-enveloped cities, and so on. The researchers suggest that green persuasion could enlist this moral frame together with the care/harm frame, for example, by using imagery with a liberal emphasis on the aesthetic and moral values humans derive from nature in combination with images that conservatives might find distasteful, such as scary pictures of habitat destruction and oil-slimed waterways. Their proposal is consonant with communication strategies offered by cognitive linguistic research on environmental frames, ideology, and political partisanship (Lakoff, 2010).

The neuropolitical “Red Brain, Blue Brain” study argues that political milieus structure how brains function, suggesting that conservatives and liberals who live in the echo chamber of their political beliefs—including the media they use—engage with such risks as climate change in significantly different ways. This is intriguing research, and hints at new and interesting directions for green persuasion.² These studies suggest that any campaign to persuade large groups of people to think and act in a proenvironmental manner must take into account not only political ideologies and biases but also moral cues and neural processes.

Finally, several other psychological factors play a role in information processing of environmental messages. Disagreements among climate experts appearing in the media tend to be perceived as evidence of the

underlying science's weakness. While uncertainty is a research scientist's stock-in-trade, it plays negatively for nonspecialist publics and undermines the legitimacy of fact-based research. This can lead to what psychologists call "ambiguity aversion," an attitude that favors inaction while supporting business as usual (stick with the devil you know, in other words). This can make audiences vulnerable to claims supporting the status quo that are based entirely on wishful thinking, again diminishing the will to action on climate change (Lewandowsky, Oreskes, Risbey, & Newell, 2015).

Political Economy and Power Structure Analysis of Communication Strategies

We shall consider now communication strategies based in power structure analysis, a key tool in political-economic research.

October 9, 2014 was a big day in ecoactivism: Lego announced that it would not renew a product placement deal with Shell, following concerted pressure from Greenpeace that included two ingenious videos attacking Lego's collaboration with Shell. The first and most popular took music, words, images, and logos from one of the most successful films of the year, *The Lego Movie* (2014; Box Office Mojo, 2015), to create a postmodern pastiche aimed at the heartstrings of all (Greenpeace, 2014a). The second, artier and less direct, was targeted at parents and sought to use the world's two other principal languages, Spanish and Putonghua, spoken by young people (Greenpeace, 2014b). The first text became a market leader for advertising agencies in what are known as "attack ads," whose primary *raison d'être* is belittling others (Nudd, 2013, 2014).

Corporate polluters engage in collaborations with companies like Lego as part of their quest to obtain what they call "a social license to operate," which is among the many communication strategies employed by polluting companies to depict themselves as civil society stakeholders, with the ultimate aim of eluding environmental regulation (Nelsen, 2006; Prno & Slocombe, 2012; Thomson & Boutilier, 2011). *Forbes* magazine called 2013 the year of such licenses for the extractive sector (International Energy Agency, 2012; Klein, 2012).

Greenpeace hit a nerve in Legoland on July 1, 2014, just after the first video had emerged, Lego said:

The Greenpeace campaign focuses on how Shell operates in a specific part of the world. We firmly believe that this matter must be handled between Shell and Greenpeace. We are saddened when the LEGO brand is used as a tool in any dispute between organisations. (Lego, July 2014)

A few months later, the company's tune was significantly different:

We continuously consider many different ways of how to deliver on our promise of bringing creative play to more children. We want to clarify that as things currently stand we will not renew the co-promotion contract with Shell when the present contract ends.

We do not want to be part of Greenpeace's campaign and we will not comment any further on the campaign. We will continue to deliver creative and inspiring LEGO play experiences to children all over the world. (Lego, October 2014)

Greenpeace true believers called it "one of the most high-profile victories in its history" thanks to "guerrilla tactics" (Bermingham, 2014), where activism trumped business and ethics triumphed over size. But this story is really about how a power structure analysis can be employed in a populist activist communication strategy, even if the scale of the power structure behind the fossil fuel industry necessitates a much broader understanding of the political economy than the one presented by Greenpeace.

If we want to secure our ecosystems' future, then in addition to worrying about the ideology and psychology of the population and the pranks of activist cadres, we must do something about the hundreds of millions of dollars dedicated to antiscientific propaganda (Funk & Rainie, 2015). For no rational argument, no fact about atmospheric warming, and no majority opinion aligned with the scientific consensus possesses the inherent power to beat the weapons of misinformation wielded by rich and powerful fossil fuel industrialists and their supporters.

When nonsense and charlatanry are tolerated as legitimate rivals alongside sense and scientific research, calls for action to protect the environment can be easily thwarted. And there is no greater misinformation weapon than uncertainty about the underlying science. Science deniers and contrarians now operate as "merchants of doubt" (Oreskes & Conway, 2010) paid to help polluting industries fend off proenvironmental legislation, "dissipate pressure for progress" (D. Miller & Dinan, 2015, p. 99), attack and destroy the character of environmentalists, and undermine the legitimacy of independent climate science, targeting in particular the consensus findings of the Intergovernmental Panel on Climate Change, "the world's leading authority on climate issues" (Oreskes & Conway, 2010, p. 2).

These doubt merchants perfected the swindle selling lies to the public about tobacco in the 1960s. Consider the mendacity of this tobacco executive, who, in an internal memo from 1969, said:

Doubt is our product since it is the best means of competing with the “body of fact” that exists in the mind of the general public. It is also the means of establishing a controversy. Within the business we recognize that a controversy exists. However, with the general public the consensus is that cigarettes are in some way harmful to the health. If we are successful in establishing a controversy at the public level, then there is an opportunity to put across the real facts about smoking and health. Doubt is also the limit of our “product.” (quoted in Readfearn, 2015b)³

In a series of articles written for *The Guardian*, Graham Readfearn (2015a) detailed what he calls the “four main cogs that make up the machinery” of the doubt business: “conservative ‘free market’ think tanks, public relations groups, fossil fuel organizations and ideologically aligned media.”

Sifting through internal documents from the fossil fuel industry, Readfearn identified groups of lobbyists, think tanks, and PR professionals that have conspired with the industry for decades on misinformation projects about climate change. Drawing on strategies from the tobacco industry campaign to silence the truth about the health effects of smoking—many of the same denialists from the tobacco campaigns moved on to the climate project—the aim was to infect “conventional wisdom among the public” with “uncertainties” (their word, not Readfearn’s). Other examples include a 1991 campaign funded by the coal utilities to “recruit scientists to [in their words] ‘reposition global warming as theory (not fact)’.”

Readfearn quotes the notorious 2000 memo that U.S. Republican consultant Frank Luntz directed to the energy industry:

Should the public come to believe that the scientific issues are settled, their views about global warming will change accordingly. Therefore, you need to continue to make the lack of scientific certainty a primary issue in the debate.

Luntz should be remembered as the propagandist who managed successfully to have the phrase “global warming” replaced with “climate change” because, he said, it is “less frightening” (Lakoff, 2010; Readfearn, 2015b) and, we would add, more welcoming of dubious or ephemeral data that appear to contradict the trend toward global warming. One of the most useful tools for doing a power structure analysis of the doubt industry is available at DeSmog, which bills its mission as “clearing the PR pollution that clouds climate science.” DeSmog’s “Global Warming Disinformation Database” provides

background on individuals from around the world who peddle contrarian piffle with fake science and other rubbish (DeSmog, n.d.). Dr. Willie Soon, one of the more notorious denialists on their list, made headlines in 2015 when investigators found that his bogus climate science denials, which he was promoting as independent research, was bought with \$1.5 million in payments from fossil fuel companies (Readfearn, 2015a).

Subterfuge takes many forms in the PR business. One of the world's biggest PR corporations, Edelman, announced in 2014 that they would no longer work for climate science deniers (Barrett, 2015; Goldenberg, 2014), but a year later, word spread that it had advised the American Petroleum Institute through a subsidiary, Blue Advertising (Quinn & Young, 2015).⁴ Caught out in the American Petroleum Institute scandal, Edelman claimed to be misunderstood, sacrificed an executive, announced that it believed in climate change, and divested from Blue Advertising (Elliott, 2014; Gunther, 2014; Sudhaman, 2015).

Edelman is a serial perpetrator of such fraud across many industries. In tobacco, it dedicated decades to combating medical science, encouraging smokers to continue their deluded indulgence (Corporate Watch, 2015). In pharmaceuticals, it hawked fraudulent research guaranteeing hair regrowth to gullible guys (Moynihan, Heath, & Henry, 2002). In chemicals, it set up supposedly grassroots campaigns for Monsanto attacking critiques of genetically modified food (Beder, 1998). In retail, it paid operatives masquerading as cross-country campers to blog favorably about Walmart car parks and store managers (Frazier, 2006). And in the extractive sector, its collaboration with Trans Canada sought to discredit anyone questioning the Energy East pipeline (Greenpeace, 2014c). Ironically, the PR industry is forced to resort to PR to cover up such misdeeds, promoting rarely enforced rules against such routine tricks in its so-called code of ethics (Burton & Rowell, 2003; Public Relations Society of America, 2015; Schäfer, 2012; Schlichting, 2013).

There is a long list of think tanks that target the scientific consensus; some worth mentioning in the United States are the Competitive Enterprise Institute, The George C. Marshall Institute, the Heartland Institute, The Science and Public Policy Institute, and the Committee for a Constructive Tomorrow; in Canada, The Fraser Institute; in the United Kingdom, the Global Warming Policy Foundation; in Australia, the Institute of Public Affairs, also a big backer of the tobacco industry (Institute of Public Affairs urges supporters to enjoy the tax advantages of crowdfunding “a climate book with chapters written by a familiar line-up of climate science denialists—one of which was Dr Soon” (Readfearn, 2015a). Many of the fossil fuel industrialists backing the mer- chants of doubt

(ExxonMobil and Koch Industries the biggest among them) also fun- nel money through organizations like the Donors Trust, which exists to obscure the source of the dirty money (D. Miller & Dinan, 2015, p. 104).

Toward the end of the 20th century, a new strategy emerged that took a different form than contrarian propaganda. Worried about impending environmental legislation, fossil fuel giants invested in rebranding their image as environmentally friendly corporations—a move aimed at getting them to the table as stakeholders in the green economy so they could advance policy agendas favorable to their core business (companies like BP and Shell, which operated in much more restrictive regulatory regimes in Europe, followed this strategy). Out of these greenwashing activities arose now familiar oxymoronic ideas like sustainable development, sustainable markets, and sustainable capitalism. Groups that promote these schemes include the Business Environmental Leadership Council and the World Business Council on Sustainable Development—umbrella organizations representing fossil fuel businesses.

While contrarians sought to influence elite and policy maker opinion, with the added effect of confusing public opinion through mass media channels, the purveyors of greenwashed corporate identities were after the policy process itself—their efforts over the past two decades would lead to what D. Miller and Dinan (2015, p. 95) call the “corporate capture of environmental policy.”

Another area of research for political economists examining the doubt industry focuses on antienvironmental shareholder activism. In this case, right-wing contrarians seek to sow doubt among shareholders about corporate leaders who are promoting greener practices (read, antimarket ideas) within their companies.

Consider the work of a conservative think tank called the National Center for Public Policy Research (NCPPr), which issued a shareholder resolution to Apple in 2014, demanding information on the company’s “associations and memberships and trade associations that work on [environmental] sustainability issues,” ostensibly to help other shareholders see how Apple had come under the ideological influence of anti- market forces. NCPPr lost the vote, but claimed victory for the stunt, which they hoped would sow doubt about the credibility of Apple’s top managers (Makower, 2014).

The business press would probably have ignored the event if it were not for Apple CEO Tim Cook’s reaction to NCPPr’s market fundamentalism. Cook said, “I don’t consider the bloody ROI [return on investment]” when designing devices for the blind, environmental betterment, or worker safety. “If you want me to do things only for ROI reasons,” he said, “you should get out of this stock” (Russell, 2014).

Shareholder activism has changed over the 70 years since the

Securities and Exchange Commission added the Shareholder Proposal Rule to the Securities Exchange Act of 1934, allowing U.S. shareholders (stockholders) to submit proposals to alter company operations (Mueller, 1998). For the first 30 years of such activism, proposals targeted growth and profits, largely because the Federal government did not require companies to inform shareholders, via proxy statements, about “social issue” resolutions that were submitted to management.

A legal decision in 1970 changed this, making it possible for shareholders to vote on proposals to modify corporate policy in ways that could have important social outcomes, like reducing environmental harm or expanding workers’ rights. This opened the door for individual and institutional investors, foundations, charities, and religious and other organizations to file issue-oriented shareholder resolutions. Market fundamentalists have been fighting back ever since (Goranova & Ryan, 2013).

Enter the likes of NCPPR, a right-wing think tank created to promote ideas on behalf of investors who are “tired of supporting corporations that support the left.” A central tenet of the group is that “private owners are the best stewards of the environment”—zombie market fundamentalists and their cash-operated think tanks love this kind of talk.⁵ While shareholder activism, even more than consumer activism, is fundamentally plutocratic—the wealthiest get the most votes, per the International Monetary Fund and the World Bank—the strategy of contrarian operatives like those at NCPPR is to infect the shareholder agenda with antienvironmental discourse using old canards about how greening industry will kill jobs, diminish the value of stocks, and shake the faith in free markets.

In detailing the power structure behind the contrarians, the policy capture corporations, and shareholder activism, political-economic analysis provides a clearer picture of the moneyed interests behind the Carbon Barons propaganda campaign to delegitimize climate science and the scientific consensus about global warming. Such an analysis casts a light on fossil fuel industrialists’ class-conscious aspirations, which are boosted by ideological supporters in mainstream media, public relations, and publicity-seeking charlatans who revel in thwarting both public confidence in climate science and political action to intervene in the climate debacle.

In the absence of a power structure analysis, not only are citizens and lawmakers increasingly exposed to media-tolerated contrarian claims, boosted by a largely unregulated PR industry, and left with the impression that science deniers have a legitimate, independent argument worthy of respect. Scientists themselves are bombarded by the same nonsense and charlatanry, which can lead them to react in

ways that can give merit to contrarians' claims. Lewandowsky et al. (2015) call this "seep- age," when climate scientists make public statements that address or give some slack to refuted arguments of contrarians. Seepage happens for a number of reasons: Scientists by profession are tempted to counter obvious bullshit and will often take the bait when a contrarian idea is dangled before them; they often conform to status quo pressures to downplay the severity of global warming; their confidence can be rattled by public stereotyping or bashing of their profession; and smear tactics like labeling them "alarmists," "arrogant," or cowards (fearful of debate with science deniers). Stereotyping threats can cause them to downplay the facts, kowtow to contrarians in counterproductive displays of civility (e.g., inviting them to a panel discussion to air "all sides"), or withdraw completely from making much needed expert statements in public. And when contrarian views are depicted as majority opinion on Fox News or in the *Wall Street Journal*, citizens and scientists alike can react by thinking their concerns about global warming are not shared by the majority of the population, even the majority of their peers. This mass-mediated peer pressure can make the staunchest advocate of climate science doubt themselves publicly, running the risk of tacitly admitting that climate change is controversial⁶ (Lewandowsky et al., 2015).

An Example of Fighting Back With Power Structure Analysis: Pope Francis's 2015 Encyclical

We can synthesize these arguments with a brief look at Pope Francis's highly anticipated environmental encyclical, which was released as we were completing this essay. We have argued that there are very powerful and well-funded forces working to deny climate science, confuse public understanding, and capture environmental policy debate. The encyclical, titled "Laudato Si' (Be Praised), on the Care of Our Common Home" (Vatican Press, 2015), offers a compelling counter to the antienvironmental status quo, combining political-economic analysis with an ecologically centered ethics aspiring to revolutionary change of established social, economic, and cultural systems. We will focus primarily on the communication and rhetorical strategies within the framework of the document's advocacy for radical action to address the ecological crisis.⁷

It is ambitious in its scope, addressed to everyone on the planet, not just the one billion Catholics who form part of an old, hierarchical communication network in which the teachings of papal authority are studied, propagated, and amplified by bishops, who meet with priests and media to foster ongoing study and lecturing about the document. Its far-reaching aims are matched by the aggressive promotional strategy of the Vatican, which positioned its release as a major media

event “because of the pope’s involvement in a contentious topic” (Lyman, 2015). It calls for everyone, everywhere to take action on climate change, with the ultimate aim of convincing world leaders at the December 2015 U.N. Climate Conference in Paris to make binding and enforce- able agreements that would stop the worst human causes of global warming and environmental degradation in order to reverse impacts, which disproportionately affect people living in the poorest regions of the world.

As we noted above, no claim of scientific consensus about global warming possesses the inherent power to beat the weapons of misinformation wielded by rich and powerful fossil fuel industrialists and their supporters. For that, you need to fight back with power structure analysis to raise awareness of the sources of misinformation and their class-conscious interests. Pope Francis applies this kind of analysis in the encyclical, using one very key rhetorical difference in his communication strategy: his ecclesial teaching authority.

This ecological encyclical employs a number of rhetorical devices reserved for papal authority, with corresponding levels of assent built into its propagation—the dogma of divine revelation that insists Christians are morally responsible for caring for all of creation (“our common home” of the subtitle); the definitive (infallible) and authoritative (interpretive) doctrines, or canon, that teach adherence to dogma (citations of scripture and teachings, notably here, the ecocentric teachings of Saint Francis and his followers); and prudential authority, the formal instructions used by popes and bishops to implement dogma and doctrine (here, his power to offer authoritative conclusions, but also his reverence for the judgments of his predecessors on matters of environment, environmental justice, labor, and consumerism). Prudential judgments are offered to the faithful as sage wisdom to consider “openly, thoughtfully, and prayerfully” as “they form their consciences” regarding, in this case, the climate crisis (DiLeol, 2015).

The encyclical focuses on the failure of the contemporary political economy and its “technocratic paradigm” to tie technological innovation and economic growth to moral and social progress, citing the decline of biodiversity, pollution of land, air, and waterways, deforestation, desertification, and disappearing beauty of landscapes due to overdevelopment and exploitation of natural resources—all of which the pope calls sins. The Earth’s atmosphere is defined as a common good that gives life to the planet, which means all humans are called on to combat the climate crisis any way they can, including fighting the human causes. The pope provides example after example of the main characteristics of the ecological crisis.

He targets multinational corporations’ reckless disregard for people and environment, and cites research, church teachings, and his own

observations to argue that the poorest regions have benefited the least from modern industrialism and consumerism but have become the most vulnerable to their negative environmental impact. He goes to the heart of the political economy, emphasizing the fallibility of the idea of private property, in particular when used to benefit only a few. A system that socializes harms, while privatizing benefits is vilified. Ecocentric values embodied in a culture of sustainability are praised; those of hyperconsumerism are pilloried. In the end, it is a proposal for the complete transformation of the way we think and act in the world—an “integral ecology”—via combinations of education, lifestyle, spirituality, politics and policy, and a sensual relation with nonhuman nature, while placing labor—especially of marginalized peoples in meaningful forms of work—in a vital position to develop the means to end a reliance on anthropocentric technocratic answers to the crisis (these include carbon credits, criticized by the pope as a ploy to avoid immediate, sweeping action).⁸

The early attacks on the encyclical recall the tactics of contrarians and policy capture strategies discussed earlier. The *Wall Street Journal* disparaged the pope’s “signature theme” of “economic justice and his vehement criticism of capitalism,” and “passages of almost apocalyptic moralizing.” The *Wall Street Journal* article included a lay catholic policy captivist from the “Acton Institute, a conservative ecumenical think tank that advocates for a free market,” to point out the pope’s “significant blind spots” about market economics. The article also gave space to the chief executive of the World Coal Association who said of the pope’s call “to get fossil fuels out of the mix, I don’t think is realistic” (Rocca, 2015). The *New York Times* gave space to Richard A. Viguerie, the direct mail and survey guru who helped build the political and religious right in the United States, who called the pope’s encyclical “a confusing distraction [from] crises in the Church and in Western culture” (Goodstein, 2015).

The Heartland Institute had been on hand 2 months before the release of the encyclical, protesting an international symposium on climate change organized by the Pontifical Academy of Sciences at the Vatican. Worried about the conference’s outcome, the director of Heartland’s communications said he just wanted to “prevent the pope from making the mistake” of paying attention to the “alarmists” (Povoledo, 2015). Bishop Sorondo, head of the Pontifical Academy of Sciences, was not moved by these charlatans, whom he sees as fronts for oil companies and right-wing American interests, including the Tea Party. “This is a ridiculous thing, completely,” he said (Yardley, 2015). We hope that message prevails.

Conclusion

We have traced the theoretical and empirical contributions to conveying the reality of climate change from a variety of perspectives. In the face of the intensely powerful groups allied against the truth, it is necessary for scientists and activists alike (and sometimes they are the same people, working in the same organizations) to draw on sophisticated psychological, ideological, and political-economic analysis to establish their best course of action to initiate change. The urgency of this matter cannot be overemphasized.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Notes

1. Our own attempt is a monthly online column for the popular magazine *Psychology Today*, which seeks to translate theoretical advances and research findings into palatable fare for the educated but nonspecialist reader (<https://www.psychologytoday.com/blog/greening-the-media>). We draw on some of that work here.
2. The use of functional magnetic resonance imaging as an experimental tool is cutting edge in cognitive neuroscience and its application might be useful in designing effective communication strategies, though we recommend a strong dose of critical neuroscience to go along with this approach (see, e.g., <http://www.critical-neuroscience.org/>). And while a liberal/conservative dualism might apply to the United States, it fits insecurely to societies where governance and media systems tolerate greater political diversity.
3. See original at <http://legacy.library.ucsf.edu/tid/wjh13f00/pdf>
4. See <http://www.blueadvertising.com/#/american-petroleum-institute/>
5. For examples, see <http://www.nationalcenter.org/>
6. This is the lie in our title.
7. A very clever and amusing spoof was created by a Brazilian group as a kind of trailer for the pope's encyclical (<http://ecowatch.com/2015/06/12/pope-encyclical-spoof-trailer/>).
8. The document does employ some of the anthropocentric biases of proenvironmental communication strategies we outlined above, enlisting imagery that resonates with conservatives— filth, toxic

landscapes, impure waterways—alongside appeals for intergenerational care and human valuation of nature prized by liberals.

References

- Barrett, S. (2015, February 17). Edelman boosts 2014 global revenues 8.2% to \$812 million. *PR Week*. Retrieved from <http://www.prweek.com/article/1334277/edelman-boosts-2014-global-revenues-82-812-million>
- Bashir, N. Y., Lockwood, P., Chasteen, A. L., Nadolny, D., & Noyes, I. (2013). The ironic impact of activists: Negative stereotypes reduce social change influence. *European Journal of Social Psychology*, 43, 614-626.
- Beder, S. (1998). Public relations' role in manufacturing artificial grass roots coalitions. *Public Relations Quarterly*, 43(2), 20.
- Bermingham, F. (2014, October 9). Greenpeace's biggest victories against corporations and politicians. *International Business Times*. Retrieved from <http://www.ibtimes.co.uk/green-peaces-biggest-victories-against-corporations-politicians-1469239>
- Box Office Mojo. (2015). *The LEGO Movie*. Retrieved from <http://www.boxofficemojo.com/movies/?id=lego.htm>
- Boykoff, M., & Yulsman, T. (2013). Political economy, media, and climate change: Sinews of modern life. *WIREs Climate Change*. Retrieved from http://sciencepolicy.colorado.edu/admin/publication_files/2013.19.pdf
- Burke, E. (1909-1914). *Reflections on the revolution in France* (Vol. 24, Part 3, Harvard Classics). Retrieved from <http://www.bartleby.com/24/3/>
- Burton, B., & Rowell, A. (2003). Unhealthy spin. *British Medical Journal*, 326, 1205-1207. Corporate Watch. (2015). *Edelman: Company profile*. Retrieved from <http://www.corporate-watch.org/company-profiles/edelman>
- DeSmog. (n.d.). Global Warming Disinformation Database: An extensive database of individuals involved in the global warming denial industry. *DeSmog*. Retrieved from <http://www.desmogblog.com/global-warming-denier-database>
- DiLeol, D. R. (2015). Papal authority and climate change: Preparing for Pope Francis' encyclical. *U.S. Catholic*. Retrieved from <http://www.uscatholic.org/articles/201505/papal-authority-and-climate-change-preparing-pope-francis-encyclical-30117>
- Elliott, S. (2014, August 17). Edelman P. R. firm acts to correct faux pas. *The New York Times*. Retrieved from <http://www.nytimes.com/2014/08/18/business/media/edelman-pr>

firm-is- taking-steps-to-address-faux-pas-.html?_r=1

Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological Science*, 24, 56-62.

Frazier, M. (2006, October 19). Edelman eats humble pie. *AdvertisingAge*. Retrieved from <http://adage.com/article/news/edelman-eats-humble-pie/112588/>

Funk, C., & Rainie, L. (2015). *Public and scientists' views on science and society* (Pew Research Center). Retrieved from <http://www.pewinternet.org/2015/01/29/public-and-scientists-views-on-science-and-society/>

Goldenberg, S. (2014, August 7). Edelman formally declares it will not accept climate denial campaigns. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/2014/aug/07/edelman-pr-climate-change-denial-campaigns>

Goodstein, L. (2015, June 18). In the footsteps of other Popes, Francis seeks worldly change. *The New York Times*. Retrieved from <http://www.nytimes.com/2015/06/19/world/in-foot-steps-of-popes-seeking-worldly-change.html>

Goranova, M., & Ryan, L. V. (2013). Shareholder activism: A multidisciplinary review. *Journal of Management*. Retrieved from <http://jom.sagepub.com/content/early/2013/12/13/0149206313515519.full>

Greenpeace. (2014a). *LEGO: Everything is NOT awesome* [Video webcast]. Retrieved from https://www.youtube.com/watch?v=qhbliUq0_r4&list=UUTDTSx8kbxGECZJxOa9mIKA

Greenpeace. (2014b). *LEGO: Help children save the Arctic* [Video webcast]. Retrieved from <http://www.youtube.com/watch?v=Ci4l-VK9jew&list=UUTDTSx8kbxGECZJxOa9mIKA>

IKA

Greenpeace. (2014c). *Key findings from the leaked TransCanada/Edelman strategy to promote the Energy East pipeline*. Retrieved from <http://www.greenpeace.org/canada/Global/canada/file/2014/11/Astroturf-background.pdf>

Guber, D. L. (2013). A cooling climate for change? Party polarization and the politics of global warming. *American Behavioral Scientist*, 57, 93-115.

Gunther, M. (2014, August 19). Climate changeable: Waffling lands PR firm Edelman in hot water. *The Guardian*. Retrieved from <http://www.theguardian.com/sustainable-business/2014/aug/19/climate-change-denial-flip-flop-public-relations-firm-edelman>

- Hadler, M., & Haller, M. (2013). A shift from public to private environmental behavior: Findings from Hadler and Haller (2011) revisited and extended. *International Sociology*, 28, 484-489.
- Hart, P. S., & Feldman, L. (2014). Threat without efficacy? Climate change on U.S. network news. *Science Communication*, 36, 325-351.
- International Energy Agency. (2012). *Golden rules for a golden age of gas: World energy outlook special report on unconventional gas*. Paris, France: International Energy Agency.
- Klein, P. (2012, December 28). Three ways to secure your social license to operate in 2013. *Forbes*. Retrieved from <http://www.forbes.com/sites/csr/2012/12/28/three-ways-to-secure-your-social-license-to-operate-in-2013/>
- Krogstad, J. M. (2015). Hispanics more likely than whites to say global warming is caused by humans (Pew Research Center). Retrieved from <http://www.pewresearch.org/fact-tank/2015/02/27/hispanics-more-likely-than-whites-to-say-global-warming-is-caused-by-humans/>
- Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*, 4, 70-81.
- Lego. (2014). *Comment on Greenpeace campaign using the LEGO® brand*. Retrieved from <http://www.lego.com/en-us/aboutus/newsroom/2014/july/lego-group-comment-on-green-peace-campaign>
- Lego. (2014). *Comment on Greenpeace campaign using the LEGO® brand*. Retrieved from <http://www.lego.com/en-us/aboutus/newsroom/2014/october/comment-on-the-green-peace-campaign-and-the-lego-brand>
- Lewandowsky, S., Oreskes, N., Risbey, J. S., & Newell, B. R. (2015). Seepage: Climate change denial and its effect on the scientific community. *Global Environmental Change*, 33, 1-13.
- Lyman, E. J. (2015, June 17). Bishops to turn pope's climate encyclical into action. *USA Today*. Retrieved from <http://www.usatoday.com/story/news/world/2015/06/17/vatican-pope-encyclical-bishops/28874079/>
- Makower, J. (2014, March 3). How GE and Apple shareholders became tools for climate deniers. *GreenBiz*. Retrieved from www.greenbiz.com/blog/2014/03/03/how-ge-and-apple-shareholders-became-tools-climate-deniers
- Miller, D., & Dinan, W. (2015). Resisting meaningful action on climate change: Think tanks, "merchants of doubt" and the "corporate capture" of sustainable development. In A. Hansen & R. Cox (Eds.), *Handbook of environment and communication* (pp. 84-99). London, England: Routledge.

- Miller, T., & Pollak, T. (2012). *Environmental coverage in mainstream news: We need more* (Project for Improved Environmental Coverage). Washington, DC: NSF SEE Innovation. Retrieved from <http://greeningthemedial.org/wp-content/uploads/Environmental-Coverage-in-the-Mainstream-News.pdf>
- Mohai, P., Pellow, P., & Roberts, J. T. (2009). Environmental justice. *Annual Review of Environment and Resources*, 34, 405-430.
- Moynihan, R., Heath, I., & Henry, D. (2002). Selling sickness: The pharmaceutical industry and disease mongering. *British Medical Journal*, 324, 886-891.
- Mueller, M. (1998). The shareholder proposal rule: Cracker barrel, institutional investors, and the 1998 amendments. *Stetson Law Review*, 28, 452-515.
- Nelsen, J. L. (2006). Social license to operate. *International Journal of Mining, Reclamation and Environment*, 20, 161-162.
- Nudd, T. (2013, September 12). Ad of the day: Chipotle makes magic yet again with Fiona Apple and a dark animated film. *AdWeek*. Retrieved from <http://www.adweek.com/news/advertising-branding/ad-day-chipotle-makes-magic-again-fiona-apple-and-dark-animated-film-152380>
- Nudd, T. (2014, July 9). Even if you hate Greenpeace and love Lego, you have to admire this gorgeous attack Ad. *Adweek*. Retrieved from <http://www.adweek.com/adfreak/even-if-you-hate-greenpeace-and-love-lego-you-have-admire-gorgeous-attack-ad-158809>
- Office of Minority Health. (2014). *Minority population profiles*. Retrieved from <http://minorityhealth.hhs.gov/omh/browse.aspx?lvl=2&lvlID=26>
- Oreskes, N., & Conway, E. M. (2010). *Merchants of doubt*. New York, NY: Bloomsbury Press.
- Pampel, F. C., & Hunter, L. M. (2012). Cohort change, diffusion, and support for environmental spending in the United States. *American Journal of Sociology*, 118, 420-448.
- Povoledo, E. (2015, April 29). Scientists and religious leaders discuss climate change at Vatican. *The New York Times*. Retrieved from <http://www.nytimes.com/2015/04/29/world/europe/scientists-and-religious-leaders-discuss-climate-change-at-vatican.html>
- Prno, J., & Slocombe, D. S. (2012). Exploring the origins of "social license to operate" in the mining sector: Perspectives from governance and sustainability Theories. *Resources Policy*, 37, 346-357.
- Public Relations Society of America. (2015). *Public Relations Society of America (PRSA) member code of ethics*. Retrieved from

<http://www.prsa.org/aboutprsa/ethics/codeenglish/#>.
VOUf7c

VOrW-

- Quinn, E., & Young, C. (2015, January 15). D.C. influencers spend more in advertising and PR than lobbying. *Time*. Retrieved from <http://time.com/3668128/lobbying-advertising-public-relations/>
- Readfearn, G. (2015a, March 1). Was climate science denialist Willie Soon funded to do science or was it just PR cash from the fossil fuel industry? *DeSmog*. Retrieved from <http://www.desmogblog.com/2015/03/01/was-climate-science-denialist-willie-soon-funded-do-science-or-was-it-just-pr-cash-fossil-fuel-industry>
- Readfearn, G. (2015b, March 5). Doubt over climate science is a product with an industry behind it. *The Guardian*. Retrieved from <http://www.theguardian.com/environment/planet-oz/2015/mar/05/doubt-over-climate-science-is-a-product-with-an-industry-behind-it>
- Rocca, F. (2015, June 18). Pope delivers strong message on climate change in encyclical "Laudato Si'." *The Wall Street Journal*. Retrieved from <http://www.marketwatch.com/story/pope-delivers-strong-message-on-climate-change-2015-06-18-91035726>
- Russell, K. (2014, February 28). Tim Cook erupts after shareholder asks him to focus only on profit. *Business Insider*. Retrieved from <http://www.businessinsider.com/tim-cook-versus-a-conservative-think-tank-2014-2>
- Schäfer, M. S. (2012). Online communication on climate change and climate politics: A literature review. *Wiley Interdisciplinary Reviews: Climate Change*, 3, 527-543.
- Schlichting, I. (2013). Strategic framing of climate change by industry actors: A meta-analysis. *Environmental Communication*, 7, 493-511.
- Schreiber, D., Fonzo, G., Simmons, A. N., Dawes, C. T., Flagan, T., Fowler, J. H., & Paulus, M. P. (2013). Red brain, blue brain: Evaluative processes differ in democrats and republicans. *PLoS ONE*, 8(2). Retrieved from <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0052970>
- Sudhaman, A. (2015, February 13). Edelman's American petroleum institute assignment ends. *The Holmes Report*. Retrieved from <http://www.holmesreport.com/latest/article/edelman%27s-american-petroleum-institute-assignment-set-to-end>
- Taylor, D. E. (2014). *The state of diversity in environmental organizations: Mainstream NGOs, foundations & government agencies*. Retrieved from <http://diversegreen.org/wp-content/>

- uploads/sites/4/2014/07/FullReport_Green2.0_FINAL.pdf
- Thomson, I., & Boutilier, R. G. (2011). Social license to operate. In P. Darling (Ed.), *SME mining engineering handbook* (pp. 1779-1796). Littleton, CO: Society for Mining, Metallurgy and Exploration.
- Vatican Press. (2015). *Laudato Si' (be praised), on the care of our common home*. Retrieved from http://w2.vatican.va/content/dam/francesco/pdf/encyclicals/documents/papa-fran-cesco_20150524_enciclica-laudato-si_en.pdf
- Yardley, J. (2015, June 13). Pope Francis to explore climate's effect on world's poor. *The New York Times*. Retrieved from <http://www.nytimes.com/2015/06/14/world/europe/pope-to-explore-climates-effect-on-worlds-poor.html>
- Zavall, L., Markowitz, E. M., & Weber, E. U. (2015). How will I be remembered? Conserving the environment for the sake of one's legacy. *Psychological Science*, 26, 231-236.

Author Biographies

Richard Maxwell is a political economist of media. His research begins at the intersection of politics and economics to analyze the global media, their social and cultural impact, and the policies that regulate their reach and operations.

Toby Miller is the author and editor of over 30 books, has published essays in more than 100 journals and edited collections, and is a frequent guest commentator on television and radio programs. His teaching and research cover the media, sports, labor, gender, race, citizenship, politics, and cultural policy, as well as the success of Hollywood overseas and the adverse effects of electronic waste.

Richard Maxwell and Toby Miller