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ABSTRACT

This article examines the post-truth debate and questions the argument that post-modernism and social constructivism is responsible for post-truth and alternative facts, including in climate denial. The article argues that social constructivism is not the problem but rather an epistemological orientation that helps us better understand the rise of post-truth. Toward this end, the essay examines the way empirical findings are translated into political knowledge and the role of science in "truth regimes". From this perspective, there is no amount of fact-checking alone that will resolve the post-truth problem. The argument is illustrated with the case of climate denial.

Introduction

One of the critical topics in political discussion today is the emergence of post-truth and the role of 'alternative facts' in democratic governance (McIntyre 2018 ; D'Ancona 2017). It is a problem for governance in general, but nowhere more important than for the politics of climate change. Although there is nothing new about misinformation, fake news and deception in politics, the topic has taken on new importance after the election of Donald Trump and the British Brexit to leave the Europe Union in 2016. The post-truth phenomenon is now also a contemporary concern in other countries around the world, including Brazil, Hungry, the Philippines, Italy, Australia. Poland, Thailand and India, among others.

A full treatment of this topic is beyond the scope of the present article. In the United States and elsewhere, it would require, in significant part, an examination of post-truth as the destructive outcome of the politics that has accompanied the rise of populism. As such, it is a consequence of a combination of intersecting political developments: the general 'post-democratic' decline in the country, right-wing strategies to fracture political culture for their own political gain, the subsequent rise of 'tribal politics,' the role of the social media and the politics of disinformation (Mann and Ornstein 2006; Bennett and Livingston 2018). Such developments have given rise to extremely high levels of distrust, which supply the underlying social basis of post-truth (D'Ancona 2017; Lewis 2016; Kahan 2017).

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As the entire story requires a much larger discussion, the focus here is thus limited to one aspect of the debate – namely, the contention that a culturally oriented post-modern social constructivism has laid the groundwork for post-truth politics, if not promoted it (Chen 2017). To the contrary, as we shall argue social constructivism, divorced from post-modernism, can help to move our understanding of post-truth beyond a narrow and often misleading focus on the role of climate facts in policy argumentation. Before doing so, however, one point needs to be stressed from the outset: the objective is not to find a way to support climate denial. Rather, it is to understand the construction of the denial argument. In the view here, the ability to put forward an effective counter argument can depend on it.

Although post-modernism can be difficult to define, it has been portrayed by both academics and journalists as having spread such a wide degree of doubt about the nature of knowledge and truth that it has facilitated, if not having given rise to, the post-truth politics that we currently confront (Lynch 2004; Calcutt 2016; Dennett 2017). This contention, it is argued here, is not only mistaken, but also rests on a misleading understanding of knowledge-making. While many post-modernists have indeed gone too far with their relativist understanding of knowledge and knowing, post-modernism and social constructivism are not one and the same thing. And, as such, removed from more radical forms of post-modern relativism, there are still important reasons to defend a constructivist epistemology, in particular the form presented here. When taken on its own terms, it can help us understand how knowledge is created and, in the process, better grasp the post-truth debate as well.

Post-truth: definitions and arguments

Even though the concept of post-truth emerged before the Brexit vote in 2015 and the election of Donald Trump a year later, it saw such a rapid 2000% rise as a consequence of these votes that the Oxford Dictionary named it the word of the year in 2016 (Flood 2016). The idea that we have moved into a post-truth world has given rise to major discussion and debate. Although 'post-truth' has no fixed definition, the Oxford Dictionary defined it as 'relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion.' Post-reality politics and post-truth are seen to denote a political culture in which discussion and debate are shaped by emotional appeals disconnected from the empirical details of policy issues. They relate to the repeated assertion of arguments and issues that ignore expert opinion and factual refutation. Instead of emphasizing empirical verification and falsification, post-truth relegates facts at best to secondary considerations.

It is certainly not the case that lying, distortion and emotional appeals are unknown to politics; they are as old as the profession itself (Arendt 1972). But the concept of post-truth is used to specify the lying of Trump and other politicians as something qualitatively different from the sort of falsehoods told up to this point. The concept, as it has come to be understood today, does not directly relate to truthfulness per se. Rather, it tends to refer to what the comedian Stephen Colbert has called 'truthiness,' referring to the phenomenon of believing a statement to *feel* true, even though it is not supported by factual evidence (Zimmer 2010). The Merriam-Webster Dictionary,

adding a definition of truthiness, states that it cleared a way for 'post-truth.' 'In a post-truth world,' as the dictionary explains, 'truthiness is all that matters.'

In addition to its problematic implications for democracy, the emergence of post-truth is also seen to be a major threat to science, social as well as physical science (MacInytre 2018). Insofar as rigorously pursuing truth with tested methods is the *raison d'etre* of science, post-truth is a fundamental challenge to its very core. It is seen as leading to a kind of irrationalism that offers no firm basis for developing solid forms of knowledge for the guidance of society. Indeed, this is a basic challenge to most modern institutions, techno-bureaucratic in nature, which are designed and mandated to produce facts relevant to the issues of modern society. Indeed, the practice of 'evidence-based policymaking' has emerged in recent years to assist these organizations with the tasks at hand.

For this reason, the standard solution to post-truth in both scientific circles and the media has been fact-checking, with no shortage of websites set up to get the facts straight. But, as we will see below, fact-checking or the discovery of more and better facts will not put this controversy to rest. As the social constructivist perspective can help us see, the reason is that the debate about the facts is only a proxy for deeper and even more difficult sociopolitical questions that are attached to them.

Post-modernism and cultural studies as culprits

This concern about post-truth quickly engaged the academic realm (Fuller 2018). Here, the concern has revolved around the critiques of science put forward by scholars of post-modern persuasion, cultural studies and the field of science studies, all theoretical orientations that have in recent decades raised powerful questions about the nature and practice of science (Pinker 2018). In many ways, the post-truth struggle has been seen by many as a return to the earlier 'sciences wars' in the 1990s between cultural theorists and members of the scientific community (Ross 1996). These exchanges, often caustic in nature, focused on the claim that science is founded on social, political and cultural factors.

Basic to their deconstruction of science – what it does and how it works – cultural-oriented theorists have rejected the possibility of stable definitions of the objects of inquiry and the idea of universal truths. Over time, this gave rise to a post-positivist understanding of science that emphasizes the relative, uncertain, contextually site-specific and language-based character of its knowledge. The debate, vacillating between epistemological sophistication and *ad hominem* argument, has turned on questions about the nature of reality. Is it something 'out there' to be objectively uncovered independently of human ideas or bias, as the scientific community generally contends? Or, is all knowledge, to one degree or another, socially constructed and thus dependent on human conventions? In this later view, all disciplines need to critically rethink their basic principles, a view rigorous resisted and rejected by the scientific community, holding onto its foundational myth of a value-free 'search for truth.'

For the opponents of post-modern cultural studies, its reliance on social constructivism is seen to render all facts to be just matters of opinion (Sokal 2008). Relativism, as they argue, holds that any position – what is good, what is right – is the product of a framework of conventions and assessments that always depend on interpretation and

context. By rejecting the idea of truths held to be ideal and universal, post-modernism is criticized as allowing 'anything goes' (MacInytre 2018). More recently, it has been seen as enabling – or precipitating – depending on your position – a sociopolitical world where all competing positions have equally valid claims, leading to such things as 'fake news.'

This has led a seminal figure in cultural studies, none less than Bruno Latour (2018), to assert that the time has come for post-modernists to now bring back some of the authority of scientific expertise. Worrying in particular about the denial of climate change, without rejecting the social element in scientific conduct, he calls for a revision of the constructivist relationship to world around us. Another concerned the scholar, Berube (2011), worries that right-wing populists have borrowed constructivist ideas from left-oriented post-modernists. For him, the problem is lodged in the post-modern critique of expertise. As he puts it, some left-wing post-modernist arguments, coupled 'with the left populist distrust of "experts" and professionals'…were fashioned by the right into a powerful device for delegitimating scientific research.' Even more caustically, Dennett put it this way to *The Guardian*: 'I think what the post-modernists did was truly evil.' They are 'responsible for the intellectual fad that makes it respectable to be cynical about truth and facts' (Dennett interviewed by Cadwalladr 2017).

Whether or not right-wing populists have directly developed a post-truth strategy after reading left-oriented post-modernists is a debatable question (Mooney 2011). If at all, it has just as likely that the radical conservative post-truth of today has its roots in the post-modern tendencies of earlier right-wing movements, with its even longer tradition beginning at least with Mussolini and the fascism movements of the early 20th century (Crouse 2012). But it is not easy to draw clear connections between either earlier or modern versions of post-modernism and contemporary post-truth arguments.

Much of the discussion, however, overlooks the fact that post-truth may reflect a deeper, and perhaps more insidious, phenomenon that is about more than the empirical facts per se. While fact-checking is a worthy activity, we need to look deeper into this phenomenon to find out what it is about, what is behind it. Toward this end, we can turn to the theory of the social construction of knowledge to unravel this development, with special attention to climate denial, given its particular salience to the question of post-truth.

Social construction of knowledge

First, it is important to say that social constructivism is not cut of whole cloth. Predating contemporary versions of post-modernism, it has a long and distinguished theoretical history in the social sciences, especially the form presented here (Kukla 2000). While post-modernism takes a constructive perspective, it is in no way the only version of social constructivism (Lynch 2004; 2012). Indeed, various leading social constructivists, such as the conservative sociologist Peter Berger (2006), have denounced post-modernism. Berger explicitly rejected post-modernism, as well as the idea that social constructivism is connected to a particular political perspective. Berger, himself was a leading conservative thinker, often engaged in public debates about such matters (Jones 2008).

So what does social constructivism have to offer? Essentially, it is theory of knowledge designed to explain how knowledge is created in the social world (Gergen 1999). While there are still debates about social constructivism, this discussion focuses on the

form of social constructivism that follows from and more or less adheres to the seminal writings of Mannhein (1936) and Berger and Luckmann (1996). Specifically, this approach seeks to understand the role of social meanings in the creation of knowledge– or better, what is taken to be knowledge. It is grounded, as such, in social meanings drawn from the social system of which the investigators are themselves a part. Knowledge is understood to be *constructed* by the community of inquirers who formulate and measure conceptualizations of the world, both natural and social, as opposed to the outcome of purely objective observation and analysis. It understands, in this way, that what we take as knowledge to be contingent on social traditions, perceptions and experience.

But this does not mean, as often assumed, that there is no physical world – that is, that knowledge is just a creation of the human mind. Rather, it means that knowledge of the world always involves an interpretive construction created by socially interacting humans in the societal system. Given that there is always more than one interpretation by these actors, what we generally understand to be knowledge is based on the most informed – empirical and theoretical – arguments at any one time (recognizing that knowledge is always subject to revision based on new or better information).

Social constructivism, as an interpretive method, is more than an epistemological theory; it is based on sociological and historical study of social inquiry (Berger and Luckmann 1996). Fundamentally, it challenges positivist objectivism, in particular the view that the world is simply 'out there' and can be known through purely objective rational procedures. For the constructivist, the categories offered to describe reality are influenced by social conventions and the interactions to which they give rise. In contrast to the commonsense view that takes a particular construct as natural and given – described as the 'natural attitude' – knowledge constructs are always in part artifacts of a particular societal system and its culture.

Berger and Luckmann (1996), along with others, have focused primarily on the social constitution of everyday experience in the social world. The social actor, as they put it, 'apprehends the reality of everyday life as an ordered reality.' The phenomena of this world are taken to be 'prearranged in patterns that seem to be independent of [the social actors'] apprehension of them with the languages employed in the everyday context regularly supplying the objectifications and patterns that makes it possible to meaningfully make sense of the everyday life.' Such meanings, taken for granted by the social actors, are part of a larger configuration of social meanings that constitute a societal system. As such, the use of a particular meaning can call forth the larger set of meanings.

From the social constructivist perspective put forward here, every object, as we know it, is a fusion of physical and social characteristics. Some objects are more physical than social and others more social than physical. But both dimensions are always present and one can think of a spectrum ranging from very physical to very social. Whereas the objects of the natural sciences are more physical – such as a tree – the objects of investigation in the social world are more laden with social meaning, such as a woman. The tree has social meanings about nature attached to it, although most people think of wood and leaves. A woman carries a range of social meanings in society, but can also be mistreated by men as a physical object to satisfy particular desires (Fischer 2003).

The approach does not only deal with the construction of everyday phenomenological knowledge, but also recognizes that social meanings change over time and, as

such, are basic to the processes of social change. The goal, as Boltanski (2011) writes, is to demonstrate how people, laypersons as well as sociologists, participate in processes of meaning creation and social change. He shows the ways that they can and do themselves develop concepts and criteria through which they are able to construct their own social understandings, judgments and even critiques of their situations. The social scientist's task is thus not only to supply social actors with social-scientific theories – from the top down – for understanding their situations, but also to understand how they themselves arrive at and construct their own social worldviews and experiment with them during their social interactions involving struggle and change.

Social constructivism, like all epistemological orientations, has its critics. The main critique has to do with concerns about relativism. But it is a complaint that can be answered in different ways. Constructivism recognizes that different pursuits have different forms of knowledge and much of the concern, in this regard, has to do with the social construction of physical science. Following Berger and Luckmann, the critique can be partly sidestepped by focusing on role of knowledge in the social world, which by its very nature is perspectival. In this view, however, the scientific community is also recognized to be a social group, much like any other social group in society, insofar as it has a status system governed by a hierarchy dedicated to specific beliefs. Basic here is the view that the theoretical orientations of scientists and their research communities are grounded in social roots. Scientific disagreements, as research shows, can thus be as much about professional group conflict as they are about formal research conclusions, presented as the products of observations based on objective data. In this regard, they are the outcomes of argumentative processes among those deemed to be the qualified participants. In this view, knowledge is in part a discursive by-product of social processes inherent to the scientific community. Scientific knowledge, in short, is seen to be influenced in significant ways by the location, education and social attitudes of the investigator. As such, the processes of knowledge creation can also be studied sociologically.

Perhaps, the most prominent contemporary variant of the social construction of scientific knowledge today is Jasanoff's (2004) theoretical idea of the co-production of science, a theory that sees public science as a fusion of society and scientific research. Co-production, as Jasanoff and Simmet (2017) put it, rests on 'the core proposition that the ways in which we know and represent the world (both nature and society) are inseparable from the ways in which we choose to live in it.' In this understanding, science not does not stand alone; rather, it is part of what co-production calls 'truth regimes' that involve sets of norms and institutions constructed by the state. An idea advanced earlier by Foucault (1991), a society's regime of truth constitutes its 'general politics of truth,' which specifies the kinds of discourses that are accepted and turned into carriers of what is taken to be truth, the mechanisms that enable people to differentiate true from false claims, the ways in which truth claims are legitimated and sanctioned, the procedures and techniques given value in the quest of truth, and the standing of those who are responsible for declaring what counts as truth (Rabinow 1991).

As such, knowledge produced by the science of a truth regime is seen to carry particular meanings of the objects of investigations and therefore has a built-in social bias, including possible political intentions behind the construction of the object. Although such meanings are typically tacit and hidden, science generally serves – wittingly and unwittingly – to reinforce and legitimate the truth-regime's

understandings of the objects of inquiry, however partial, and thus typically supports the dominant power structures. The theory, in this way, also recognizes that there is not just one reality and that the interpretation of reality itself is often at issue in politics and public debate. But this does not in itself tell us enough about the political dynamics of this process. It is clear, however, that it involves public argumentation – a discursive struggle over whose reality counts – that drives the larger political competition about truth and meaning among competing social groups. The particular arguments advanced in the process can be examined and understood through a constructivist concept of 'socio-cultural knowledge,' which can also illuminate the meaning of 'alternative facts.'

Social construction and the social life-world: socio-cultural reason

While the debate about post-truth and alternative facts focuses in significant part on a concern for scientific reason, social and political discussion in the everyday 'life-world' is organized around a different type of reason, namely a form of social or social-cultural reason (Diesing 1962). The world of social and political affairs is influenced by scientific knowledge, but reason in the social realm follows a different logic or rationality. Whereas scientific reason is a professional orientation that puts it faith in the rational application of empirical methods and evidence, the socio-cultural reason of the citizen and society generally is experientially geared to social and cultural interactions grounded in particular social and political contexts rather than decontextualized technical calculations (Fischer 2005).

Stressing the opinions of traditional sociopolitical elites and peer groups, socio-cultural reason tends to trust social process over scientific outcomes or quantifiable impacts (Plough and Krimsky 1987). As a form of knowledge tied to social group membership, Mannheim referred to it as 'essentially connected knowledge' (*Seinverbundenes Wissen)*. It is not that scientific data is irrelevant, but rather it is processed in the social contexts to which it relates or is applied – that is, the contexts in which it is to have an impact. Beyond empirical data, public perceptions are interpreted through a distinctive form of reason that is shaped by the circumstances under which a problem is identified and publicized, the standing or place of the individuals in his or her community, and the social traditions and values of the community as a whole. It processes the impacts, intrusions, or implications of particular events and/or phenomena on the social and political relations of that world (Fischer 2000).

For social actors public issues are understood as much in terms of qualitative, affective characteristics as they are in terms of quantitative relationships. The constructivist perspective understands real-world events to be made up of a rich and multi-faceted set of factors, of which empirical data is only one part. Indeed, it is a perspective well-suited to understanding environmental politics. For example, research related to environmental risk, of which climate change is a major illustration, shows that citizens' understandings are influenced by basic categorical dichotomies such as their familiarity or unfamiliarity of the people involved, who controls the risky events, are they produced by natural or artificial forces, the immediacy or delayedness of potential effects and the visibility or invisibility of the benefits and costs (Slovic, Fischhoff, and Lichtenstein 1979).

According to such a research, particularly as it pertains to environmental politics, laypersons cognitively process information, especially uncertain information, in terms of past experiences related to such assessments (Plough and Krimsky 1987). From this

'social process theory of cognition' (Nurius 2013; Firth and Blakemore 2006), they confront complex uncertainties by filling in the gaps in knowledge with trusted information about social processes. This is particularly the case when competing interests exploit uncertain data by emphasizing different interpretations of the findings. In such cases, politicians and activists advance counter arguments about the nature of the definitions of the problem itself.

Such concerns are especially pertinent when crucial decisions are made by distant, anonymous and hierarchical organizations. Citizens want to know how and why decisions were reached, whose interests are at stake, if the process reflects a hidden agenda, who is responsible, what protection they have if something goes wrong and so on. If, for example, citizens have experiences that suggest they should be distrustful of particular government officials, such information will tend to override the data itself. Indeed, from environmental risk research we learn that when worries run high, a phenomenon, psychologists refer to as the 'dread' or 'outrage' factor, can emerge (Sandman 1987). If mistrust and hostility run out of control, the uncertainties of the empirical risks tend to be amplified (Fischer 2005).

Experience also shows when experts are themselves uncertain about a set of data that puts them personally in jeopardy they themselves want to know more about the social processes behind the reported evidence. This is especially the case when such a risk might affect their own families. In such cases, they set aside their technical training and turn to their own socio-cultural knowledge. They will tend to think of themselves as parents rather than technical experts.

Scientists and other technical experts have long held such responses to be irrational. Indeed, there is a long tradition of positivist thought that points to such 'irrationalities' and maintains that such social knowledge cannot be considered valid knowledge. While this could be true from a rigorous scientific perspective, it misunderstands the nature of social knowledge, including its political variant. As Mannhein (1936, 164–191) made clear, sociopolitical knowledge is structured differently than other forms of knowledge, physical and natural science in particular, and depends on its own mode of inquiry. Where physical science is empirical in nature, sociopolitical knowledge is a normative construction and has to be judged by a different mode of inquiry possessing its own evaluative criteria.

Unlike the positivist approach to scientific knowledge, which struggles for empirical impartiality, such sociopolitical knowledge is a fusion of ideas, factual and normative information about situational circumstances, probable consequences and political interests. It thus is inherently normative, but not irrational. As Mannhein (1936, 173) puts it, whereas 'the scientist always approaches his subject matter with an ordering and schematizing tendency' the social or political actor 'seeks orientation with reference to action' to be taken in concrete social situations. This leads the political actor to view things in terms of the real-world life contexts of which they are a part. In light of available knowledge about political processes, they focus on a strategic course of action designed to support or change a specific situation within the larger societal structures of which they are a part and the value commitments inherent to them. As such, he or she forges a middle course between social and political ideas related to action and the immediate practical context of assumptions and meanings in which an action-oriented decision has to take place. Political knowledge is thus an interpretive social construction

guided by ideas and values but shaped by and adapted to the empirical and normative pragmatic realities of the action-oriented situation.

Sociopolitical knowledge, as such, is a form of practical reason concerned with the normative question of 'what ought to be done' (Fischer 2003). Indeed, if we borrow from the constructivist-oriented ordinary language philosophers of practical reason (Toulmin 1958), we can understand sociopolitical reason as a mode of thought that moves from the level of an assessment of a proposed action on techno-empirical terms to a consideration of specific contextual factors to which it would apply, to an examination of its implications for the societal level, followed by an assessment of the relevant values and principles embodied in the social system (Taylor 1961; Fischer 1995, 2006). Throughout this probe, there is an interaction between relevant normative and empirical criteria.

In the deliberation about a particular policy topic, different actors will focus in different levels of analysis. Some will find the core of the problem to be at the technical level, while others believe it to be lodged in the larger societal system. All levels, however, remain present, even if tacitly so, and can be called forward at any time the participants find it justified to do so. Although less rigorous than scientific logic, practically oriented socio-cultural reason nonetheless is organized around an 'informal logic' with its own logical rules and structures (Toulmin 1958; Taylor 1961; Fischer 1995).

From this perspective, we can see that the practical validity of any claim depends on its relationship to a conception of the core beliefs that spell out the good society. Indeed, it is here that we can understand Aristotle's contention that the practical validity of any statement depends on its ultimate relationship to the good. In short, there can be different types of practical knowledge related to action but their validity for social actors will ultimately depend on their implications for their ideological conception of the good society. That is, knowledge that does not contribute to a move in a particular ideological direction, while possibly true, is seen to be either of no interest, irrelevant or problematic.

Socio-cultural practical reason does not challenge or change the empirical data per se, but it does determine the degree to which it will be considered important for or relevant to a particular course of action. Often lost in the political debates about climate change data, including the politics of climate denial, are the political implications of this mode of reason for policy decisions. It is a point that can be illustrated by turning to climate denial argumentation.

Climate denial: the socio-cultural construction of 'alternative facts'

In this section, we show the way in which such social constructivism and socio-cultural reason help to explain a line of argument that otherwise is one of the perplexingly irrational issues of our time. How can people deny a coming climate crisis in face of the empirical facts? For this purpose, we can conveniently draw from Klein's (2011) report on a climate denial conference held at the Heartland Institute, the intellectual home of denial.

The starting point for such an analysis is the fact that climate denial, embedded in the radical right-wing movements that have swept across many Western countries, is caught up in a divisive politics that has led to a breakdown of meaningful public discourse. Indeed, in the United States this right-wing politics has led Trump to signal withdrawal from the Paris Climate Accord, supported and encouraged by the climate

denial of his first anti-environmental Environmental Protection Agency Administrator (a born-again right-wing lawyer who went out his way to both fire and silence governmental climate scientists). With some 97% of the scientific community agreeing that human activities are a major factor in current levels of climate change, this has more than baffled a large swath of global environmental community. Although typically written off an irrational exercise in know-nothing politics, we can find an alternative explanation by turning to the social dimensions related to the facts in question.

From a closer examination of the arguments of climate deniers, we learn that, despite appearances to the contrary, the basic concern is not about facts per se; rather, it is about the meanings attached to them (or what the deniers see as the information presented as the facts). As part of a political camp that distrusts anything the other side says with extreme skepticism, climate deniers simply reject the studies of climate scientists based on what they believe to be the motives behind their work. That is, what they reject more than the data are the sociopolitical dynamics that have generated it.

The data, according to the conservative deniers, comes from processes that govern a social life-world they distrust and reject. Living in an alternative social life-world than the one inhabited by liberal climate environmentalists, the members of this group believe the world to be directed by a set of cosmopolitan elites – including a liberal urban intelligentsia – that are a threat to their own very way of life (Horner 2007). Holding the existing global system to be an evil construction engineered by political elites and the experts that serve them, they see these experts as part of a conspiracy. Indeed, they largely take the expert communities and the universities that train them to be bastions of left-leaning liberalism – or socialism – promoting big government and its regulatory truth regime. So intense is this worry that they feel an urgent and justified need to oppose and block this political effort at every turn. In fact, this stance is often so extreme that it can best be described in terms of dread and outrage. Such climate deniers are so emotionally exercised by the current state of affairs that their reactions can be understood in terms of the 'outrage factor' identified by environmental research.

From this perspective, it is not difficult for these conservatives to believe that the Intergovernmental Panel on Climate Change (IPCC) climate experts, employed by those advancing a surreptitious global conspiracy, are biased personally and politically. In this argument, climate experts are portrayed as a social group with particular interests, including funding and institutional support from the United Nations, geared to advancing the power and influence of their own hierarchies and the methodological procedures that support them. Although climate deniers do not derive their critique from the theory of regime truth, they arrive at the same conclusion from their own perspective, which in important ways is a test of the theory (Fuller 2018). If this in fact involves a liberal truth regime, it would then not be surprising to learn that the climate deniers want to question the findings of the IPCC, as they do.

What they do, in face of these extreme worries, coupled with heightened levels of distrust, is fill their sense of uncertainty with socio-cultural information forged in their long, ongoing struggle with political liberals, which is as much about the kinds of people they take liberals to be as it about political liberalism. Under normal political conditions, there could be room for considering the data on its own terms, accepting or rejecting it. But under conditions of extreme distrust, the deniers are even unwilling to enter into a rational discourse about the science. Without reference to the theory of

social construction, conservatives can on their own come to suspect or believe that the experts might be constructing the facts, to one degree or another, infusing them with their own personal political and social biases. In the extreme, they rhetorically describe the presentation of these biased facts as fake news. This can be, to be sure, taken as a cynical or self-serving strategic strategy, but there is indeed, following the constructivist perspective, a construction of climate knowledge, as there is of knowledge generally. For the deniers, this construction can be attributed to the liberal environmental political biases of climate scientists and activists.

We find good evidence of this in Klein's (2011) analysis of the sixth annual climate change conference at the Heartland Institute, the leading think tank of climate deniers (Plehwe 2014; Almiron 2019). As she discovered, the scientific findings were not actually the primary worry organizing their discussions. Speakers spoke more about polices to combat global warming that they see as 'an attack on middle-class American capitalism.' Climate change, it was argued, is less concerned about the state of the environment and more to do about 'shackling capitalism and transforming the American way of life in the interests of global wealth redistribution.' As Delingpole put it, 'modern environmentalism successfully advances many of the causes dear to the left: redistribution of wealth, higher taxes, greater government intervention, and regulation' (cited in Klein 2011). And Bast, the president of the institute adds, climate change, for the political left, 'is the perfect thing. . .. It's the reason why we should do everything [the left] wanted to do anyway' (Ibid).

Here we clearly encounter the political paranoia of these right-wing deniers. They fear 'this entire environmental movement simply as a green Trojan horse,' and 'a plot to steal American freedom' (Ibid). Some go even further, believing that the IPCC climate scientists are the functionaries of a dangerous and hidden cabal of 'deep state' subversives made up of Democrats, intelligence community members, high-level global officials and numerous celebrities, among other nefarious elites. That is, the very same people that Trump regularly rails against.

Their first step of these environmentalists, as Horner argued, is to remove the 'nagging freedoms' that both get in the way of climate change policy and can serve as a pretext for imposing their own political values. What 'free society,' as he puts it, 'would do to itself what this agenda requires' (Ibid). As such, as one of the key speakers pointed out, climate change data is actually not their real and pressing issue, leading Klein (2011) to realize that 'it isn't the message at all.' Rather, the message is that revered ideas and values of American culture are under frontal attack and in serious jeopardy.

For people who think that the most important goal is to 'free people from the tyranny of other people' it can start to look like the 'end of the world.' 'When we look at this issue,' as Bast put it, 'this is a recipe for massive increase in government. . .. Before we take this step, let's take another look at the science. So conservative and libertarian groups, I think, stopped and said, Let's not simply accept this as an article of faith; let's actually do our own research,' calling for the proper use of scientific procedures (Ibid). Klein takes this to mean that it is not an explicit or primary 'opposition to scientific facts of climate change that drives denialists but rather opposition to the real-world implications of those facts.'

And while it is not the end of the world as such, it does spell the end of their world – real or imagined – in most ways. As she puts it, 'climate change detonates the ideological scaffolding on which contemporary conservatism rests.' In no way can

a core belief system that 'vilifies collective action and venerates total market freedom [be reconciled] with a problem that demands collective action on an unprecedented scale.' Such action would involve a 'dramatic reining in of the free market forces' seen by most environmentalists as having brought about the ecological crisis.

Klein (2011) concludes with a message for the left. As she puts it, 'when it comes to the real-world consequences of those scientific findings, specifically the kind of deep changes required not just to our energy consumption but to the underlying logic of our economic system, the crowd gathered at the Marriott Hotel may be in considerably less denial than a lot of professional environmentalists,' in any case 'the ones who paint a picture of global warming Armageddon, then assure us that we can avert catastrophe by buying "green" products and creating clever markets in pollution.'

For the climate deniers, then, the concern about a political-economic way of life constitutes the alternative perspective that for them is the priority issue. As such, it necessitates attention to a different set of considerations and the facts pertinent to their concerns – alternative facts – related to protecting their own ideological orientation and the way of life that it supports. It need not be that the IPCC research is false, but rather just not the primary worry for them, especially as they recognize the implications of the numbers. In their view, an alternative fact is the destruction of individual freedom and the free-market system. As one fellow put it, let's be absolutely sure about the evidence before we jeopardize our values. And here, being sure means making sure that they can trust the scientists that have produced these numbers. Who are they? What are their political views? Can they be trusted? And so on.

These are questions drawn from their own stock of social knowledge about an ongoing global liberal politics that employs scientific experts, paid for by the United Nations, which many of them see to be a very troublesome, even dangerous, institution that is up to nothing good. It is a point captured by John Bolton, Trump's National Security Advisor, who once said the top 10 floors of the UN executive offices could be lopped off and nobody would notice the difference. Others in this 'stealth organization' are believed to be interested in overtaking the United States in the name of a questionable program called sustainable development.

Climate denial: socially translating evidence into political knowledge

What does it mean, more specifically, to say that climate deniers focus on the social and political meanings of the evidence? What they recognize, explicitly or implicitly, is that empirical findings in the world of politics have to be translated into 'political knowledge.' More specifically, evidence has to be converted into knowledge that fits their political narrative, or at least can be interpreted by it. Indeed, this is how Allen (2017) has described the role of the IPCC in climate discourse in the 1990s.

Although climate change is generally presented in terms of relatively straightforward numbers about degrees of warming, Allen (2017) shows how the numbers carry a political message when they enter the political policy debates. As he explains, climate change in the early years of the debate was defined as an issue of risk, but was later presented as a matter of national security. The data was implicitly translated into a form of political knowledge that sought to portray the numbers as implying a specific existential threat to humanity. Scientists, he argues, adopted 'the grammar of security'

in a way to 'construct existential threats' to life on the planet. That is, rather than just presenting data, they sought to motivate political change by connecting data to ideas about technology, the history of the earth and humankind`s place on it. These narratives, moreover, generally offer dramatic – even at times draconian – policy recommendations related to carbon emission reductions, sharp transitions to new and more efficient forms of renewable energy, massive investments in climate-related research and the development of new technologies. Global climate security, in short, is espoused in a way that offered 'a vision of natural order that made clear the necessity for, and possibility of, a global politics of climate' (Miller 2004: 55). Constructed independently of new of more compelling data, these narratives were simply different social frames to which the data was fitted and presented to the public.

In this regard, climate change research was thus as much a matter of how to get it on the political agenda as it was to collect the relevant numbers presented as the facts that need to be faced. In contrast to the environmental theorists who have argued that prominent climate scientists came to constitute an epistemic community that produced a nearly unanimous scientific consensus among climate scientists which persuaded the international community to put climate-related action on the political agenda (Haas 1992), Allen finds that these scientists did more than marshal data; they sought to politicize it by framing it as an issue of environmental security and human survival. That is, ideas that the data itself does not inherently carry. As such, they depicted the implications of their climate data in terms of ideas about humankind's relationship to the natural environment and the dire need to protect it. They used scientific knowledge to focus political attention on the need for particular kinds of societal transformations. As Franz (1997) has explained, it was an effort to transform scientific facts into political facts. Rather than just put forward scientific and technical research findings, they embedded them in larger Cold War narratives about the roles of scientific technologies and catastrophic threats (Edwards 2010). For climate deniers, this is portrayed as a scare tactic perpetuated by a truth regime made up of climate scientists, politicians and bureaucrats. Some go even further. They argue that the IPCC climate scientists are the functionaries of a dangerous and hidden cabal of 'deep state' subversives made up of Democrats, intelligence community members, high-level global officials and numerous celebrities, among other nefarious elites.

In this regard, Bast and his colleagues recognize – implicitly if not explicitly – that climate science in the public sphere is a social construction that fuses empirical findings with social and political meanings. Without spelling it out theoretically, they recognize that in the co-production of climate science – namely, that the way people present the world is inseparably shaped by the way they choose to live in it— science is organized around a set of norms and institutions supported by the state that constitute a truth regime supportive of that way of life.

It is in just this sense that the climate deniers are not entirely wrong to argue that climate science is part of a political strategy. They correctly recognize that the societal implications are big, but the discussion of them is never prioritized and fully considered openly and candidly in the public media – that is, the need for a planned society, greater role for experts, and restraints on individual freedom.

The point here is not that one side does this and the other does not. Rather, it has to do with the nature of political knowledge and its social construction. In the throes of

political struggle, to borrow from Alistair McIntyre (2007) ; MacIntyre 1988), the story attached to the data becomes more important than the policy and its relevant data.

Climate denial: from proof to consensus

It is important to note that the deniers do not formally reject science. They just say that it is important to get both the scientific evidence and political priorities right (Lomborg 2007). As Blast puts it to his Heartland Institute followers, conservatives and libertarians should not just accept the IPCC findings as 'an article of faith,' given the massive increase in government at the expense of freedom. 'Let's actually do our own research,' he argues.

The Institute takes this even a step further, calling for a 'restoration of the scientific method,' by which they mean unbiased research they can trust. And here, they are not without supportive arguments. Indeed, they can appeal to sophisticated theories of knowledge (Beddeleem 2017). Pointing to Popper's theory of falsification, for example, they have emphasized that scientific results need to be regularly subjected to contestation and refutation. Climate change critic Steward Franks (2015), appealing to the well-established epistemological canon of independent empirical verification, maintains that much of the public information about climate change cannot withstand Poppers's test of falsification. In this regard, many of the deniers are on this point not that much different than climate skeptics more generally (Brin 2010)[1]

Although one can find the argument disingenuous given the very high level of agreement based on the research of leading climate scientists, climate deniers employ for the most part a conventional understanding of the scientific method to good political effect. In fact, like climate skeptics, they adhere to a view that is close to mainstream methodological rhetoric. It is the case, in this regard, that proof for the human contribution to climate warming, at least the degree to which humankind contributes, has not been fully resolved, a point basic to the skeptics, and it is thus not altogether absurd to call for further research, following accepted methodological principles. Rather than proof per se, as they argue, the evidence is mainly an accumulation of judgments from a particular group of climate scientists; it thus remains possible to argue that IPCC scientists have not *proven* their case. It is a challenge that can be easily employed by deniers who wish to oppose a policy based on particular evidence; it can be done with a straight face, as it is not wrong – the issue has not been 'proven,' which can have resonance with those who rely on the standard understanding of scientific investigation held by the majority. People can say with full justification that the causes of climate change, especially the human role, have not been proven in any final way and call for further research upon which to base firm policy decisions. They can do it, moreover, by citing a few well-established climate scientists who assert – formally correct – that the question of warming has not been proven (Lindzen 2009).

It is just here that the role of social construction can offer an essential insight. According to the social constructivist theory of scientific knowledge, that which is taken to be knowledge at any one point in time is a matter of scientific consensus, consensus among the qualified members of the relevant community. And this is what the community of climate scientists have offered, a consensus based on existing peer reviewed research. Indeed, it what social constructivism expects them to do; it can in fact be taken as support for the theory.

A new wave of climate deniers has moved beyond questioning the data to refocus the debate on other aspects of the issue, in part because they have been losing the data battle. Some deniers have come to more or less accept the high level of agreement about the human contribution to warming – or at least given up struggling on this front – and have shifted to arguing that the problem is too big to be able to do anything that would significantly mitigate or adapt to the consequences and, moreover, whatever might be done would have a drastic impact on the economy (Demelle 2017). For them, the risks are too great given our limited knowledge about climate change and how to deal with it. The country could pour a huge amount of money into mitigation and adaption and still fail to bring the problem under control. Others have now chosen to shift from focusing on the findings to politically smearing climate change scientists and activists as biased. Indeed, Cann and Raymond (2018) find that this tendency is on the increase, replacing to some degree the focus on uncertain evidence (also see McKie 2018).

When it comes to smearing, one of the most notable efforts involves the hacking of the emails accounts of climate researchers at East Anglia University in the UK, one of the leading climate research universities (Pappas 2011). To the great embarrassment of the climate science community, the deniers point to some 5000 hacked emails stolen from climate scientists at East Anglia University and posted on a Russian server. In some of these emails leading researchers spoke of the need to organize and present the climate data in strongest possible terms. Indeed, there was a suggestion of 'spinning' the message. Insofar as they were accused of massaging the evidence pertaining to the human contribution to climate warming just before the Copenhagen Environmental Summit, the press took up the issue and spoke of 'climategate.' One scientist, for example, wrote an email stating that he 'cannot overstate the HUGE amount of political interest in the project as a message that the government can give on climate change to help them tell their story.' He added that 'they want their story to be a very strong one and don't want to be made to look foolish.' Worse, another discussed to advisability of hiding or obscuring findings that did not fit the standard climate change scenario. This led climate skeptics and deniers to express outrage about the findings of biased scientists. They insisted that climate policy decisions should be based on all of the evidence including that which did not suit the biases of IPCC climate experts, which on the surface of the matter surely sounded responsible.

This, to be sure, proved to be more than a little awkward to the scientists involved, leading to investigations by the university. And, as such, it was raw meat for the conservative social media. But what it actually did, from the perspective here, was to confirm the social constructivist understanding of scientific work. The scientific community was seen to be social group – with all of the typical human foible that it has, made up of individuals with scientists with opinions. This did not, as claimed, refute the data as such; it only illustrated the human dimension of an epistemic community, as well as illustrated the strategic nature of the argumentative process when science is employed for political decision-making. It is the same kind of political translation process that Allen has described. The reality is, both sides do it, but try to hide behind conventional understandings of science when they do it.

Concluding remarks

The goal of this article has been to challenge the contention that social constructivism is responsible for the emergence of post-truth politics and the role of alternative facts in public discourse. Demonstrating the argument with the post-truth case of climate denial, the discussion began by taking note of the fact that climate denial is grounded in high levels of political distrust that have come to characterize contemporary politics in many countries. Turning then to the critique of post-modernism and social constructivism, we saw the ways that social constructivism, separated form post-modernism, is a valuable approach for understanding the post-truth phenomenon.

Through an examination of the controversial arguments of the climate deniers, it was shown that it is not enough to simply argue that deniers are irrational because they ignore the facts. From the social constructivist perspective, we are able to recognize that the social dimensions of the scientific research can only be neglected at the expense of understanding. Although it does not mean the numbers are scientifically incorrect or politically manipulated, the deniers correctly portray the research outcomes of a consensus rather than proof per se. Moreover, we can see that, regardless of how problematic their contentions are, the socio-cultural logic of practical reason entitles them to their position. The controversy thus does not altogether rest on the climate numbers, despite claims to the contrary, and, as such, is not a matter that can be resolved by better fact checking. As we have seen, it is concerned as much or more about underlying questions concerning modern society, its social values, normative orientations and policy goals. Toward this end, the climate deniers emphasize these implications, with the numbers mainly serving in various ways – intellectually and emotionally – as proxies for these deeper issues.

We can also understand the staunch opposition to climate change arguments by recognizing that, given the deep divisions and the distrust associated with them, the climate denial rejection of the numbers can in significant part be understood in the emotional terms of dread and the outrage factor. Conservative climate deniers are convinced that the climate scientists are part of a political strategy of a left-wing truth regime that promotes planning and regulation of the economy, strictures on social and economic freedoms, and more top-down – if not authoritarian – forms of government. Both outraged and fearful, these are fighting issues for them.

Further, we have outlined the sociopolitical mechanism through which this thought process moves from the numbers to a broader interpretation of societal realities. What the climate deniers understand – correctly – is that the IPCC/truth-regime's narrative is a social construction that fits the numbers about warming into a Cold War security narrative. And what the deniers are up to is offering a counter-narrative – based on what they see as the alternative facts of an alternative reality – that challenges this translation. One does not have to accept their arguments, rather only to recognize that this is how political knowledge is generated and that the arguments legitimately follows the logic of practical sociopolitical argumentation.

Moreover, we have to acknowledge that the consequences of uncertain numbers (even if only 3% uncertain) do in fact imply catastrophic implications for the existing sociopolitical system. This means the dominant environmental truth regime needs to counter these arguments on their own terms. Many environmentalists have to be more candid about the kinds of impacts climate change is going to have in the future and

address them head-on, rather than hiding behind the numbers. This does not involve a rejection of the climate numbers; indeed, they need to remain part of practical climate argumentation. But it is very hard to see how the standard environmental reform strategies that typically accompany the IPCC data can deal with the problem ahead. Indeed, given the size and scope of the problem, it is almost certain that the situation will be very problematic for the free markets of goods, and also for liberal climate reform strategies (Fischer 2017). In fact, here the radical right is not wrong to worry that survival – both the planet's survival as well as their own free-marketism – may well bring more authoritarian modes of governance. Some even say it will be required (See Lovelock, quoted in Hickman 2010).

The public and its politicians, in any case, need to find ways develop a common, socially meaningful dialogue that moves beyond acrimonious rhetoric to permit an authentic socio-cultural discussion about new ways to collectively take on this very dangerous problem (Fischer 2009). The question of how to move from here to there is beyond this article. We can only say that the divides that characterize the political landscape today are wide and bringing the two camps back together will not be easy. It is question that needs to be addressed by both sides together. Without this, there is little chance of finding a political way to deal with global warming. Certainly not before it is too late.

Note

1. Climate skeptics and deniers are two different groups of doubters who raise questions about climate change, although some of them overlap. Skeptics, unlike deniers, do not necessarily deny climate change but argue that the evidence about the causes is far from certain and call for more rigorous scientific research to determine the factors contributing to climate change.

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