

Oxford Research Encyclopedia of Climate Science

Partisan Cueing and Polarization in Public Opinion About Climate Change

Deborah Lynn Guber

Subject: Climate Change Communication Online Publication Date: Jun 2017

DOI: 10.1093/acrefore/9780190228620.013.306

Summary and Keywords

Despite an accumulation of scientific evidence on both the causes and consequences of climate change, U.S. public opinion on the subject has splintered sharply along party lines. While a vast majority of Democrats now believe that global warming is real, that its effects will happen within their lifetime, and that human activity is the dominant cause, Republicans have grown increasingly skeptical, creating a yawning gap that complicates efforts to communicate the urgency of the problem and the need for aggressive action.

When attitudes harden and diverge, it is often driven by the behavior of political elites, who shape the frames and mental models that people use to interpret events. Scholars have long observed that people resort instinctively to heuristics to ease the burden of making decisions, especially on issues like climate, where there is an obvious disconnect between scientific understanding and mass competence. Those cues, however, are often unreliable and prone to cognitive bias. When voters act upon signals provided by their preferred political party and by selective exposure to preferred media outlets, they may do so mechanically, with little regard for the accuracy of the evidence that they receive, or they may ignore and distort information in a way that reinforces preexisting assumptions.

In the end, beliefs about climate change are as complex as the issue itself, which suggests that awareness of the problem and an understanding of its effects will not translate automatically—or even easily—into increased concern, issue salience, or policy preferences. The “pictures in our heads,” to borrow Walter Lippmann’s famous phrase, are shaped less by factual knowledge than by a variety of other factors more difficult to control—by personal experience and assorted real-world cues (such as the weather), but also by opinion leaders, media narratives, and political rhetoric, each of which provides a competing frame of reference with the power to filter and mislead. Because climate change has become so heavily laden with values and so absorbed into partisan identity, it will be nearly impossible to build social consensus through conventional means. Once a “hard” issue for all, which seemed to demand sophisticated calculation or technical expertise, it has now become an “easy” one for many, where the reactions that it prompts are familiar, stable, and symbolic, increasingly polarized, immune to rational argument, and vulnerable to manipulation by elites.

Keywords: Climate change, polarization, public opinion, political parties

Introduction: The Senator with the Snowball

On a Thursday afternoon in late February 2015, the U.S. Senate convened to consider some routine business in front of a nearly empty chamber. After a morning devoted to talk of net neutrality and funding for the Department of Homeland Security, the topic shifted suddenly and unexpectedly to the weather outside. A light snowfall that day had blanketed the Capitol grounds with two inches of white powder, and although the temperature would soon rise to a soggy 39 degrees Fahrenheit, Republican Senator Jim Inhofe of Oklahoma—the chairman of the Senate’s Environment and Public Works Committee—stood up and began to reminisce about a more intense storm five years before, one that had inspired his family to construct an igloo and name it “Al Gore’s New Home.”¹ That was, he recalled, “back when they started all the hysteria on global warming . . .” (161 Cong. Rec. S1138).

Conscious of the television cameras pointed at the podium, he pressed on. “In case we have forgotten, because we keep hearing that 2014 has been the warmest year on record, I ask the Chair: Do you know what this is?” He reached into a plastic bag and produced a tangible piece of winter weather. “It is a snowball. That is just from outside here. So it is very cold out, very unseasonable.” And with a gentle toss to prove his point, he said: “So, Mr. President, catch this” (161 Cong. Rec. S1138).²

News of the stunt circulated quickly on the Hill and within a short time, Sheldon Whitehouse, the junior senator from Rhode Island—a Democrat and fellow committee member—rose to challenge Inhofe’s remarks. With the cadence of a schoolteacher and a set of satellite maps from the National Aeronautics and Space Administration (NASA) in hand, Whitehouse explained how warmer ocean temperatures had created a polar vortex that was pushing arctic air down the East Coast, all the way to Washington, D.C., adding that “it isn’t really all that complicated,” if you “take the least bit of effort to understand it” (161 Cong. Rec. S1141). He pointed out that

Every major American scientific society has put itself on record—many of them a decade ago—that climate change is deadly real. They measure it. They see it. They know why it happens. The predictions correlate with what we see, as they increasingly come true. The fundamental principles—that it is derived from carbon pollution, which comes from burning fossil fuels—are beyond legitimate dispute to the point where every leading scientific organization on the planet calls them “unequivocal.”

“So,” he said, the tenor of his voice rising in exasperation, “you can believe every major American scientific society, or you can believe the Senator with the snowball.” (161 Cong. Rec. S1149).

Partisan Cueing and Polarization in Public Opinion About Climate Change

The argument that day in the world's greatest deliberative body, between two colleagues serving on the same committee, but from opposite ends of the political spectrum, demonstrates just how far U.S. climate policy has fallen into a deep, almost insurmountable divide.³ According to the Center for American Progress, 182 members of the 114th Congress denied the existence of global warming or otherwise questioned its anthropogenic origins—144 members of the U.S. House of Representatives and 38 senators, *all* members of the Republican Party (Ellingboe & Koronowski, 2016).

That statistic may cast the GOP as an “anomaly” when compared to conservative parties abroad (Båtstrand, 2015, p. 538), but it is entirely consistent with discordant partisan viewpoints here at home. In the days that followed Inhofe's remarks on the Senate floor, for instance, some journalists complained that the speech was “breathtakingly devoid of factual or logical grasp of its subject matter,” and the editorial board of *The Washington Post* went so far as to call it “a national embarrassment” (Washington Post Editorial Board, 2015), but many on the right championed Inhofe's resolve nonetheless (Chait, 2015). While interviewing the senator on the television show *Fox and Friends Weekend*, Tucker Carlson questioned why some were “trying to shut down debate” on the causes of climate change, while his cohost Clayton Morris seemed most impressed by the snowball itself, judging it to be “nicely packed” and “well-constructed” (Robbins, 2015).

When the Gallup Organization released its annual survey on the public's environmental attitudes some weeks later, the pattern mirrored those of Washington elites. Continuing a trend that had begun more than a decade before (Dunlap, Xiao, & McCright, 2001; Dunlap & McCright, 2008; Dunlap, 2010; McCright & Dunlap, 2011B; Guber, 2013; Dunlap, McCright, & Yarosh, 2016), a vast majority of rank-and-file Democrats—89%—believed that global warming would happen within their lifetime, while just 37% of Republicans agreed, and among conservative Republicans, 4 in 10 predicted that it would never happen at all (Dugan, 2015). As a commentator for CBS News bluntly put it on April 22, Gallup's results exposed a “tricky political question” for those who support a more aggressive stance on climate change. The date itself was a symbolic one—Earth Day—the anniversary of the birth of the modern environmental movement in 1970. Looking ahead, he wondered: “Can progress be made on a response if a significant part of one party can't even agree on the existence of a problem, much less the wisdom of a proposed solution?” (Miller, 2015).

Walter Lippmann (1955, p. 25), the famous American journalist and public philosopher, once wrote that “[w]hen distant and unfamiliar and complex things are communicated to great masses of people, the truth suffers a considerable and often a radical distortion.” With a prescience tailor-made for the current debate over climate change, he described a process in which “the complex is made over into the simple, the hypothetical into the dogmatic, and the relative into an absolute,” a statement on which partisans from both sides might agree, albeit for different reasons. Lippmann's solution was for society to engage in what he called “genuine debate,” which Inhofe and his allies undoubtedly feel has been shuttered by the left, who in their view are acting with a nearly religious fervor. But Lippmann defined debate as one “conducted according to logic and the rules of

evidence” (Lippmann, 1955, p. 129). For Democrats, the data on climate change has long since been, as Whitehouse maintained, “beyond legitimate dispute,” given not only the increasingly dire series of reports by the U.N. Intergovernmental Panel on Climate Change (IPCC, 2007, 2014A, 2014B), but because of the overwhelming consensus of published scientists in the field (Cook et al., 2013, 2016).

The goal of this article—like others in its volume—is to identify and bring some semblance of order to a vast and sprawling scholarship in the field of climate change communication, here specifically on the subject of partisan polarization and its impact on public opinion. How can the increasingly discordant positions of the Democratic and Republican parties on the subject be understood and reconciled, and what are the consequences for politics at large, as average Americans likewise sort along party lines? It is a subject I address by linking several strands of research that span the social sciences, including work in the field of psychology on heuristics and cognitive biases, as well as political science that focuses on hostile media effects and the role of opinion leaders in shaping mass attitudes. In the end, I demonstrate that popular beliefs on climate change have little to do with climate itself, existing on a plane quite apart from scientific literacy or technical knowledge. Rather, the positions that people adopt in polls—and sometimes even on the floor of the U.S. Senate—are informed by deeply held values that strike at the heart of social and political identity (Leiserowitz, 2006; Hoffman, 2011A; Kahan et al., 2011; Corner, Whitmarsh, & Xenias, 2012; Marshall, 2014), and are for that reason increasingly divisive, largely immune to rational argument, and vulnerable to manipulation by elites (Lewandowsky, Gignac, & Vaughan, 2013; Feinberg & Willer, 2015).

Shooting the Message: Elite Polarization and Parting Sorting on Climate Change

For those who lament the polarized state of climate politics in the 21st century, it may be difficult to recall that environmental protection was once a bipartisan effort. When amendments to the Clean Air Act were introduced in the U.S. Senate chamber in 1970, they passed without a single nay vote. In the House of Representatives, only one member declined his support, a little-known Republican from Nebraska who would be unseated in a primary challenge later that same year.⁴ In signing the act into law on December 31, President Richard Nixon reflected upon the breadth of that achievement by saying “I would only hope . . . that all of us, Democrats, Republicans, the House, the Senate, the executive branch, that all of us can look back upon this year as that time when we began to make a movement toward a goal that we all want . . .” (Nixon, 1971, p. 1167).

And for many years it was. Within a brief period, between 1969 and 1976, the U.S. government enacted not only the Clean Air Act amendments, but also the National Environmental Policy Act, the Clean Water Act, the Endangered Species Act, the Safe Drinking Water Act, and the Toxic Substances Control Act, among others, in addition to creating the infrastructure needed to monitor and administer those laws effectively. The Environmental Protection Agency (EPA) was born, and so too were the Council on Environmental Quality and the National Oceanographic and Atmospheric Administration (NOAA). It was dizzying progress for a country that had watched Ohio’s polluted Cuyahoga River burst into flames just a few years before, and most of it was accomplished during a period of divided government, and with overwhelming bipartisan majorities (Kraft, 2000; Layzer, 2012).

As a growing number of scholars observed in the 1970s—in the middle of what would later nostalgically be called “the Environmental Decade”—the issue itself was “rather unique” (Dunlap & Gale, 1974, p. 670; Layzer, 2012). While some politicians may have acted upon political expedience more than genuine ecological concern, including Nixon himself, who was as prone as any politician to the occasional “rhetorical flourish,” there was little incentive in those early years to couch debate over environmental issues in overtly partisan terms (Ross & Wolman, 1970, p. 14; Dunlap & Gale, 1974; Revesz & Lienke, 2016). By riding a wave of public sentiment that carried low political risk, it could function as a nonpartisan issue, subject to the generous rules of a “gentleman’s agreement” (Ross & Wolman, 1970, pp. 13–14). After all, “smog irritated the nostrils and eyes of both Republicans and Democrats” (Buttel & Flinn, 1978, p. 18).

By 1990, when a new set of amendments came before Congress to expand the scope of the Clean Air Act once again, this time to curb acid rain, urban air pollution, toxic emissions, and stratospheric ozone depletion, the “myth” that Congress was devoutly bipartisan on the issue persisted (Ross & Wolman, 1970, p. 13). Mitch McConnell, a first-term Republican from Kentucky, was one of 89 senators who supported the amendments,

explaining: “I had to choose between cleaner air and the status quo. I chose cleaner air” (Fuller, 2014). And joining a 401-25 majority in the House of Representatives was one of the bill’s cosponsors, the former mayor of Tulsa, Oklahoma, who had been sworn in just three years before. His name was Jim Inhofe.

Today, of course, environmental policy has been thoroughly politicized, almost beyond recognition compared to its nascent days. Even the science that it leans upon has failed to escape partisan wrangling, as the infamous “Climategate” memos, leaked from computers at the University of East Anglia in 2009, attest (Revkin, 2009). According to one team of sociologists, that trend presents a puzzling disconnect between scientific consensus on the one hand, which has strengthened over time, and political belief on the other, which has gradually splintered into opposing partisan camps, ending a legislatively productive—if often ideologically fragile—period of consensus (McCright & Dunlap, 2003).

But in truth, support for environmental protection was always far wider than it was deep. While everyone appeared to be eagerly jumping on the “environmental bandwagon” in the early 1970s, Dunlap and Gale (1974, pp. 670–671) predicted that a sobering reality would soon sink in. They warned that the costs involved in preserving environmental quality, “both in the narrow monetary sense and in the more general sense of altered habits and lifestyles,” would be considerable, and not “accepted willingly” by business and industry, especially given the level of government regulation and economic intervention involved. In other words, the national outpouring of concern for the environment that peaked with the first Earth Day in 1970 could, for a time, constrain and even “override traditional partisan cleavages, especially in a visible body such as the U.S. Congress” (Dunlap & Allen, 1976, p. 388), where demands for democratic responsiveness run high, but such collegiality was unlikely to last forever, given the sway and distraction of the public’s attention. According to the tenets of political science, once the salience of environmental issues subsided—as surely it would—partisans in Washington would have less incentive to follow the mercurial demands of their constituents and would fall back upon the well-worn preferences of party factions instead (Downs, 1972; Kamieniecki, 1995).

In the years that followed, that is precisely what happened. While early studies of legislative behavior were limited in scope and often ambiguous in result, evidence of partisan “divergence” has accumulated over time and become a thoroughly accepted fact (Shipan & Lowry, 2001, p. 245; Dunlap & Gale, 1974; Dunlap & Allen, 1976; Hays, 1992; Dunlap et al., 2001; Gershtenson, Smith, & Mangun, 2006; Brewer, 2012; McCright, Xiao, & Dunlap, 2014). Dunlap and Gale (1974, p. 688) noted a “lack of strong partisan opposition” on most environmental measures in the 1971 Oregon state assembly, but could point to some “meaningful differences” nevertheless, a result they described as “far from straightforward” and “difficult to assess.” Two years later, Dunlap and Allen (1976) could draw more confident conclusions from the results of their study of the U.S. House of Representatives. Highlighting “real differences” between the parties that persisted even after controlling for constituency influence and the personal characteristics of elected representatives, they argued that the surge of environmental concern griping the nation

had “not altered” what appeared to be a “historical tendency for the Democratic party to be more ‘pro-environment’ than its Republican counterpart” (Dunlap & Allen, 1976, pp. 394, 396). Eventually, several more extensive studies of roll-call votes in Congress would reinforce the same conclusion. One characterized the pattern as “rather clear” (Hays, 1992, p. 3), while another blamed divergence on regional pressures, internal factions and alliances, and the personalities of party leaders (Shipan & Lowry, 2001), all of which were increasingly directed toward a single, emerging issue: global warming (Dunlap & McCright, 2008; McCright & Dunlap, 2000, 2003, 2010).

Between 1990 and 1997, conservatives mounted fierce opposition to what became known as the Kyoto Protocol, an international treaty that set mandatory limits on greenhouse gas emissions (Oberthür & Ott, 1999). They did so not only by questioning the act’s economic impact, but by challenging the scientific legitimacy of the problem itself (Brown, 1997; McCright & Dunlap, 2000; McCright & Dunlap, 2003; Mooney, 2005; Jacques, Dunlap, & Freeman, 2008; Hulme, 2009; Oreskes & Conway, 2010; McCright et al., 2014), further escalating divisions within Congress and isolating the United States from its partners abroad (Vig & Faure, 2004). By 2002—a year in which Republican candidates were being coached by political consultants on how to oppose climate change without unduly offending voters (Luntz, 2002, 2007)—Democratic support was not only higher, it was “dramatically” so (Gershtenson et al., 2006, p. 84), and by 2013, more than 70 points divided the average League of Conservation Voters scores of Democrats and Republicans in Congress (McCright et al., 2014). In looking back upon decades of research, it was Riley Dunlap, the field’s pioneering scholar, who said it best: “Perhaps the time has finally come to give up the image of environment as a ‘motherhood’ issue once and for all” (Dunlap et al., 2001, p. 45).

Unlike the environmental movement, whose history and ideology are charted in books too numerous to mention—from classic tomes like Aldo Leopold’s *A Sand County Almanac* (1949) and Rachel Carson’s *Silent Spring* (1962), to more recent bestsellers, which include Al Gore’s *An Inconvenient Truth* (2006) and Thomas Friedman’s *Hot, Flat, and Crowded* (2008)—the emergence of a well-organized, antienvironmental coalition in American politics in the 1980s and 1990s has been largely “untapped” by environmental historians (Hays, 1998, p. xxvii). Those who have written on the subject cautiously point to a vacuum created by the decline of communism and the end of the Cold War, as well as the emerging threat of international environmental regulations at the 1992 Rio Earth Summit as turning points for congressional Republicans (Jacques et al., 2008; McCright et al., 2014). The latter, in particular, is thought to have stirred conservative foundations and think tanks to organize in opposition, fearing a loss of “individual freedom and unfettered markets” (Layzer, 2012, p. xiv; Jacques et al., 2008; Antonio & Brulle, 2011).

But environmental policy has also been the victim of broader shifts in the political landscape. In the 1994 congressional elections, Republicans wrested control of the U.S. House of Representatives away from Democrats for the first time in decades, empowering a new majority to forge its own environmental agenda, a turnabout that cannot be fully

explained by constituent interests alone (Gershtenson et al., 2006). Periodic majorities in the U.S. Senate have also emboldened Republicans to take a more defiant stance against domestic environmental policies, such as cap and trade, as well as international accords like the Kyoto Protocol, COP15, and the Paris Agreement (McCright & Dunlap, 2000, 2003; Herszenhorn, 2015). Consequently, while Republican Senator Mitch McConnell had dutifully supported the Clean Air Act Amendments in 1990, upon assuming the role of majority leader in 2014, he changed tack, arguing that Congress had a “deep responsibility” to rein in the EPA, and to block regulations on carbon pollution, in particular (Abrams, 2014).

Deep cleavages on environmental issues have also been amplified by larger trends toward party polarization within the American political system. The percentage of roll-call votes in Congress in which a majority of one party opposes a majority of the other has risen significantly since 1970, or at the very least returned to a historical norm that breeds incivility (Han & Brady, 2007; Hetherington, 2009). Interest groups who rate members of Congress on their legislative behavior likewise point to more ideologically split chambers (Fleisher & Bond, 2004). And both trends have occurred on a wide enough range of issues—not just environmental, but also social, racial, and cultural—to support a troubling theory of “conflict extension” (Rohde, 1991; Sinclair, 2000; Layman & Carsey, 2002; Layman, Carsey, & Horowitz, 2006). It is no longer the case that a single source of disagreement displaces another through an occasional realignment of the party system (Key, 1955; Burnham, 1970). Rather, today’s political parties disagree on nearly everything (Poole & Rosenthal, 1984, 1997; McCarty, Poole, & Rosenthal, 2006).

Throughout much of the 20th century, the two major American parties were ideologically diverse units. A “strange jumble” of overlapping coalitions meant that Democrats in the South were often more conservative than so-called “Rockefeller Republicans” in the Northeast (Klein, 2014; Levendusky, 2009). As Judith Layzer points out in *Open for Business: Conservatives’ Opposition to Environmental Regulation* (Layzer, 2012, p. xiv), that meant that there were moderates within the Republican Party who could vote on landmark legislation alongside Democrats as “staunch defenders of environmental protection.” By the 1990s, moderates had all but disappeared into a “vast wasteland,” along with most Southern whites from the Democratic Party (Hetherington, 2009, p. 414; Layman et al., 2006).

Today, there is no doubt that those advocating on behalf of more aggressive climate policies face a two-party system that is more cohesive, disciplined, and ideologically distinct than at any point in recent memory (McCarty, 2007; Kuo, 2015). From exerting control over agenda-setting (Liu, Lindquist, & Vedlitz, 2011), to scheduling witness testimony at congressional hearings (Park, Xinsheng, & Vedlitz, 2010; Fisher, Leifeld, & Iwaki, 2013), partisans in Congress continue to frame debate over the “uncertain economic and political implications of climate change legislation” to their advantage (Fisher et al., 2013, p. 88). While the 2012 Democratic Party platform identified climate change as “one of the biggest threats of this generation—an economic, environmental, and national

security catastrophe in the making,” Republicans mentioned the issue only to complain that the word *climate* appeared “in the current President’s strategy more often than *Al Qaeda*, *nuclear proliferation*, *radical Islam*, or *weapons of mass destruction*,” all threats they deemed more severe. In fact, when Mitt Romney, their own candidate for president, conceded his belief in the basic scientific principles of climate change at a town hall meeting in New Hampshire, he was warned that his position was “untenable for a Republican” and tantamount to “political suicide” (Fisher et al., 2013, p. 71; Sheppard 2011). By 2016, the Republican party platform had moved even further to the right, declaring climate change “the triumph of extremism over common sense,” and insisting that the time had come for Congress to “stop it.”⁵

Finally, it is important to note that the polarization that American scholars observe on climate policy may also be part of a larger, global trend, at least among wealthy democracies with high per capita carbon emissions and large fossil fuel reserves (Oberthür & Ott, 1999; Båtstrand, 2015; Kuo, 2015; Roberts, 2015). According to a Pew Research Center poll administered in 40 countries in the spring of 2015, “those on the political left [were] significantly more likely than those on the right to view climate change as a major threat,” not only in the United States, but also in Australia, Canada, Germany and the United Kingdom (Stokes, Wilke, & Carle, 2015, p. 7), a conclusion reinforced by the work of others in the field of comparative politics (Poortinga, Spence, Whitmarsh, Capstick, & Pidgeon, 2011; Whitmarsh, 2011; Tranter, 2011; Fielding, Head, Laffan, Western, & Hoegh-Guldberg, 2012; Pidgeon, 2012; Crowley, 2013; Tranter, 2013). Indeed, one of the deepest party divides is in Australia, where the issue receives far greater support among Labor and Green party members. With the government roundly criticized as a “climate change laggard” (McDonald, 2005, p. 225), internal conflict within the ruling coalition helped oust Tony Abbott, a right-of-center politician who has characterized the “moral panic” over climate change as “completely over the top,” as prime minister in 2015 (Hutchens, 2016).

Even countries with a history of climate consensus are starting to unravel. While policy initiatives in the United Kingdom had been innovative and largely cross-partisan between 2006 and 2010, sustained under a Labour government with the support of Conservatives and Liberal Democrats, the years since have been marked by “an increasing dissensus” (Gillard, 2016, p. 35; Carter & Jacobs, 2014; Carter, 2014). According to some observers, the government’s move toward austerity economics, the rising popularity of the U.K. Independence Party, and the United Kingdom’s looming exit from the European Union have all emboldened deniers on the right and threaten to make climate politics there “as depressingly unscientific and polarised as it is in the United States” (Ward, 2014).

In short, party allegiance and the skepticism that it fuels, both in the United States and around the globe, are now among the leading impediments to progress on climate change (Tranter, 2013). While it may be tempting to attribute cross-national trends to a vested interest in carbon reserves alone (Agrawala & Andresen, 1999; Oberthür & Ott, 1999), understanding the motivation of individual players is far more difficult. As Hulme (2009, p.

xxvi) explains in *Why We Disagree About Climate Change*, differences in perspective are due to more than a willful denial of scientific evidence in the face of naked self-interest. He says that it reveals “our different attitudes to risk, technology, and well-being; our different ethical, ideological, and political beliefs; our different interpretations of the past and our competing visions for the future,” all complex considerations that elevate the stakes of public discourse while simultaneously making it difficult to get anything done. By activating the tribal instincts of party leaders, the debate over climate change has now reached a point where some believe “meaningful dialogue and problem solving” are no longer possible (Hoffman, 2011B, p. 3; Nuccitelli, 2015). What is unclear—and potentially even more concerning—is whether polarization among elites has trickled down to the masses (DiMaggio, Evans, J., & Bryson, 1996; Evans, 2003; Abramowitz & Saunders, 2005, 2008; Fiorina, Abrams, & Pope, 2006, 2008; Fiorina & Abrams, 2008; Gelman, 2008; Hetherington, 2009; Levendusky, 2009; Abramowitz, 2011).

Building Bridges: Mental Models and Heuristics in Mass Attitudes

There has long been a puzzling disconnect between the global risk imposed by climate change and the amount of time and energy that the average citizen devotes to thinking about it (Kennedy, 2004; Weber, 2006; Hamilton, 2011; Hoffman, 2015). When asked by the Gallup Organization in March 2016 how much they personally worried about a range of environmental problems, respondents placed “global warming” in last place, well below various forms of air and water pollution, soil contamination, the extinction of plant and animal species, and the loss of tropical rain forests. And when climate change is compared to an even broader list of problems, including the economy, healthcare, and national security, the issue sinks further still (Guber, 2003; Riffkin, 2014), a likely victim of what scholars call the “finite pool of worry” (Weber, 2006, p. 115; Linville & Fischer, 1991).

The concern that Americans feel for the subject has always been comparatively low, wavering up and down within a narrow band, midway between the response categories “only a little” and “a fair amount” (Guber, 2013). Just 37% of those polled in 2016 said that they worried “a great deal” about global warming, a result not appreciably different than when Gallup first asked the question back in 1989 (Saad & Jones, 2016). As Andrew Revkin (2011) once put it while blogging for *The New York Times*, whether those numbers go up or down by a few percentage points from one year to the next, it still amounts to “water sloshing in a shallow pan.”

The issue itself is at least partially to blame. Senator Whitehouse’s remarks notwithstanding, climate change is driven by a level of scientific complexity that few can ever hope to understand (Kempton, 1991; Bostrom, Morgan, & Fischhoff, 1994; Sterman & Sweeney, 2002; Pidgeon & Fischhoff, 2011; Weber & Stern, 2011; Pongiglione, 2012), placing it at odds with the human brain’s desire for “cognitive closure” and its “aversion toward ambiguity” (Kruglanski & Webster, 1996, p. 264). It presents a massive problem of collective action that leaves people uncertain in their ability to address its perils effectively as citizens and consumers, to say nothing of the moral, ethical, and economic challenges that it imposes on sovereign nations (Lorenzoni, Nicolson-Cole, & Whitmarsh, 2007; Kellstedt, Zahran, & Vedlitz, 2008). And it presents a “creeping threat” so gradual that it is nearly invisible to the untrained eye, and seemingly too far removed in time and geographic space to justify immediate action (Warner, 2007, p. 173; Leiserowitz, 2006; Weber & Stern, 2011; Marshall, 2014).

In their cognitive grasp of the subject, Americans may be no worse than their counterparts in other corners of the world (Brechin, 2003), but serious errors in judgment persist. In 1997, when the Pew Research Center asked its respondents how they would describe the “greenhouse effect,” based on what they had heard or read, if anything, more than a third of those polled (38%) could not define the concept even in the vaguest

Partisan Cueing and Polarization in Public Opinion About Climate Change

of terms, identifying it instead, when presented with a close-ended list of options, as either a “new advance in agriculture” or a “new architectural style,” rather than an “environmental danger” (Guber, 2003, p. 31). A similar and equally discouraging result was found in the 2000 General Social Survey, when more than half of those polled (54%) believed—incorrectly—that the greenhouse effect was caused by a hole in the Earth’s atmosphere (Nisbet & Myers, 2007).

And 10 years later, despite a surge in public attention following the release of the documentary *An Inconvenient Truth*, and the subsequent Nobel Peace Prize awarded jointly to Al Gore and members of the IPCC, a study conducted by the Yale Center for Climate Change Communication found that most Americans still had “important gaps in knowledge and common misconceptions about climate change.” A majority mistakenly identified aerosol spray cans as a contributing factor, as well as toxic wastes, volcanic eruptions, the sun, acid rain, and ozone depletion. And almost half (49%) believed that the space program was, at least in part, to blame. In the end, the results were distressing enough for Leiserowitz and his colleagues to question whether Americans had “the knowledge needed for informed decision-making in a democratic society” (Leiserowitz, Smith, & Marlon, 2010, pp. 3, 5).

Classic democratic theory, from John Stuart Mill to Jean-Jacques Rousseau, presumes that active and engaged citizens are essential to the functioning of civic life, and yet decades of behavioral research in political science has left no doubt that few have ever lived up to that vaulted ideal (Bryce, 1900; Lippmann, 1925; Berelson, Lazarsfeld, & McPhee, 1954; Campbell, Converse, Miller, & Stokes, 1960; Converse, 1964; Kinder & Sears, 1985; Delli Carpini & Keeter, 1996). Faced with a “swarming confusion of problems” (Lippmann, 1925, p. 24), most people are content to retreat into private life, to a state of being the economist Anthony Downs (1957, pp. 244–246) once described as “rational ignorance.”

With little to gain for the expense of informed effort, scholars have found that average citizens display little interest in public affairs and discuss politics rarely, and when they do, they tend to communicate less through a framework of coherent facts than through the language of long-standing predispositions, drenched in identity and emotion (Kinder, 1983; Green, Palmquist, & Schickler, 2004; Westen, 2007; Achen & Bartels, 2016). Those findings are provocative to be sure, but based on Lippmann’s work in *The Phantom Public*, it suggests an interesting challenge. If the world is infinitely complex, and human capacity to understand it limited, he asked: “Can a bridge be built between them?” In other words, “It is possible for men to find a way of acting effectively upon highly complex affairs by very simple means?” (Lippmann, 1925, p. 79)

The answer, of course, is yes. When faced with high information costs, scholars have long observed that voters behave as “cognitive misers” (Fiske & Taylor, 1991; Lau & Sears, 1986; Popkin, 1991) by resorting instinctively to *heuristics*—mental shortcuts that offer simple rules and frames to ease the burden of making decisions (Tversky & Kahneman, 1974; Kahneman, Slovic, & Tversky, 1982; Nisbett & Ross, 1980; Conover & Feldman, 1984; Kuklinski & Hurley, 1994; Lau & Redlawsk, 2001; Gladwell, 2005; Kahneman, 2011; Rugeley &

Gerlach, 2012; Zaval & Cornwell, 2016). Lippmann (1925, p. 79) believed that the human brain reduces complex topics into far more accessible narratives, driven by stereotypes and other helpful forms of categorization, calling it “guides to reasonable action for the use of uninformed people.”

The average citizen, for example, might conflate climate with weather by relying, however imperfectly, on their “sensory experiences” with natural fluctuations in temperature, much as Inhofe did when he tossed a snowball on the floor of the U.S. Senate (Kirilenko, Molodtsova, & Stepchenkova, 2015, p. 92; Donner & McDaniels, 2013). For similar reasons, people living inland, geographically removed from seacoasts and flood plains, are less likely to associate global warming, and the rising tides that it will bring, with an acute sense of physical vulnerability (Brody, Zahran, Vedlitz, & Grover, 2008). In fact, that frame is so enticing that a respondent’s belief in climate change can vary depending on the heat or chill of the room in which they complete their questionnaire (Risen & Critcher, 2011). In the end, visceral cues have persuasive power, not because they are objectively accurate but because they are convenient. Talking about the weather not only eases a challenging subject into a far more accessible narrative, it forges a cognitive link between a largely unknown condition and something already understood (Graber, 1984; Kinder, 1998).

In addition to personal experience and perceived common sense, people selectively scan the world around them for other signals that inform and condense their response to intricate political topics, especially on those that require action without direct observation (Lippmann, 1922). Most notably, people seek advice from a complex web of “opinion leaders”—politicians, journalists, lobbyists, scientists, and community elites, to name but a few—to compensate for their own deficiencies in knowledge, and they ultimately lean upon whichever experts they trust most on the issue at hand (Zaller, 1992; Kuklinski & Hurley, 1994; Bullock, 2011). As Bernard Berelson and his colleagues recognized long ago in their classic book *Voting: A Study of Opinion Formation in a Presidential Campaign* (Berelson et al., 1954, p. 109), “the political genius of the citizenry may reside less in how well they can judge public policy than in how well they can judge the people who advise them how to judge policy.”

Within that arena, it should come as no surprise that partisanship is among the most relevant, stable, and pervasive cues (Campbell et al., 1960; Stokes, 1962; Green et al., 2004; Cohen, 2003; Goren, Federico, & Kittilson, 2009; Bullock, 2011; Iyengar & Westwood, 2015). Citizens depend heavily—and some would say “almost exclusively”—upon their preferred political party and its leaders when evaluating subjects as diverse as the state of the economy, presidential job performance, candidate evaluations, and policy preferences (Cohen, 2003, p. 808), even when the positions they signal are inaccurate (Lau & Redlawsk, 2001; Dancy & Sheagley, 2013), or when that attachment requires them to engage in “mental gymnastics” that override objective facts with biased narratives (Hetherington, 2009, p. 414; Jacobs & Shapiro, 2011). Thus, while scholars tend to describe partisan cue-taking as “rational and effective,” and largely inevitable (Kuklinski & Hurley,

1994, pp. 729–730), it can also be strikingly unreliable, especially when “people take their heuristics off the shelf, use them unknowingly and automatically, and rarely worry about their accuracy” (Kuklinski & Quirk, 2000, p. 156; Lau & Redlawsk, 2001).

To the extent that partisanship has become a powerful form of social identity in its own right, much like religion or ethnicity (Green et al., 2004), it can have a profound effect on how people perceive the world around them, nudging their attitudes, values, and beliefs in a direction consistent with their political allegiance, a form of cognitive bias known as “motivated reasoning” (Kunda, 1990, p. 480). This theory especially rings true when applied to complex and dynamic systems such as climate (Sterman & Sweeney, 2002, 2007; Sterman, 2008; Chen, 2011; Marshall, 2014; Zaval & Cornwell, 2016). As George Marshall writes in *Don't Even Think about It: Why Our Brains Are Wired to Ignore Climate Change* (2012, p. 227), it is a subject that leaves average citizens profoundly overwhelmed: “Our brains scan it for the usual cues that we use to process and evaluate information about the world, but find none. And so we impose our own.” As Marshall explains, this a “perilous situation” because it leaves climate change open to an assimilation bias that “bends information to fit people’s existing values and prejudices.” And, to make matters worse, those errors can be exceedingly difficult to fix because of defense mechanisms within the human brain that allow people to ignore contrary information that might cause “mental discomfort” (Kuklinski & Hurley, 1994, p. 733). For that reason, it should come as no surprise that when respondents were asked by the Yale Center for Climate Change Communication if they “could easily” change their mind about global warming, nearly two-thirds of those polled said no (Leiserowitz et al., 2010, p. 43).

But what happens over time as the positions of partisan elites diverge? In *The Nature and Origins of Mass Opinion*, John Zaller (1992, p. 210) argues that “public attitudes toward major issues are a response to the relative intensity of competing political communications.” When elites unite, the public’s response is relatively nonideological. However, “when elites come to disagree along partisan or ideological lines,” as they did for Zaller during the latter stages of the Vietnam War, and as they did on global warming in the years leading up to the Kyoto Protocol in 1997, he says that “the public’s response will become ideological as well” (Zaller, 1992).

In 1997, after tracking shifts in public opinion over a matter of months, both before and after the Kyoto Protocol, Jon Krosnick and his colleagues found that sentiment had changed little overall, but that “beneath this apparently calm surface,” there was the hint of a partisan divide caused by citizens who followed the elites that they trusted most—an effect that was more pronounced among those who had little knowledge of global warming to begin with (Krosnick, Holbrook, & Visser, 2000, pp. 239, 254; Malka, Krosnick, & Langer, 2009). At the time, this was a new and important observation to make. While roll-call votes in Congress on environmental issues had already split along party lines (Dunlap & Gale, 1974; Dunlap & Allen, 1976; Kamieniecki, 1995; Shipan & Lowry, 2001), the public’s response to climate change had been far more restrained (Guber, 2003). While political ideology and partisan identification had long been consistent variables in models

that sought the determinants of environmental concern, with coefficients that were “virtually always in the expected direction,” the size of those coefficients was modest at best (Van Liere & Dunlap, 1980, p. 191). When asked how much they worried about environmental problems, liberals and conservatives looked very much alike. That they differed at times in their policy preferences meant only that the wording of the questions was driving the relationship (Klineberg, McKeever, & Rothenbach, 1998). According to Van Liere and Dunlap (1980, p. 191), the “political hypothesis” largely fell flat, an observation that was later confirmed by others, many times over (Constantini & Hanf, 1972; Dillman & Christenson, 1972; Tognacci, Weigel, Wideen, & Vernon, 1972; Dunlap, 1975; Buttel & Flinn, 1978; Samdahl & Robertson, 1989; Jones & Dunlap, 1992; Dietz, Stern, & Guagnono, 1998; Guber, 2003).

That conclusion no longer holds. In aggregating survey data from 74 polls administered between 2002 and 2010, Brulle, Carmichael, and Jenkins (2012, p. 185) argue that the “most important factor” influencing the level of threat people attribute to climate change is “the elite partisan battle over the issue” itself. While controlling for a host of other factors—including extreme weather events, exposure to scientific information, the volume of media coverage, and the presence of issue advocacy on both sides of the debate—they find that the “two strongest effects on public concern are Democratic Congressional action statements and Republican roll-call votes, which increase and diminish public concern, respectively.”

The policy preferences of average Americans have diverged as well. In tracking data from the General Social Survey between 1974 and 2012, McCright and his colleagues (2014) find a significant partisan divide on attitudes toward government spending for environmental protection. That a gap in public support emerged only in the early 1990s—and has grown significantly in size ever since—likewise supports Zaller’s (1992) suspicion that elite polarization is driving the trend. By clarifying “what it means to be a Democrat or a Republican,” those who engage in environmental debate now find it easier to sort along party lines (Levendusky, 2009, p. 3; Galston & Nivola, 2006; Baldassarri & Gelman, 2008; Hoffman, 2011A; McCright, 2011; McCright & Dunlap, 2011B; Dunlap et al., 2016), even on issues that were not overtly partisan in the past, such as air and water pollution, contamination by toxic waste, and the loss of tropical rainforests (Guber, 2013). Today, partisanship even influences the degree to which individuals engage in ostensibly nonpolitical activities, such as recycling and energy conservation, contributing to the rise of so-called “lifestyle politics” (Coffey & Joseph, 2013, p. 117; Dietz et al., 2013; Gromet, Kunreuther, & Larrick, 2013).

In essence, partisanship has overwhelmed the popular debate over climate change, much as it has with politics at large (Cohen, 2003), going so far as to create an “affective polarization” in the electorate, in which hostile feelings toward opponents have become deeply ingrained in voters’ minds (Iyengar & Westwood, 2015, p. 690; Goren et al., 2009), ones that are increasingly difficult to dislodge. Education, for instance, tends to make Democrats more concerned about climate change, but among Republicans, it has the

opposite effect, largely because it makes people more aware of rival party positions and better able to synchronize their own views with those of party leaders (Brulle et al., 2012; Kellstedt et al., 2008; Malka et al., 2009; Borick & Rabe, 2010; Hamilton, 2011; Guber, 2013; Foran, 2015).

To make matters worse, those who report a firmer grasp of global warming are often *more* polarized along party lines—not less—as are those who claim greater literacy about politics, energy, and science, a result that some describe as “alarming” (Bolsen, Druckman, & Cook, 2015, p. 271; Dunlap & McCright, 2008; McCright, 2008; Kahan et al., 2011, 2012). Not only are partisans less receptive to dissonant information (Nisbet, Cooper, & Garrett, 2015), they exhibit more stubbornness in their beliefs (Druckman, Peterson, & Slothuus, 2013), as well as diminished trust in the scientific community (Mooney, 2002, 2005, 2009; Gauchat, 2012). That is, they are more likely to ignore the advice of those best able to explain the risks imposed by climate change, in part because political elites have given them license to do so (Darmofal, 2005).

As Geiling (2014) reminds, “[F]acts don’t bend to political whims. Scientists agree that climate change is happening—and Democrats and Republicans alike are feeling its effects now, all over the country.” The question that she asks is an important one: “If more information doesn’t lead to greater understanding, how can anyone convince the public to act?”

Selective Exposure: The Role of the Media in Disseminating Partisan Cues

Despite their pernicious power, partisan cues do not stand alone, unchallenged. The media also can have a powerful effect in shaping the public's perception of important issues (McCombs & Shaw, 1972)—so much so that it may be tempting to view the press as a straightforward remedy to a hostile and politicized environment, both here and abroad. As Cass Sunstein, a legal scholar and pioneer in the field of behavioral economics explains, we might expect fair and balanced information in the press to “correct falsehoods and promote mutual understanding” (Sunstein, 2012, p. A25).

Unfortunately, it does not, for a host of complex reasons. For one, the role of the media both in disseminating and reinforcing partisan cues on climate should not be underestimated, particularly in the United States (Grundmann & Scott, 2014). For decades, climate skeptics have cast doubt on the level of scientific consensus in the field in order to erode public confidence (Luntz, 2002, 2007), a strategy made possible by the very journalistic norms that require the appearance of balanced reporting, no matter how superficial (Boykoff & Boykoff, 2004, 2007). After all, a blind devotion to balance can mislead the public by giving “undue space and attention to views held by only a tiny minority of the scientific community” (Boykoff & Rajan, 2007, p. 210; Krosnick et al., 2000; Mooney, 2004; Malka et al., 2009; Cook, 2016; Feldman, 2016). The result is often ironic: Rather than building consensus, exposing partisans with firm convictions to unbiased information can cause views to “harden” and “migrate toward the extreme ends of the political spectrum.” Quite simply, says Sunstein (2012, p. A25), balanced presentations fuel unbalanced views.

Biased assimilation has long been recognized in the field of social psychology (Lord, Ross, & Lepper, 1979), where experiments time and again have documented a tendency to process new information selectively and in ways that are consistent with long-standing values and beliefs, especially on issues like climate change, where people are forced to cope with more than the usual amount of uncertainty and conflicting evidence (Corner et al., 2012). Under those conditions, media messages—even those that are neutral in content and tone—may unknowingly activate political predispositions and deepen polarization along party lines (Mutz, 2008; Hart & Nisbet, 2012; Zhao, Rolfe-Redding, & Kotcher, 2016). In fact, partisans may even detect bias where none exists at all, something scholars call the “hostile media effect” (Perloff, 2015; also Arceneaux, Johnson, & Murphy, 2012; Feldman, 2011; Feldman, Myers, Hmielowski, & Leiserowitz, 2014; Hart, Feldman, Leiserowitz, & Maibach, 2015).

Even in putting the ideal of balance aside, fragmentation in the mainstream press—from the decline of print newspapers and magazines to the rise of 24-hour cable news networks and online journalism—has led to the proliferation of overtly partisan news outlets (Kuo, 2015). By allowing individuals to choose sources among those they prefer,

there is a “selective exposure” to content that complicates efforts to communicate risk accurately (Feldman et al., 2014; Feldman, 2016). As Levendusky (2013) notes in *How Partisan Media Polarize America*, those who consume partisan programming are more engaged politically—an advantage for issues that require grass-roots activism—but they are also more certain in their beliefs and less willing to weigh the merits of opposing views. In other words, for those on the right, modern media provide the perfect conduit for “channeling contrarian arguments to an audience predisposed to believe and electronically spread them further” (Hamilton, 2011, p. 231).

Finally, the creation and easy use of largely homogeneous social networks on sites like Twitter and Facebook means that the average voter is increasingly cloistered within a partisan “echo chamber” and less exposed to opposing views at all. Driven by a psychological need for opinion reinforcement (Garrett, 2009A, 2009B), it is a pattern of behavior that deepens polarization along party lines (Kahan et al., 2011; Bakshy et al., 2015; Quattrociocchi, Scala, & Sunstein, 2016; Zhao et al., 2016) and makes it exceedingly hard to engage in a “national conversation” on vital issues like climate (Barberá, Jost, Nagler, Tucker, & Bonneau, 2015, p. 1531; Jang & Hart, 2015).

Conclusion: Climate Politics in the Age of Polarization

In a moment of weary candor in the winter of 2016, President Barack Obama commented on the rancor and partisan suspicion that had dogged his eight years in office, calling it “one of the few regrets of my presidency.” He was standing before a joint session of Congress to deliver his final State of the Union address, and moments before he had challenged his audience—including Senator Jim Inhofe, with his infamous snowball—to dispute the science around climate change, saying, “have at it”:

You’ll be pretty lonely, because you’ll be debating our military, most of America’s business leaders, the majority of the American people, almost the entire scientific community, and 200 nations around the world who agree it’s a problem and intend to solve it”

(Obama, 2016).

Afterward, a journalist for *The New Yorker* was struck by the president’s forthright language and wondered, as so many have—pundits and scholars alike—whether that “bitter atmosphere is an artifact of politics alone, or whether the country itself is more deeply split” (Wallace-Wells, 2016).

Certainly, partisans have moved in opposite directions on climate change, the president’s confidence in public opinion notwithstanding (Dunlap et al., 2016). On one end of that divide, Republicans approach the existence of climate change and its possible consequences with what one analyst for The Gallup Organization calls “a heavy dose of skepticism.” On the other hand, Democrats overwhelmingly believe that climate change is real, that human activities are the dominant cause, and that current trends are distressing enough to warrant action (Dugan, 2015). When experts characterize that divide as “particularly toxic” (Pidgeon, 2012, p. S95), and when they identify partisan polarization is the “most significant obstacle to bringing about a social consensus on climate change” (Hoffman, 2011A, p. 196), it is hard to disagree.

The consequences of elite polarization have been widely debated for years. They include gridlock in Washington, the breakdown of public discourse and civility, and general disenchantment with elected leaders (Eilperin, 2006; McCarty et al., 2006; Brownstein, 2007). According to Iyengar and Westwood (2015, p. 705), the “level of animosity across party lines also implies a reduced willingness to treat the actions of partisan opponents as legitimate, resulting in more intense contestation of policy outcomes,” a conclusion that seems to speak directly to the uphill challenge facing climate advocates. To be fair, some welcome the trend toward elite polarization because of its potential to increase ideological awareness among average Americans, ultimately energizing the electorate and making it easier for voters to make consistent and informed choices that hold elected

officials accountable for their actions—and inactions—in office (Abramowitz & Saunders, 1998; Hetherington, 2001; Layman & Carsey, 2002; Cohen, 2003; Levendusky, 2009, 2010). The “tribal pull” of parties may not be all bad (Klein, 2014). Even so, it is discouraging to realize that despite the best efforts of the scientific community at large, it is party affiliation—and not science—that increasingly determines “what people believe to be true about the physical world” (Sterman, 2011, p. 813; Corner et al., 2012; Marshall, 2014).

For climate advocates, there is a constant temptation to believe that more and better communication is required. For those who have faith in the deficit model, that means conveying the urgency of global warming to a public ill equipped to understand, let alone appreciate, the weight of scientific evidence (Scheufele, 2011; Kahan et al., 2012). It is a daunting task to say the least, but one driven by the conviction that the stubborn disconnect between scientific consensus and popular skepticism can be bridged by knowledge and awareness. Yet as decades of research across the social sciences confirms, awareness of climate change and an understanding of its effects does not translate automatically—or even easily—into increased concern, issue salience, or policy preferences (Chen, 2011; Kahan et al., 2012; Deryugina & Shurchkov, 2016). Not only are people notoriously inconsistent and irrational when faced with uncertain risk and the choices required to address it, they are prone to fear and paralysis when exposed to messages and visual images that veer, as they must, toward the catastrophic, complicating the efforts of any group that seeks to convey the urgency of the problem (Kahneman & Tversky, 1984; Tversky & Kahneman, 1981; Feinberg & Willer, 2011; O’Neill & Nicholson-Cole, 2009; Lowe et al., 2006). And, of course, the language of climate change is complicated most of all by a deep partisan divide that causes Democrats to worry more, but holds little persuasive power over Republicans (Malka et al., 2009; Hamilton, 2011; McCright, 2011; McCright & Dunlap, 2011B; Guber, 2013; Dunlap et al., 2016).

In the end, beliefs about climate change are as complex as the issue itself. The “pictures in our heads,” to borrow Walter Lippmann’s (1922, p. 3) famous phrase, are shaped less by factual knowledge than by a variety of other factors more difficult to control—by personal experience and assorted real-world cues, such as the weather, but also by elite opinion leaders, media narratives, and political rhetoric, each of which provides a frame of reference with the power to filter and mislead. Because climate change has become so heavily laden with values, and so absorbed into social and political identity, attitudes will be nearly impossible to move through conventional means. Once a “hard” issue for all, which seemed to demand sophisticated calculation or technical expertise, it has now become an “easy” one for many (Carmines & Stimson, 1980), where the reactions that it prompts are familiar, stable, and symbolic, increasingly polarized, immune to rational argument, and vulnerable to manipulation by elites (Kinder & Herzog, 1993; Sniderman & Theriault, 2004; Levendusky, 2010).

If facts are the “currency of democratic citizenship”—as a host of scholars dating back to Lippmann (1955) insist—elite influence might cause the average citizen to hold positions on climate change they would not support if better informed (Kuklinski et al., 2000, p. 791;

Delli Carpini & Keeter, 1996). At the same time, if people routinely ignore facts about policy, and instead hew to select media outlets that do little more than reinforce existing attitudes and partisan worldviews, there is little reason to believe that more data will lead to better decisions (Bullock, 2011). As Corner (2012) writes, “without belief in climate change, scientific evidence simply bounces off.” Perhaps that means that more constructive effort should be made to understand the “mental blocks” that drive people to apathy more than action (Chen, 2011, p. 43). Here, the work of scholars in the burgeoning field of science communication and cultural cognition suggest several possibilities.

First, invoking the right emotion, the right turn of phrase, or the right issue “frame” could theoretically make a difference (Moser & Dilling, 2004; Nisbet & Mooney, 2007; Nisbet, 2009; Lakoff, 2010; Maibach, Nisbet, Baldwin, Akerlof, & Diao, 2010; Sterman, 2011; O’Sullivan & Emmelhainz, 2014; Feldman & Hart, 2016; Zhou, 2016). Defining the perils of climate change by reference to economic interests, public health, national security, or religious stewardship, for instance, might “trigger a new way of thinking” (Nisbet, 2009, p. 15), and make the subject “more personally relevant and emotionally engaging” (Myers, Nisbet, Maibach, & Leiserowitz, 2012, p. 1105). Unfortunately, as Dunlap and his colleagues brusquely put it in summarizing the results of dozens of studies, the “evidence so far gives little basis for optimism,” with modest effects that are rarely sustained outside of the pages of a survey questionnaire. It seems that climate messaging is far less persuasive when forced to compete against deep-rooted denial (Dunlap et al., 2016, p. 16).

For that reason, working with—and not against—an individual’s existing worldview may hold greater promise (Feinberg & Willer, 2013; Corner et al., 2014; Marshall, 2014). According to Feinberg and Willer (2015), when arguments on divisive issues like same-sex marriage and universal health care are reframed to appeal to the moral values of those holding the opposing political position, they are more effective. Likewise, Kahan et al. (2012, p. 734) recommend that communicators “endeavor to create a deliberative climate in which accepting the best available science does not threaten any group’s values”—admittedly, a goal that is easier said than done.

Second, climate activists might eschew political messaging altogether and push solutions that avoid activating the partisan identities that groups hold dear, even if it means saying less instead of more (Mutz, 2008; Kahan et al., 2012). To do otherwise, even on tasks as innocuous as buying energy-efficient lightbulbs (Gromet et al., 2013), risks a “boomerang effect” among Republicans (Hart & Nisbet, 2012, p. 702) that could spiral into even greater distrust of the scientific community (Gauchat, 2012; Nisbet et al., 2015).

Finally, if people view climate change largely through the lens of a fixed worldview, informed by ideology, activists might do well to respond in kind by tailoring their messages to different segments of the population (Maibach et al., 2008, 2011; Akerlof, Bruff & Witte, 2011; Bostrom, Böhm, & O’Conner, 2013; Hine et al., 2014; Roser-Renouf, Stenhouse, Rolfe-Redding, Maibach, & Leiserowitz, 2015). Work on audience segmentation among scholars at the Yale Center for Climate Change Communication, for instance, has led to a

useful typology, arrayed along a single continuum, based on a respondent's global warming beliefs, behaviors, and policy preferences (Maibach et al., 2011). That each requires a different approach to public engagement shows just how profoundly communication on climate is by defined by its constraints.

Max Weber once called politics, and the social change that it brings, "a strong and slow boring of hard boards" (Weber, 1958, p. 128). And so it is, especially on this most "wicked" of problems (Marshall, 2014, p. 233). Understandably, the insights presented here into human cognition, in all its frailties, will frustrate climate activists who feel the pressure of time acutely, but as Kahan et al. (2012, p. 734) point out, perfecting the tools of communication in an age of unprecedented political polarization is "a public good of singular importance" if scientific consensus is ever to build bridges and change minds.

References

- Abramowitz, A. I. (2011). *The disappearing center: Engaged citizens, polarization, and American democracy*. New Haven, CT: Yale University Press.
- Abramowitz, A. I., & Saunders, K. L. (1998). Ideological realignment in the American electorate. *Journal of Politics*, 60(3), 634-652.
- Abramowitz, A. I., & Saunders, K. L. (2005). Why can't we all just get along? The reality of a polarized America. *Forum*, 3(2), 1-22.
- Abramowitz, A. I., & Saunders, K. L. (2008). Is polarization a myth? *Journal of Politics*, 70(2), 542-555.
- Abrams, L. (2014). Mitch McConnell feels a "deep responsibility" to block climate action. *Salon* (November 7). Retrieved from http://www.salon.com/2014/11/07/mitch_mcconnell_feels_a_deep_responsibility_to_block_climate_action/
- Achen, C. H., & Bartels, L. M. (2016). *Democracy for realists: Why elections do not produce responsive government*. Princeton, NJ: Princeton University Press.
- Agrawala, S., & Andresen, S. (1999). Indispensability and indefensibility? The United States in the climate treaty negotiations. *Global Governance*, 5(4), 457-482.
- Akerlof, K., Bruff, G., & Witte, J. (2011). Audience segmentation as a tool for communicating climate change: Understanding the differences and bridging the divides. *Park Science*, 28(1), 56-64.
- Andresen, S., & Agrawala, S. (2002). Leaders, pushers, and laggards in the making of the climate regime. *Global Environmental Change*, 12, 41-51.
- Antonio, R. J., & Brulle, R. J. (2011). The unbearable lightness of politics: Climate change denial and political polarization. *Sociological Quarterly*, 52(2), 195-202.

Partisan Cueing and Polarization in Public Opinion About Climate Change

- Arceneaux, K., Johnson, M., & Murphy, C. (2012). Polarized political communication, oppositional media hostility, and selective exposure. *Journal of Politics, 74*(1), 174–186.
- Bakshy, E., Messing, S., & Adamic L. (2015). Exposure to ideologically diverse news and opinion on Facebook. *Science, 348*, 1130–1132.
- Baldassarri, D., & Gelman, A. (2008). Partisans without constraint: Political polarization and trends in American public opinion. *American Journal of Sociology, 114*(2), 408–446.
- Barberá, P., Jost, J. T., Nagler, J., Tucker, J. A., & Bonneau, R. (2015). Tweeting from left to right: Is online political communication more than an echo chamber? *Psychological Science, 26*(10), 1531–1542.
- Båtstrand, S. (2015). More than markets: A comparative study of nine conservative parties on climate change. *Politics & Policy, 43*(4), 538–561.
- Berelson, B. R., Lazarsfeld, P. F., & McPhee, W. N. (1954). *Voting: A study of opinion formation in a presidential campaign*. Chicago: University of Chicago Press.
- Bolsen, T, Druckman, J. N., & Cook, F. L. (2015). Citizens', scientists', and policy advisors' beliefs about global warming. *Annals of the American Academy of Political and Social Science, 658*(1), 271–295.
- Borick, C. P., & Rabe, B. G. (2010). A reason to believe: Examining the factors that determine individual views on global warming. *Social Science Quarterly, 91*(3), 777–800.
- Bostrom, A., Böhm, G., & O'Conner, R. E. (2013). Targeting and tailoring climate change communications. *Wiley Interdisciplinary Reviews: Climate Change, 4*(5), 447–455.
- Bostrom, A., Morgan, M. G., Fischhoff, B., & Read, D. (1994). What do people know about global climate change? 1. Mental models, *Risk Analysis, 14*(6), 959–970.
- Boykoff, M. T. (2007a). Flogging a dead norm? Media coverage of anthropogenic climate change in United States and United Kingdom, 2003–2006. *Area, 39*(2), 470–481.
- Boykoff, M. T. (2007b). From convergence to contention: United States mass media representations of anthropogenic climate science. *Transactions of the Institute of British Geographers, 32*(4), 477–489.
- Boykoff, M. T., & Boykoff, J. M. (2004). Balance as bias: Global warming and the U.S. prestige press. *Global Environmental Change, 14*(2), 125–136.
- Boykoff, M. T., & Boykoff, J. M. (2007). Climate change and journalistic norms: A case study of U.S. mass-media coverage. *Geoforum, 38*, 1190–1204.
- Boykoff, M. T., & Rajan, S. R. (2007). Signals and noise: Mass-media coverage of climate change in the USA and the UK. *EMBO Reports, 8*(3), 207–211.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Brewer, P. R. (2012). Polarisation in the USA: Climate change, party politics, and public opinion in the Obama era. *European Political Science*, 11(1), 7-17.

Brechin, S. R. (2003). Comparative public opinion and knowledge on global climate change and the Kyoto Protocol: The U.S. versus the world? *International Journal of Sociology and Social Policy*, 23(10), 106-134.

Brody, S. D., Zahran, S., Vedlitz, A., & Grover, H. (2008). Examining the relationship between physical vulnerability and public perceptions of global climate change in the United States. *Environment and Behavior*, 40(1), 72-95.

Brown, G. E., Jr. (1997). Environmental science under siege in the U.S. Congress. *Environment*, 39(2), 12-31.

Brownstein, R. (2007). *The second civil war: How extreme partisanship has paralyzed Washington and polarized America*. New York: Penguin.

Bulle, R. J., Carmichael, J., & Jenkins, J. C. (2012). Shifting public opinion on climate change: An empirical assessment of factors influencing concern over climate change in the U.S., 2002-2010. *Climatic Change*, 114(2), 169-188.

Bryce, J. (1900). *The American commonwealth*. Vol. II. New York: Macmillan.

Bullock, J. G. (2011). Elite influence on public opinion in an informed electorate. *American Political Science Review*, 105(3), 496-515.

Burnham, W. (1970). *Critical elections and the mainsprings of American politics*. New York: Norton.

Buttel, F. H., & Flinn, W. L. (1978). The politics of environmental concern: The impacts of party identification and political ideology on environmental attitudes. *Environment and Behavior*, 10(1), 17-36.

Campbell, A., Converse, P. E., Miller, W. E., & Stokes, D. E. (1960). *The American voter*. New York: John Wiley.

Carmines, E. G., & Stimson, J. A. (1980). The two faces of issue voting. *American Political Science Review*, 74(1), 78-91.

Carson, R. (1962). *Silent spring*. Boston: Houghton Mifflin.

Carter, N. (2014). The politics of climate change in the UK. *Wiley Interdisciplinary Reviews: Climate Change*, 5(3), 423-433.

Carter, N., & Jacobs, M. (2014). Explaining radical policy change: The case of climate change and energy policy under the British Labour government 2006-10. *Public Administration*, 92(1), 125-141.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Chait, J. (2015). Inhofe's insane climate denial speech tells you everything you need to know about the Republican Party right now. *New York Magazine*. <http://nymag.com/daily/intelligencer/2015/02/inhofes-insane-climate-denial-speech.html>.

Chen, X. (2011). Why do people misunderstand climate change? Heuristics, mental models, and ontological assumptions. *Climatic Change*, 108(1), 31-46.

Coffey, D. J., & Joseph, P. H. (2013). A polarized environment: The effect of partisanship and ideological values on individual recycling and conservation behavior. *American Behavioral Scientist*, 57(1), 116-139.

Cohen, G. L. (2003). Party over policy: The dominating impact of group influence on political beliefs. *Journal of Personality and Social Psychology*, 85(5), 808-822.

Congressional Record. February 26, 2015: S1138-S1140 (statement of Senator James Inhofe).

Conover, P. J., & Feldman, S. (1984). How people organize the political world: A schematic model. *American Journal of Political Science*, 28(1), 95-126.

Constantini, E., & Hanf, K. (1972). Environmental concern and Lake Tahoe: A study of elite perceptions, backgrounds, and attitudes. *Environment and Behavior*, 4(2), 209-242.

Converse, P. E. (1964). The nature of belief systems in mass publics. In D. E. Apter (Ed.), *Ideology and Discontent* (pp. 206-261). New York: Free Press.

Cook, J. (2016). **Countering climate science denial and communicating scientific consensus**. *Oxford Research Encyclopedia on Climate Science*.

Cook, J., Nuccitelli, D., Green, S. A., Richardson, M., Winkler, B., Painting, R., . . . , Skuce, A. (2013). Quantifying the consensus on anthropogenic global warming in the scientific literature. *Environmental Research Letters*, 8(2), 1-7.

Cook, J., Oreskes, N., Doran, P. T., Anderegg, W. R. L., Verheggen, B., Maibach, E. W., . . . , Green, S. A. (2016). Consensus on consensus: A synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 11(4), 048002.

Corner, A. (2012). Tackling belief is the key to overcoming climate change skepticism. *The Guardian* (March 30). Retrieved from <https://www.theguardian.com/environment/2012/mar/30/belief-climate-change-scepticism>.

Corner, A., Markowitz, E., & Pidgeon, N. (2014). Public engagement with climate change: The role of human values. *Climate Change*, 5, 411-422.

Corner, A., Whitmarsh, L., & Xenias, D. (2012). Uncertainty, scepticism, and attitudes toward climate change: Biased assimilation and attitude polarisation. *Climatic Change*, 114, 463.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Crowley, K. (2013). Pricing carbon: The politics of climate policy in Australia. *Wiley Interdisciplinary Reviews: Climate Change*, 4(6), 603–613.

Dancey, L., & Sheagley, G. (2013). Heuristics behaving badly: Party cues and voter knowledge. *American Journal of Political Science*, 57(2), 312–325.

Darmofal, D. (2005). Elite cues and citizen disagreement with expert opinion. *Political Research Quarterly*, 58(3), 381–395.

Delli Carpini, M., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven, CT: Yale University Press.

Deryugina, T., & Shurchkov, O. (2016). The effect of information provision on public consensus about climate change. *PLoS ONE*, 11(4), 1–14.

Dietz, T., Leshko, C., & McCright, A. (2013). Politics shapes individual choices about energy efficiency. *Proceedings of the National Academy of Sciences of the United States*, 110(23), 9191–9192.

Dietz, T., Stern, P. C., & Guagnono, G. A. (1998). Social structural and social psychological bases of environmental concern. *Environment and Behavior*, 30(4), 450–481.

Dillman, D. A., & Christenson, J. A. (1972). The public value for pollution control. In W. R. Burch Jr., N. H. Cheek Jr., & L. Taylor (Eds.), *Social behavior, natural resources, and the environment* (pp. 237–256). New York: Harper and Row.

DiMaggio, P., Evans, J., & Bryson, B. (1996). Have Americans' social attitudes become more polarized? *American Journal of Sociology*, 102(3), 690–755.

Donner, S. D., & McDaniels, J. (2013). The influence of national temperature fluctuations on opinions about climate change in the U.S. since 1990. *Climatic Change*, 118(3–4), 537–550.

Downs, A. (1957). *An economic theory of democracy*. New York: Harper and Row.

Downs, A. (1972). Up and down with ecology—The issue-attention cycle. *The Public Interest*, 28(Summer), 38–50.

Druckman, J. N., Peterson, E., & Slothuus, R. (2013). How elite partisan polarization affects public opinion formation. *American Political Science Review*, 107(1), 57–79.

Dugan, A. (2015). Conservative Republicans alone on global warming's timing. The Gallup Organization (April 22). Retrieved from <http://www.gallup.com/poll/182807/conservative-republicans-alone-global-warming-timing.aspx>.

Dunlap, R. E. (1975). The impact of political orientation on environmental attitudes and action. *Environment and Behavior*, 7(4), 428–454.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Dunlap, R. E. (2010). At 40, environmental movement endures, with less consensus. The Gallup Organization (April 22). Retrieved from <http://www.gallup.com/poll/127487/environmental-movement-endures-less-consensus.aspx>.

Dunlap, R. E., & Allen, M. P. (1976). Partisan differences on environmental issues: A congressional roll-call analysis. *Western Political Quarterly*, 29(3), 384–397.

Dunlap, R. E., & Gale, R. P. (1974). Party membership and environmental politics: A legislative roll-call analysis. *Social Science Quarterly*, 55(3), 670–690.

Dunlap, R. E., & McCright, A. M. (2008). A widening gap: Republican and Democratic views on climate change. *Environment*, 50(5), 26–35.

Dunlap, R. E., McCright, A. M., & Yarosh, J. (2016). The political divide on climate change: Partisan polarization widens in the U.S. *Environment*, 58(5), 4–23.

Dunlap, R. E., Xiao, C., & McCright, A. M. (2001). Politics and environment in America: Partisan and ideological cleavages in public support for environmentalism. *Environmental Politics*, 10(4), 23–48.

Eilperin, J. (2006). *Fight club politics: How partisanship is poisoning the House of Representatives*. Lanham, MD: Rowman and Littlefield Publishers.

Ellingboe, K., & Koronowski, R. (2016). Most Americans disagree with their congressional representative on climate change. ThinkProgress.org (March 8). Retrieved from <https://thinkprogress.org/most-americans-disagree-with-their-congressional-representative-on-climate-change-95dc0eee7b8f>.

Evans, J. H. (2003). Have Americans' attitudes become more polarized?—An update. *Social Science Quarterly*, 84(1), 71–90.

Feinberg, M., & Willer, R. (2011). Apocalypse soon? Dire messages reduce belief in global warming by contradicting just-world beliefs. *Psychological Science*, 22(1), 34–38.

Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological Science*, 24(1) 56–62.

Feinberg, M., & Willer, R. (2015). From gulf to bridge: When do moral arguments facilitate political influence? *Personality and Social Psychology Bulletin*, 41(12), 1665–1681.

Feldman, L. (2011). Partisan differences in opinionated news perceptions: A test of the hostile media effect. *Political Behavior*, 33(3), 407–432.

Feldman, L. (2016). **The effects of network and cable TV news viewing on climate change opinion, knowledge, and behavior.** *Oxford Research Encyclopedia on Climate Science*

Partisan Cueing and Polarization in Public Opinion About Climate Change

Feldman, L., & Hart, P. S. (2016). Using political efficacy messages to increase climate activism: The mediating role of emotions. *Science Communication*, 38(1), 99–127.

Feldman, L., Myers, T. A., Hmielowski, J. D., & Leiserowitz, A. A. (2014). The mutual reinforcement of media selectivity and effects: Testing the reinforcing spirals framework in the context of global warming. *Journal of Communication*, 64(4), 590–611.

Fielding, K. S., Head, B. W., Laffan, W., Western, M., & Hoegh-Guldberg, O. (2012). Australian politicians' beliefs about climate change: Political partisanship and political ideology. *Environmental Politics*, 21(5), 712–733.

Fiorina, M. P., & Abrams, S. J. (2008). Political polarization in the American public. In M. Levi (Ed.), *Annual Review of Political Science* (Vol. 11, pp. 563–588). Palo Alto: Annual Reviews.

Fiorina, M. P., Abrams, S. J., & Pope, J. C. (2006). *Culture war? The myth of a polarized America*. 2d ed. New York: Pearson Longman.

Fiorina, M. P., Abrams, S. J., & Pope, J. C. (2008). Polarization in the American public: Misconceptions and misreadings. *Journal of Politics*, 70(2), 556–560.

Fisher, D. R., Leifeld, P., & Iwaki, Y. (2013). Mapping the ideological networks of American climate politics. *Climatic Change*, 116(3–4), 523–545.

Fisher, D. R., Waggle, J., & Leifeld, P. (2013). Where does political polarization come from? Locating polarization without the U.S. climate change debate. *American Behavior Scientist*, 57(1), 70–92.

Fiske, S. T., & Taylor, S. E. (1991). *Social cognition*. 2d ed. New York: McGraw-Hill.

Fleisher, R., & Bond, J. R. (2004). The shrinking middle in the U.S. Congress. *British Journal of Political Science*, 34(3), 429–451.

Foran, C. (2015). Republicans with a college degree are less likely to worry about global warming. *The Atlantic* (March 27). Retrieved from <https://www.theatlantic.com/politics/archive/2015/03/republicans-with-a-college-degree-are-less-likely-to-worry-about-global-warming/443862/>

Friedman, T. L. (2008). *Hot, flat, and crowded*. New York: Farrar, Straus, and Giroux

Friedman, T. L. (2010). Global weirding is here. *The New York Times* (February 17), A23.

Fuller, J. (2014). Environmental policy is partisan. It wasn't always. *The Washington Post* (June 2). Retrieved from https://www.washingtonpost.com/news/the-fix/wp/2014/06/02/support-for-the-clean-air-act-has-changed-a-lot-since-1970/?utm_term=.44141d2a6beb

Partisan Cueing and Polarization in Public Opinion About Climate Change

Galston, W. A., & Nivola, P. S. (2006). Delineating the problem. In P. S. Nivola & D. W. Brady (Eds.), *Red and blue nation? Vol. 1: Characteristics and causes of America's polarized politics* (pp. 1-47). Washington, DC: Brookings Institution Press.

Garrett, R. K. (2009a). Echo chambers online? Politically motivated selective exposure among Internet news users. *Journal of Computer-Mediated Communication*, 14(2), 265-285.

Garrett, R. K. (2009b). Politically motivated reinforcement seeking: Reframing the selective exposure debate. *Journal of Communication*, 59(4), 676-699.

Gauchat, G. (2012). Politicization of science in the public sphere: A study of public trust in the United States, 1974-2010. *American Sociological Review*, 77(2), 167-187.

Geiling, N. (2014). Why doesn't anyone know how to talk about global warming? *Smithsonian* (May 1). Retrieved from <http://www.smithsonianmag.com/science-nature/talking-about-climate-change-how-weve-failed-and-how-we-can-fix-it-180951070/>

Gelman, A. (2008). *Red state, blue state, poor state, rich state: How Americans are polarized and how they're not*. Princeton, NJ: Princeton University Press.

Gershtenson, J., Smith, B. W., & Mangun, W. R. (2006). Friends of the earth? Partisanship, party control of Congress, and environmental legislation in Congress. *Politics & Policy*, 34(1), 66-92.

Gifford, R., & Comeau, L. A. (2011). Message framing influences perceived climate change competence, engagement, and behavioral intentions. *Global Environmental Change*, 21, 1301-1307.

Gillard, R. (2016). Unravelling the United Kingdom's climate policy consensus: The power of ideas, discourse, and institutions. *Global Environmental Change*, 40, 26-36.

Gladwell, M. (2005). *Blink: The power of thinking without thinking*. Boston: Little, Brown.

Gore, A. (2006). *An inconvenient truth*. New York: Rodale.

Goren, P., Federico, C., & Kittilson, M. C. (2009). Source cues, partisan identities, and value positions. *American Journal of Political Science*, 53(4), 805-820.

Graber, D. A. (1984). *Processing the news: How people tame the information tide*. New York: Longman.

Green, D., Palmquist, B., & Schickler, E. (2004). *Partisan hearts and minds: Political parties and the social identities of voters*. New Haven, CT: Yale University Press.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Gromet, D. M., Kunreuther, H., & Larrick, R. P. (2013). Political ideology affects energy-efficiency attitudes and choices. *Proceedings of the National Academy of the United States of America*, 11(23), 9314–9319.

Grundmann, R., & Scott, M. (2014). Disputed climate science in the media: Do countries matter? *Public Understanding of Science*, 23, 220–235.

Guber, D. L. (2003). *The grassroots of a green revolution: Polling America on the environment*. Cambridge, MA: MIT Press.

Guber, D. L. (2013). A cooling climate for change? Party polarization and the politics of global warming. *American Behavioral Scientist*, 57(1), 93–115.

Guber, D. L., & Bosso, C. J. (2009). Past the tipping point: Debating the future of public discourse on the environment." In N. J. Vig & M. E. Kraft (Eds.), *Environmental policy: New directions for the twenty-first century* (7th ed., pp. 51–74). Washington, DC: CQ Press.

Hamilton, L. C. (2011). Education, politics, and opinions about climate change: Evidence for interaction effects. *Climatic Change*, 104(2), 231–242.

Han, H., & Brady, D. W. (2007). A delayed return to historical norms: Congressional party polarization after the second world war. *British Journal of Political Science*, 37(3), 505–531.

Hart, P. S., Feldman, L., Leiserowitz, A., & Maibach, E. (2015). Extending the impacts of hostile media perceptions: Influences on discussion and opinion polarization in the context of climate change. *Science Communication*, 37(4), 506–532.

Hart, P. S., & Nisbet, E. C. (2012). Boomerang effects in science communication: How motivated reasoning and identity cues amplify opinion polarization about climate mitigation policies. *Communication Research*, 39(6), 701–723.

Hays, S. P. (1992). Environmental political culture and environmental political development: An analysis of legislative voting, 1971–1989. *Environmental History Review*, 16(2), 1–22.

Hays, S. P. (1998). *Explorations in environmental history: Essays*. Pittsburgh, PA: University of Pittsburgh Press.

Herszenhorn, D. M. (2015). Votes in Congress move to undercut climate pledge. *The New York Times* (December 1).

Hetherington, M. J. (2001). Resurgent mass partisanship: The role of elite polarization. *American Political Science Review*, 95(3), 619–631.

Hetherington, M. J. (2009). Putting polarization in perspective. *British Journal of Political Science*, 39(2), 413–448.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Hine, D. W., Reser, J. P., Morrison, M., Phillips, W. J., Nunn, P., & Cooksey, R. (2014). Audience segmentation and climate change communication: Conceptual and methodological considerations. *Wiley Interdisciplinary Reviews: Climate Change*, 5(4), 441–459.

Hochschild, J. L. (2012). Should the mass public follow elite opinion? It depends . . . *Critical Review*, 24(4), 527–543.

Hoffman, A. J. (2011a). The growing climate divide. *Nature Climate Change*, 1, 195–196.

Hoffman, A. J. (2011b). Talking past each other? Cultural framing of skeptical and convinced logics in the climate change debate. *Organization & Environment*, 24(1), 3–33.

Hoffman, A. J. (2015). A climate of mind. *Stanford Social Innovation Review*, Winter, 69–70. Retrieved from https://ssir.org/book_reviews/entry/a_climate_of_mind

Hulme, M. (2009). *Why we disagree about climate change*. Cambridge, U.K.: Cambridge University Press.

Hutchens, Gareth. (2016). Tony Abbott says “moral panic” about climate change is “over the top.” *The Guardian* (November 16). Retrieved from <https://www.theguardian.com/australia-news/2016/nov/16/tony-abbott-says-moral-panic-about-climate-change-is-over-the-top>.

Intergovernmental Panel on Climate Change (IPCC). (2007). *Climate change 2007: Impacts, adaptation, and vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. M. L. Parry, O. F. Canziani, J. P. Palutikof, P. J. van der Linden, & C. E. Hanson (Eds.). Cambridge, U.K.: Cambridge University Press.

Intergovernmental Panel on Climate Change. (2014a). *Climate change 2014: Impacts, adaptation, and vulnerability. Part A: Global and sectoral aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. C. B. Field, V. R. Barros, D. J. Dokken, K. J. Mach, M. D. Mastrandrea, T. E. Bilir, . . . , L. L. White (Eds.). Cambridge, U.K.: Cambridge University Press.

Intergovernmental Panel on Climate Change. (2014b). *Climate change 2014: Impacts, adaptation, and vulnerability. Part B: Regional aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. V. R. Barros, C. B. Field, D. J. Dokken, M. D. Mastrandrea, K. J. Mach, T. E. Bilir, . . . , L. L. White (Eds.). Cambridge, U.K.: Cambridge University Press.

Iyengar, S., & Westwood, S. J. (2015). Fear and loathing across party lines: New evidence on group polarization. *American Journal of Political Science*, 59(3), 690–707.

Partisan Cueing and Polarization in Public Opinion About Climate Change

- Jacobs, L. R., & Shapiro, R. Y. (2011). Informational interdependence: Public opinion and the media in the new communications era." In G.C. Edwards, III, L. R. Jacobs, & R. Y. Shapiro (Eds.), *The Oxford handbook of American public opinion and the media*. Oxford: Oxford University Press.
- Jacques, P., Dunlap, R. E., & Freeman, M. (2008). The organization of denial: Conservative think tanks and environmental skepticism. *Environmental Politics*, 17(3), 349-385.
- Jang, S. M., & Hart, P. S. (2015). Polarized frames on "climate change" and "global warming" across countries and states: Evidence from Twitter big data. *Global Environmental Change*, 32, 11-17.
- Jones, R. E., & Dunlap, R. E. (1992). The social bases of environmental concern: Have they changed over time? *Rural Sociology*, 57(1), 28-47.
- Kahan, D. M., Peters, E., Wittlin, M., Slovic, P., Ouellette, L. L., Braman, D., & Mandel, G. (2012). The polarizing impact of science literacy and numeracy on perceived climate change risks. *Nature Climate Change*, 2, 732-735.
- Kahan, D. M., Wittlin, M., Peters, E., Slovic, P., Ouellette, L., Braman, D., & Mandel, G. (2011). The tragedy of the risk-perception commons: Culture conflict, rationality conflict, and climate change. Cultural Cognition Project Working Paper No. 89. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1871503.
- Kahneman, D. (2011). *Thinking fast and slow*. New York: Farrar, Straus, and Giroux.
- Kahneman, D., Slovic, P., & Tversky, A. (Eds.). (1982). *Judgement under uncertainty: Heuristics and biases*. New York: Cambridge University Press.
- Kahneman, D., & Tversky, A. (1984). Choices, values, frames. *American Psychologist*, 39(4), 341-350.
- Kamieniecki, S. (1995). Political parties and environmental policy." In J. P. Lester (Ed.), *Environmental politics and policy: Theories and evidence* (2d ed., pp. 146-167). Durham, NC: Duke University Press.
- Katz, E., & Lazarsfeld, P. (1955). *Personal influence: The part played by people in the flow of mass communications*. Glencoe, IL: Free Press.
- Kellstedt, P. M., Zahran, S., & Vedlitz, A. (2008). Personal efficacy, the information environment, and attitudes toward global warming and climate change in the United States. *Risk Analysis*, 28(1), 113-126.
- Kempton, W. (1991). Lay perspectives on global climate change. *Global Environmental Change*, 1(3), 183-208.
- Kennedy, D. (2004). Climate change and climate science. *Science*, 304(5677), 1565.

- Key, V. O. (1955). A theory of critical elections. *Journal of Politics*, 17(1), 3-18.
- Kinder, D. R. (1983). Diversity and complexity in American public opinion. In A. W. Finifter (Ed.), *Political science: The state of the discipline* (pp. 389-425). Washington, DC: American Political Science Association.
- Kinder, D. R. (1998). Communication and opinion. *Annual Review of Political Science*, 1, 167-197.
- Kinder, D. R., & Herzog, D. (1993). Democratic discussion. In G. E. Marcus & R. L. Hanson (Eds.), *Reconsidering the democratic public* (pp. 348-377). University Park: Pennsylvania State University Press.
- Kinder, D. R., & Sears, D. O. (1985). Public opinion and political action. In G. Lindzey & E. Aronson (Eds.), *Handbook of Social Psychology* (3d ed., pp. 659-741). New York: Random House.
- Kirilenko, A. P., Molodtsova, T., & Stepchenkova, S. O. (2015). People as sensors: Mass media and local temperature influence climate change discussion on Twitter. *Global Environmental Change*, 30, 92-100.
- Klein, E. (2014). How politics makes us stupid. *Vox* (April 6). Retrieved from <http://www.vox.com/2014/4/6/5556462/brain-dead-how-politics-makes-us-stupid>
- Klineberg, S. L., McKeever, M., & Rothenbach, B. (1998). Demographic predictors of environmental concern: It does make a difference how it's measured. *Social Science Quarterly*, 79(4), 734-753.
- Kraft, M. E. (2000). Environmental policy in Congress: From consensus to gridlock. In N. J. Vig & M. E. Kraft (Eds.), *Environmental policy: New directions for the twenty-first century* (4th ed., pp. 121-144). Washington, DC: CQ Press.
- Krosnick, J. A., Holbrook, A. L., Lowe, L., & Visser, P. S. (2006). The origins and consequences of democratic citizens' policy agendas: A study of popular concern about global warming. *Climatic Change*, 77(1), 7-43.
- Krosnick, J. A., Holbrook, A. L., & Visser, P. S. (2000). The impact of the fall 1997 debate about global warming on American public opinion. *Public Understanding of Science*, 9(3), 239-260.
- Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing." *Psychological Review*, 103(2), 263-283.
- Kuklinski, J. H., & Hurley, N. L. (1994). On hearing and interpreting political messages: A cautionary tale of citizens cue-taking. *Journal of Politics*, 56(3), 729-751.

Partisan Cueing and Polarization in Public Opinion About Climate Change

- Kuklinski, J. H., & Quirk, P. J. (2000). Reconsidering the rational public: Cognition, heuristics, and mass opinion." In A. Lupia, M. D. McCubbins, & S. L. Popkin (Eds.), *Elements of reason: Cognition, choice, and the bounds of rationality* (pp. 153-182). New York: Cambridge University Press.
- Kuklinski, J. H., Quirk, P. J., Jerit, J., Schwieder, D., & Rich, R. F. (2000). Misinformation and the currency of democratic citizenship. *Journal of Politics*, 62(3), 790-816.
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108(3), 480-498.
- Kuo, D. (2015). Polarization and partisanship, *The American Interest*, 11(2). Retrieved from <http://www.the-american-interest.com/2015/10/10/polarization-and-partisanship/>.
- Lakoff, G. (2010). Why it matters how we frame the environment. *Environmental Communication*, 4(1), 70-81.
- Lau, R. R., & Redlawsk, D. P. (2001). Advantages and disadvantages of cognitive heuristics in political decision making. *American Journal of Political Science*, 45(4), 951-971.
- Lau, R. R., & Sears, D. O. (Eds.). (1986). *Political cognition: The 19th annual Carnegie Symposium on Cognition*. Hillsdale, NJ: Lawrence Erlbaum.
- Layman, G. C., & Carsey, T. M. (2002). Party polarization and "conflict extension" in the American electorate. *American Journal of Political Science*, 46(4), 786-802.
- Layman, G. C., Carsey, T. M., & Horowitz, J. M. (2006). Party polarization in American politics: Characteristics, causes, and consequences. *Annual Review of Political Science*, 9, 83-110.
- Layzer, J. A. (2012). *Open for business: Conservatives' opposition to environmental regulation*. Cambridge, MA: MIT Press.
- Leiserowitz, A. A. (2006). Climate change risk perception and policy preferences: The role of affect, imagery, and values. *Climatic Change*, 77, 45-72.
- Leiserowitz, A. A., Smith, N., & Marlon, J. R. (2010). *Americans' knowledge of climate change*. New Haven, CT: Yale Project on Climate Change Communication. Retrieved from <http://environment.yale.edu/climate/files/ClimateChangeKnowledge2010.pdf>
- Leopold, A. (1966). *A sand county almanac*. New York: Oxford University Press.
- Levendusky, M. S. (2009). The microfoundations of mass polarization. *Political Analysis*, 17(2), 162-176.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Levendusky, M. S. (2009). *The partisan sort: How liberals became Democrats and conservatives became Republicans*. Chicago: University of Chicago Press.

Levendusky, M. S. (2010). Clearer cues, more consistent voters: A benefit of elite polarization. *Political Behavior*, 32(1), 111-131.

Levendusky, M. S. (2013). *How partisan media polarize America*. Chicago: University of Chicago Press.

Lewandowsky, S., Gignac, G. E., & Vaughan, S. (2013). The pivotal role of perceived scientific consensus in acceptance of science. *Nature Climate Change*, 3, 399-404.

Linville, P. W., & Fischer, G. W. (1991). Preferences for separating and combining events. *Journal of Personality and Social Psychology*, 60(1), 5-23.

Lippmann, W. (1922). *Public opinion*. New York: Harcourt, Brace.

Lippmann, W. (1925). *The phantom public*. New Brunswick, NJ: Transaction Publishers.

Lippmann, W. (1955). *Essays in the public philosophy*. Boston: Little, Brown.

Liu, X., Lindquist, E., & Vedlitz, A. (2011). Explaining media and congressional attention to global climate change, 1969-2005: An empirical test of agenda-setting theory. *Political Research Quarterly*, 64(2), 405-419.

Loomis, B. A., Ed. (2000). *Esteemed colleagues: Civility and deliberation in the U.S. Senate*. Washington, DC: Brookings Institution Press.

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered events. *Journal of Personality and Social Psychology*, 37(11), 2098-2109.

Lorenzoni, I., Nicolson-Cole, S., & Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global Environmental Change*, 17(3-4), 445-459.

Lowe, T., Brown, K., Dessai, S., de França Doria, M., Haynes, K., & Vincent, K. (2006). Does tomorrow ever come? Disaster narrative and public perceptions of climate change. *Public Understanding of Science*, 15(4), 435-457.

Luntz, F. (2002). *Straight talk*. Alexandria, VA: Luntz Research Companies.

Luntz, F. (2007). *Words that work: It's not what you say, it's what people hear*. New York: Hyperion.

Maibach, E. W., Leiserowitz, A., Roser-Renouf, C., & Mertz, C.K. (2011). Identifying like-minded audiences for climate change public engagement campaigns: An audience segmentation analysis and tool development. *PLoS One*, 6(3), e17571.

Partisan Cueing and Polarization in Public Opinion About Climate Change

- Maibach, E. W., Nisbet, M., Baldwin, P., Akerlof, K., & Diao, G. (2010). Reframing climate change as a public health issue: An exploratory study of public reactions. *BMC Public Health, 10*(1), 299–309.
- Maibach, E. W., Roser-Renouf, C., & Leiserowitz, A., (2008). Communication and marketing as climate change intervention assets: A public health perspective. *American Journal of Preventative Medicine, 35*, 488–500.
- Malka, A., Krosnick, J. A., & Langer, G. (2009). The association of knowledge with concern about global warming: Trusted information sources shape public thinking. *Risk Analysis, 29*(5), 633–647.
- Marshall, G. (2014). *Don't even think about it: Why our brains are wired to ignore climate change*. New York: Bloomsbury USA.
- McCarthy, S. (2015). UN panel calls Canada a climate laggard. *The Globe and Mail* (June 5). Retrieved from <http://www.theglobeandmail.com/news/politics/canada-grilled-by-un-climate-officials-on-emission-targets/article24798284/>.
- McCarty, N. (2007). The policy effects of political polarization. In P. Pierson & T. Skocpol (Eds.), *Transformation of American Politics: Activist Government and the Rise of Conservatism*. Princeton, NJ: Princeton University Press.
- McCarty, N., Poole, K.T., & Rosenthal, H. (2006). *Polarized America: The dance of ideology and unequal riches*. Cambridge, MA: The MIT Press.
- McCombs, M., & Shaw, D. (1972). The agenda-setting function of the mass media. *Public Opinion Quarterly, 36*(2), 176–187.
- McCright, A. M. (2008). The social bases of climate change knowledge, concern, and policy support in the U.S. general public. *Hofstra Law Review, 37*(4), 1017–1046.
- McCright, A. M. (2011). Political orientation moderates Americans' beliefs and concern about climate change. *Climatic Change, 104*(2), 243–253.
- McCright, A. M., & Dunlap, R. E. (2000). Challenging global warming as a social problem: An analysis of the conservative movement's counter-claims. *Social Problems, 47*(4), 499–522.
- McCright, A. M., & Dunlap, R. E. (2003). Defeating Kyoto: The conservative movement's impact on U.S. climate change policy. *Social Problems, 50*(3), 348–373.
- McCright, A. M., & Dunlap, R. E. (2010). Anti-reflexivity: The American conservative movement's success in undermining climate science and policy. *Theory, Culture, & Society, 27*(2–3), 100–133.

Partisan Cueing and Polarization in Public Opinion About Climate Change

McCright, A. M., & Dunlap, R. E. (2011a). Cool dudes: The denial of climate change among conservative white males in the United States. *Global Environmental Change*, 21(4), 1163-1172.

McCright, A. M., & Dunlap, R. E. (2011b). The politicization of climate change and polarization in the American public's views of global warming, 2001-2010. *Sociological Quarterly*, 52(2), 155-194.

McCright, A. M., Xiao, C., & Dunlap, R. E. (2014). Political polarization on support for government spending on environmental protection in the USA, 1974-2012. *Social Science Research*, 48, 251-260.

McDonald, M. (2005). Fair weather friend? Ethics and Australia's approach to global climate change. *Australian Journal of Politics and History*, 51(2), 216-234.

McGill, A., & Foran, C. (2015). The guide to Republicans and climate change. *National Journal* (February 8). Retrieved from <https://www.nationaljournal.com/s/32170>

Miller, J. (2015). GOP conservatives remain skeptical on climate change: Poll. CBS News (April 22). Retrieved from <http://www.cbsnews.com/news/gop-conservatives-remain-skeptical-on-climate-change-poll/>.

Mooney, C. (2002). *The Republican brain: The science of why they deny science—and reality*. New York: Wiley.

Mooney C. (2004). Blinded by science: How "balanced" coverage lets the scientific fringe hijack reality. *Columbia Journalism Review*, 43(4), 26-35.

Mooney, C. (2005). *The Republican war on science*. New York: Basic Books.

Mooney, C. (2009). Forever politicized? The fate of American science in the 2010s and beyond. *Current* (March/April), 22-24.

Moser, S. C., & Dilling, L. (2004). Making climate hot: Communicating the urgency and challenge of global climate change. *Environment*, 46(10), 32-46.

Mutz, D. C. (2008). How the mass media divide us. In P. S. Nivola & D. W. Brady (Eds.), *Red and blue nation? Vol. 1: Characteristics and causes of America's polarized politics* (pp. 223-248). Washington, DC: Brookings University Press.

Myers, T. A., Nisbet, M. C., Maibach, E. W., & Leiserowitz, A. (2012). A public health frame arouses hopeful emotions about climate change. *Climatic Change*, 113, 1105-1112.

Newport, F., & Dugan, A. (2015). College-educated Republicans most skeptical of global warming. The Gallup Organization (March 26). Retrieved from <http://www.gallup.com/poll/182159/college-educated-republicans-skeptical-global-warming.aspx>.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Nisbet, E. C., Cooper, K. E., & Garrett, R. K. (2015). The partisan brain: How dissonant science messages lead conservatives and liberals to (dis)trust science. *Annals of the American Academy of Political and Social Science*, 658(March), 36–66.

Nisbet, M. C. (2009). Communicating climate change: Why frames matter to public engagement. *Environment*, 51(2), 12–23.

Nisbet, M. C., & Mooney, C. (2007). Framing science: To engage diverse publics, scientists must focus on ways to make complex topics personally relevant. *Science*, 316(5821), 56.

Nisbet, M. C., & Myers, T. (2007). The polls—Trends: Twenty years of public opinion about global warming. *Public Opinion Quarterly*, 71(3), 444–470.

Nisbett, R. E., & Ross, L. (1980). *Human inference: Strategies and shortcomings of social judgment*. Englewood Cliffs, NJ: Prentice-Hall.

Nixon, R. M. (1971). Remarks on signing the Clear Air Amendments of 1970. In *Public papers of the presidents of the United States: Richard M. Nixon, 1970* (pp. 1166–1168). Washington, DC: Government Printing Office. Retrieved from <http://quod.lib.umich.edu/p/ppotpus/4731750.1970.001?view=toc>

Nuccitelli, D. (2015). The Republican Party stands alone in climate denial. *The Guardian* (October 5). Retrieved from <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2015/oct/05/the-republican-party-stands-alone-in-climate-denial>

Obama, B. H. (2016). Remarks of President Barack Obama—State of the Union address as delivered (January 13). Washington, DC: The White House. Retrieved from <https://www.whitehouse.gov/the-press-office/2016/01/12/remarks-president-barack-obama-%E2%80%93-prepared-delivery-state-union-address>.

Oberthür, S., & Ott, H. E. (eds.). (1999). *The Kyoto Protocol: International climate policy for the 21st century*. Berlin: Springer Verlag.

O’Neill, S., & Nicholson-Cole, S. (2009). “Fear won’t do it”: Promoting positive engagement with climate change through visual and iconic representations. *Science Communication*, 30(3), 355–379.

Oreskes, N., & Conway, E. M. (2010). *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming*. New York: Bloomsbury Press.

O’Sullivan, T. M., & Emmelhainz, R. (2014). Reframing the climate change debate to better leverage policy change: An analysis of public opinion and political psychology. *Journal of Homeland Security and Emergency Management*, 11(3), 317–336.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Page, B. I., & Shapiro, R. Y. (1992). *The rational public: Fifty years of trends in Americans' policy preferences*. Chicago: University of Chicago Press.

Park, H. S., Xinsheng, L., & Vedlitz, A. (2010). Framing climate policy debates: Science, network, and U.S. Congress, 1976–2007. Conference proceedings of the Policy Networks Conference, 2010. Retrieved from http://opensiuc.lib.siu.edu/pnconfs_2010/41.

Perloff, R. M. (2015). A three-decade retrospective on the hostile media effect. *Mass Communication and Society*, 18(6), 701–729.

Pidgeon, N. (2012). Public understanding of, and attitudes to, climate change: UK and international perspectives and policy. *Climate Policy*, 12(suppl. 1), S85–S106.

Pidgeon, N., & Fischhoff, B. (2011). The role of social and decision sciences in communicating uncertain climate risks. *Nature Climate Change*, 1, 35–41.

Poole, K. T., & Rosenthal, H. (1984). The polarization of American politics. *Journal of Politics*, 46(4), 1061–1079.

Poole, K. T., & Rosenthal, H. (1997). *Congress: A political-economic history of roll call voting*. New York: Oxford University Press.

Pongiglione, F. (2012). The key role of causal explanation in the climate change issue. *Theoria: An International Journal for Theory, History, and Foundations of Science*, 27(2), 175–188.

Poortinga, W., Spence, A., Whitmarsh, L., Capstick, S., & Pidgeon, N. (2011). Uncertain climate: An investigation into public skepticism about anthropocentric climate change. *Global Environmental Change*, 21(3), 1015–1024.

Popkin, S. L. (1991). *The reasoning voter: Communication and persuasion in presidential campaigns*. Chicago: University of Chicago Press.

Quattrociocchi, W., Scala, A., & Sunstein, C. R. (2016). Echo chambers on Facebook. Retrieved from Social Science Research Network at <https://ssrn.com/abstract=2795110>.

Revesz, R. L., & Lienke, J. (2016). Nixon's "environmental bandwagon:" Richard Nixon signed the landmark Clean Air Act of 1970—but not because he had any great concern for the environment. *Salon* (January 2). Retrieved from http://www.salon.com/2016/01/02/nixons_environmental_bandwagon_richard_nixon_signed_the_landmark_clean_air_act_of_1970/

Revkin, A. C. (2009). Hacked e-mail is new fodder for climate dispute. *The New York Times* (November 20).

Revkin, A. C. (2011). Have you had your daily moment of climate dread? *Dot Earth* (September 6). Retrieved from <http://dotearth.blogs.nytimes.com/2011/09/06/have-you-had-your-daily-moment-of-climate-dread/>.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Riffkin, R. (2014). Climate change not a top worry in U.S. The Gallup Organization (March 12). Retrieved from <http://www.gallup.com/poll/167843/climate-change-not-top-worry.aspx>.

Risen, J. L., & Critcher, C. R. (2011). Visceral fit: While in a visceral state, associated states of the world seem more likely. *Journal of Personality and Social Psychology*, 100(5), 777-793.

Robbins, D. (2015). Sen. Inhofe's embarrassing snowball stunt is celebrated on Fox News. MediaMatters.org (March 2). Retrieved from <http://mediamatters.org/blog/2015/03/02/sen-inhofes-embarrassing-snowball-stunt-is-cele/202719>.

Roberts, D. (2015). The GOP is the world's only climate-denialist party. Why? *Vox*, December 2. Retrieved from <http://www.vox.com/2015/12/2/9836566/republican-climate-denial-why>.

Rohde, D. W. (1991). *Parties and leaders in the postreform House*. Chicago: University of Chicago Press.

Roser-Renouf, C., Stenhouse, N., Rolfe-Redding, J., Maibach, E., & Leiserowitz, A. (2015). Engaging diverse audiences with climate change: Message strategies for global warming's six Americas. In A. Hansen & R. Cox (Eds), *Routledge handbook of environment and communication* (pp. 368-386). New York: Routledge.

Ross, D., & Wolman, H. (1970). Congress and pollution: The gentleman's agreement. *Washington Monthly*, 2(September), 13-20.

Rubin, C. T. (1998). *The green crusade: Rethinking the roots of environmentalism*. New York: Free Press.

Rugeley, C. R., & Gerlach, J. D. (2012). Understanding environmental public opinion by dimension: How heuristic processing mitigates high information costs on complex issues. *Politics & Policy*, 40(3), 444-470.

Saad, L., & Jones, J. M. (2016). U.S. concern about global warming at eight-year high. The Gallup Organization (March 16). Retrieved from http://www.gallup.com/poll/190010/concern-global-warming-eight-year-high.aspx?g_source=ENVIRONMENT&g_medium=topic&g_campaign=tiles.

Samdahl, D. M., & Robertson, R. (1989). Social determinants of environmental concern: Specification and test of the model. *Environment and Behavior*, 21(1), 57-81.

Samuel, T. (2010). *The upper house: A journey behind closed doors*. New York: Palgrave Macmillan.

Partisan Cueing and Polarization in Public Opinion About Climate Change

- Scheufele, D. A. (2011). Science communication as political communication. *Proceedings of the National Academy of Sciences of the United States of America*, 111(4), 13585-13592.
- Shapiro, I. (2016). *Politics against domination*. Cambridge, MA: Harvard University Press.
- Sheppard, K. (2011). Romney stuns world with mundane statement of fact. *Mother Jones* (June 6). Retrieved from <http://www.motherjones.com/mojo/2011/06/mitt-romney-climate-change-warming>
- Shipan, C. R., & Lowry, W. R. (2001). Environmental policy and party divergence in Congress. *Political Research Quarterly*, 54(3), 245-263.
- Sinclair, B. (2000). Hostile partners: The president, Congress, and lawmaking in the partisan 1990s. In J. R. Bond & R. Fleisher (Eds.), *Polarized politics: Congress and the president in a partisan era* (pp. 134-153). Washington, DC: CQ Press.
- Sniderman, P. M., & Theriault, S. M. (2004). The dynamics of political argument and the logic of issue framing. In W. E. Saris & P. M. Sniderman (Eds.), *Studies in public opinion: Attitudes, nonattitudes, measurement error, and change* (pp. 133-165). Princeton, NJ: Princeton University Press.
- Sterman, J. D. (2008). Risk communication on climate: mental models and mass balance. *Science*, 322(5901), 532-533.
- Sterman, J. D. (2011). Communicating climate change risks in a skeptical world. *Climatic Change*, 108(4), 811-826.
- Sterman, J. D., & Sweeney, L. B. (2002). Cloudy skies: Assessing public understanding of global warming. *System Dynamics Review*, 18(2), 207-240.
- Sterman, J. D., & Sweeney, L. B. (2007). Understanding public complacency about climate change: Adults' mental models of climate change violate conservation of matter. *Climatic Change*, 80(3-4), 213-238.
- Stewart, C. J., Smith, C. A., & Denton, Jr., R. E. (1994). *Persuasion and social movements*. 3d ed. Prospect Heights, IL: Waveland.
- Stokes, B., Wilke, R., & Carle, J. (2015). Global concern about climate change, broad support for limiting emissions: U.S., China less worried; Partisan divides in key countries. Pew Research Center, November. Retrieved from <http://www.pewglobal.org/files/2015/11/Pew-Research-Center-Climate-Change-Report-FINAL-November-5-2015.pdf>.
- Stokes, D. E. (1962). Party loyalty and the likelihood of deviating elections. *Journal of Politics*, 24(4), 689-702.

Partisan Cueing and Polarization in Public Opinion About Climate Change

Stone, D. A. (1989). Causal stories and the formation of policy agendas. *Political Science Quarterly*, 104(2), 281–300.

Sunstein, C. R. (2012). Breaking up the echo. *The New York Times*, September 17: A25.

Tognacci, L. N., Weigel, R. H., Wideen, & Vernon, D. T. A. (1972). Environmental quality: How universal is public concern? *Environment and Behavior*, 4(1), 73–86.

Tranter, B. (2011). Political divisions over climate change and environmental issues in Australia. *Environmental Politics*, 20(1), 78–96.

Tranter, B. (2013). **The great divide: Political candidate and voter polarisation over global warming in Australia.** *Australian Journal of Politics & History*, 59(3), 397–413.

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124–1131.

Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science*, 211(4481), 453–458.

Tvinnereim, E. (2015). A polarized climate? Party sorting over climate change and the environment among candidates and voters in Europe. *Uni Research Working Paper 1-2015*. Bergen, Norway: Stein Rokkan Centre for Social Studies.

Van Liere, K. D., & Dunlap, R. E. (1980). The social bases of environmental concern: A review of hypotheses, explanations, and empirical evidence. *Public Opinion Quarterly*, 44(2), 181–197.

Vig, N., & Faure, M. (2004). *Green giants? Environmental policies of the United States and the European Union*. Cambridge, MA: MIT Press.

Wallace-Wells, B. (2016). A state of the union for the age of polarization. *The New Yorker* (January 13). Retrieved from <http://www.newyorker.com/news/benjamin-wallace-wells/a-state-of-the-union-for-the-age-of-polarization>

Ward, B. (2014). IPCC hearing brings UK closer to US polarisation on climate change. *The Guardian* (January 27). Retrieved from <https://www.theguardian.com/environment/blog/2014/jan/27/ipcc-hearing-uk-us-climate-change>.

Warner, L. (2007). Einstein, Roosevelt, and the atom bomb: Lessons learned for scientists communicating climate change. In S. C. Moser & L. Dilling (Eds.), *Creating a climate for change: Communicating climate change and facilitating social change* (pp. 167–179). Cambridge, U.K.: Cambridge University Press.

Washington Post Editorial Board. (2015). Sen. Jim Inhofe embarrasses the GOP and the U.S. *The Washington Post* (March 1). Retrieved from <https://www.washingtonpost.com/>

opinions/a-snowballs-chance/2015/03/01/46e9e00e-bec8-11e4-bdfa-b8e8f594e6ee_story.html?utm:term=.60c0082e5c21

Weber, E. U. (2006). Experience-based and description-based perceptions of long-term risk: Why global warming does not scare us (yet). *Climatic Change*, 77, 103–120.

Weber, E. U., & Stern, P.C. (2011). Public understanding of climate change in the United States. *American Psychologist*, 66(4), 315–328.

Weber, M. (1958). Politics as a vocation. In M. Weber, H. Gerth, & C. W. Mills (Eds.), *From Max Weber: Essays in sociology* (pp. 77–128). New York: Oxford University Press.

Westen, D. (2007). *The political brain: The role of emotion in deciding the fate of the nation*. New York: Public Affairs.

Whitmarsh, L. (2011). Skepticism and uncertainty towards climate change: Dimensions, determinants, and change over time. *Global Environmental Change*, 21(2), 690–700.

Zaller, J. R. (1992). *The nature and origins of mass opinion*. New York: Cambridge University Press.

Zaval, L., & Cornwell, F. M. (2016). **Cognitive biases, non-rational judgments, and public perceptions of climate change.** *Oxford Research Encyclopedia of Climate Science*. New York: Oxford University Press.

Zhao, X., Rolfe-Redding, J., & Kotcher, J. E. (2016). Partisan differences in the relationship between newspaper coverage and concern over global warming. *Public Understanding of Science*, 25(5), 543–559. Retrieved from https://www.govtrack.us/congress/members/glenn_cunningham/403099

Zhou, J. (2016). Boomerangs versus javelins: How polarization constrains communication on climate change. *Environmental Politics*, 25(5), 788–811.

Notes:

(1.) Historic weather data were retrieved from https://www.wunderground.com/history/airport/KDCA/2015/2/26/DailyHistory.html?req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=&MR=1. References to the Inhofe family's sign reading "Al Gore's New Home" can be found in Friedman (2010). An enlarged photograph of that igloo can be seen in the background during Inhofe's speech on February 26, 2015.

(2.) Although some in the news media interpreted Inhofe's remarks as directed toward President Barack Obama, he was in fact addressing Senator Bill Cassidy of Louisiana, who was presiding over the Senate debate in that session.

Partisan Cueing and Polarization in Public Opinion About Climate Change

(3.) The U.S. Senate has long been known as “the world’s greatest deliberative body,” a turn of phrase that perhaps originated with James Buchanan in 1867. See Samuel (2010, p. 68), and also Shapiro (2016) and Loomis (2000).

(4.) H.R. 17255 (91st): “An Act to amend the Clean Air Act to provide for a more effective program to improve the quality of the Nation’s air (GovTrack.us).” GovTrack.us: Tracking the U.S. Congress (n.p., n.d. Web. June 30, 2016). The lone dissenting member of the House was Republican Glenn Cunningham, of Nebraska’s Second Congressional District. See “Glenn Cunningham (Nebraska),” *Wikipedia, The Free Encyclopedia*, [https://en.wikipedia.org/w/index.php?title=Glenn_Cunningham_\(Nebraska\)&oldid=718738126](https://en.wikipedia.org/w/index.php?title=Glenn_Cunningham_(Nebraska)&oldid=718738126).

(5.) A useful archive of political party platforms can be found on the website of the American Presidency Project.

Deborah Lynn Guber

Department of Political Science, University of Vermont

