Perspectives on climate change denial

Cory M. Phillips
Department of Earth & Environmental Sciences, Columbia University,
October 19, 2016

There is a mystery of nonagreement between the public and the scientific community on the status and future of climate change, especially in the United States where Western modernity leans into direct and moral conflict with the consequences of fossil fuel indulgence. Perspectives toward global warming and climate change have developed through personal and social constructivism, wherein people's attitudes and beliefs are built through their experiences with, knowledge of, and reflections on the world around them (Weber & Stern, 2011). In this way public understanding is shaped collectively by the similarity of personal experience and by the media and political forces acting upon the populace. Three central methods of evaluating "denial" have resulted from sociological and political studies of response to and public opinion of global warming and climate change. Analysis of the motivations and tenacity of such disaccord proffers a solution to any existing impasse between scientific knowledge and the public's impugnation.

First, an 'information difficulty model' acknowledges the inherent difference between scientific and nonscientific thinking. Climate science, as Weber and Stern admit, is "invisible" and "geographically and temporally distant", so natural processes and their changes are hard to understand (Weber & Stern, 2011). The complexity and uncertainty with which experts grapple do not translate directly to the layman. While scientists have an overarching approach (the scientific method) that protects against bias, the non-expert's psychology can lead to misinterpretation and quick judgment. Information is first filtered through individual affect and values that can plant misconceptions through inaccurate mental models (Weber & Stern, 2011; McCright & Dunlap, 2011; Leiserowitz, 2005; and Malka, 2009). An individual's worldviews can also have a predetermination on scientific facts. Khaneman (2011) refers to this shortcut in thinking as 'affect heuristic' in which an emotional response makes decision-making fast, comfortable, and efficient (*cognitive ease*) (Khaneman, 2011). It is difficult to detect the occurrence of climate change, so our reflexive response to scientific detail draws upon any past experiences we've had and any mental images we can conjure of what could be happening. As a result, risk is processed as a feeling rather than an analysis. This 'system-1 thinking' can lead to misjudgment of facts or even estrangement of trust in the scientific community as the primary source of technical information (Khaneman, 2011). When the latter occurs, the non-expert may get their understanding from informal intermediary sources that can further disassociate them from factual climate science and promote 'cognitive ease' (Weber & Stern, 2011; Khaneman, 2011).

Political figures and the media are often the creators of controversy that drive a further

wedge between the scientific community and the public. A second pattern in the analysis of climate change denial may emerge, the 'misinformation model', which explains the success of political and media players in polarizing the public according to their values and worldview. This approach, as described by McCright and Dunlap (2011), may be better referred to as 'politicization' because there is a strong tendency of an individual to align her- or himself with the ideology of the political party to which they belong (McCright & Dunlap, 2011). This reinforcement of 'cognitive ease' and 'affect heuristic' serves to *anchor* the individual to a core set of values that does not require further analysis (Khaneman, 2011). The individual employs these heuristics in a subconscious effort to "get it right" by coming to a conclusion consistent with their priorities and interests, but will often rely on 'elite cues' to form an opinion about new or technically complex issues (McCright & Dunlap, 2011). In fact, there is greater reliance on elite cues, or the opinions of the powerful, popular, and persuasive, among those with less political knowledge or interest (Gilens & Murakawa, 2002). In this fashion, *misinformation* consistently presented by conservatives, Republicans, and those who support unabated economic growth has established climate change denial as an effective partisan ideology and divisive tool. This polarization and the effective divide between political affiliations and the liberal and conservative elite makes it increasingly easier for the public to choose sides without reasonable consideration of climate change and scientific accord (Leiserowitz, 2005; Gilens & Murakawa, 2002).

The bifurcation of political views can be further attributed to trust and distrust of scientific sources. An 'information deficit' model evaluates the propensity of certain members of the public to denounce, avoid, or be sheltered from factual science as a function of their political party allegiance (Malka, 2009). Malka, et al. studied the association of knowledge and concern extending from the misinformation-by-politicization model, and included the bipartisan blinders that limit exposure to climate change information. If citizens allowed themselves to be better-informed about climate change realities, they would be more likely to develop views aligned with the scientific consensus, but, because confidence is placed in skeptics and skepticism, they will not receive that flow of information. In this case, the affiliated party, not the individual's affect directly, is the filter through which complex information is processed (Malka, 2009). The fact that most Americans believe themselves to be well-informed on climate change science compounds the lack of accurate information even further (Leiserowitz, 2005).

The deficit of information is cited robustly in the literature by Weber and Stern, McCright and Dunlap, Malka, et al., and Leiserowitz, although to what each attributes that deficit differs. Weber and Stern find there to be an almost psychological incapacity to scientific concepts, where the layman simply cannot process the given information due to mental limitations and heuristic thinking (Weber & Stern, 2011). McCright and Dunlap attribute the deficit to the near half of the American public's remissive trust in uninformed or duplicitous political agents (McCright & Dunlap, 2011). Malka owes the lack of understanding to bipartisan blinders that

persistently occlude climate change from being a feasible discussion (Malka, 2009). Leiserowitz hypothesizes that this discussion would find its way to deaf ears *if* the voice of alarm came from political agents more trusted by deniers (Leiserowitz, 2005). All agree that there is a pervasive defensiveness that comes with not understanding something *and* with thinking it is already understood.

The information difficulty model strikes the strongest chord, probably because it is inherently human of each of us to perceive the world as we have experienced it. Despite the pitfalls associated with constructivism and heuristics that come with what Khaneman calls quick, judgmental, system-1 thinking, it is much more reasonable to attribute denial of facts or the inability to see the ramifications of modern living to our vulnerable and mutable psychologies (Khaneman, 2011). It certainly suggests that minds can be changed and people can be enlightened. The misinformation and deficit models suggest an impasse that can only be overcome by dissolving the system-1 thinking. Individuals must be entreated to overcome cognitive ease, affect, and anchoring heuristics that lead to such erroneous disaccord with reality. The public must adopt a more scientific mindset that calls upon slower, calculated, system-2 thinking. This is a requirement that calls upon *conscious* behavior, not subconscious or base behavior motivated by politics. As Malka predicted, if information continues to be disseminated widely about climate change, deniers will eventually receive it from more trusted sources, and their distrust may be assuaged independent of the "cacophonous partisan environment' (Malka, 2009).

WORKS CITED

Gilenes, Martin, and Naomi Murakawa. "Elite cues and political decision making." *Research in Macropolitics* 6 (2002): 15-49.

Kahneman, Daniel. *Thinking, fast and slow*. Macmillan, 2011.

Leiserowitz, Anthony A. "American risk perceptions: Is climate change dangerous?." *Risk Analysis* 25.6 (2005): 1443-1442.

Malka, Ariel, Jon A. Krosnick, and Gary Langer. "The association of knowledge with concern about global warming: Trusted information sources shape public thinking." *Risk Analysis* 29.5 (2009): 633-647.

McCright, Aaron M., and Riley E. Dunlap. "The politicization of climate change and polarization in the American public's view of global warming, 2001-2010." *The Sociological Quarterly* 52.2 (2011): 155-194.

Weber, Elke U., and Paul C. Stern. "Public understanding of climate change in the United States." *American Psychologist* 66.4 (2011): 315-328.