

**A Theory and Typology of Alternative Facts:  
Distinguishing Truth and Lies in Environmental Politics**

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**Abstract**

After President Trump’s inauguration, Kellyanne Conway introduced the concept of “alternative facts” to the American people. While particularly salient to the Trump administration’s ongoing conflict with the mainstream media, this concept has deeper historical, philosophical and policy relevance to American politics. In this paper, we develop a theory of alternative facts that builds on the history of the concept of “facts,” from Plato and Early Christianity to the Enlightenment and the Modern and Post-Modern periods. We also introduce a typology of “alternative facts,” which includes essentially-contested, contingently-contested, and infiltrated concepts. We then use this theory and typology to analyze the deployment of factual claims in a range of different cases from the arena of environmental politics, which is particularly prone to debates about science, truth, and validity. These cases, which include the energy footprint of the Toyota Prius, the budget of the Environmental Protection Agency, the science and politics of climate change, and more, provide revealing examples of different types of alternative facts. Building on our multi-disciplinary backgrounds in political science and political philosophy, we use these cases to advance our understanding of the politics of alternative facts, the value of rhetorical accountability, and the need for new ways to frame contestations over truth and accuracy.

## 1. Introduction

On January 22, 2017, Kellyanne Conway, a counselor to US President Donald Trump, and journalist Chuck Todd had a remarkable exchange on *Meet the Press*. During a conversation about whether then Whitehouse Press Secretary Sean Spicer had lied about the number of attendees at Trump's inauguration, Conway and Todd had the following to say to one another after Todd suggested that parts of Spicer's claims had been false:

Conway: You're saying it's a falsehood and Sean Spicer, our press secretary, gave alternative facts to that.

Todd: Alternative facts are not facts. They are falsehoods.

This brief exchange quickly rose to the forefront of political discourse as Trump's stormy presidency got underway. Within days, pundits and ordinary denizens of social media alike were abuzz over it. While some decried the death of truth at the hands of nefarious conservatives (Ruttenberg 2017), others asserted that alternative facts from the right are just the medicine we need for the mainstream media's incessant leftward spin (Fox News 2017). And as the Trump presidency has worn on, it is easy to wonder whether the increasingly brazen mendacity issuing from the White House is the fruit of a culture that has come unmoored from truth as a governing norm of discourse. Has truth, as a cultural matter, somehow died for us in much the way Nietzsche (2001) saw God dying in the cultural life of the European 19<sup>th</sup> century? And if so, should we be sad to see it go?

Although the character and significance of truth and facticity have long been the subjects of political and philosophical reflection, the idea of alternative facts has not. Indeed, only a very few publications have yet taken up the matter at all (e.g. Hoffmann 2018, McIntyre 2018). Our aim here is to take some initial steps towards answering two questions about alternative facts. First, what is the philosophical and theoretical background from which our current alternative facts discourse has emerged? And second, does a rigorous typology of disagreement contain space for genuinely alternative facts? Or was Todd right to claim, as he did that morning on *Meet the Press*, that “alternative facts” are simply falsehoods?

In what follows, we will address these questions in turn. In §2, we will trace the current discourse of alternative facts to a long-running dispute about the nature and authority of truth. We will contend there that the philosophical considerations that count against certain very robust conceptions of truth and facticity do not undermine truth and facticity as appropriate standards for discourse. In §3, we will sketch a typology of factual disagreement, each branch of which we will illustrate with examples from environmental politics, which is a particularly rich area of factual contestation. In the course of doing so, we will try to diagnose the root of our contemporary political phenomenon of ideological disagreement about facts.

## **2. Facts, Truth, and Skepticism**

What is a fact? The debate over this question, like most debates in Western philosophy, can be framed within the context of the broader debate between the two traditions known, somewhat clumsily and largely inadequately, as rationalism and empiricism. The rationalist arc arguably begins with Plato (2004) before developing through

medieval Christian Platonism (e.g. Augustine 2007 and Anselm 1996) and 17<sup>th</sup> century theorists such as Descartes (1984). The members of this tradition were (and are) in broad agreement that Being has a rational structure that exists independently of human minds, and that human beings are able, at least under some circumstances, to grasp Being intellectually. This intellectual grasp is necessarily *rational*: Empirical observations, though often important, can only deliver confused and indistinct ideas of the Being that the empirical world imperfectly reflects. Thus, although members of the rationalist position were (and are) happy to talk about truth and to affirm that human beings can grasp it, their reluctance to understand truth in terms of observation and confirmation makes “fact” talk an awkward fit for their approach.

The rival empiricist arc arguably begins with Aristotle (2016) before attaining its own heights of sophistication in the 17<sup>th</sup> and 18<sup>th</sup> century works of Locke (1975), Hume (2000), and others. The central ideas of early modern empiricism were that (a) the mind is naturally free of ideas; (b) the mind acquires ideas from the physical world through the five senses; and (c) the ideas acquired by the senses can, and at least sometimes do, resemble the world. Since the mind has nothing to work with apart from sensory ideas, there can be no hope of direct rational contact with reality of the sort posited by the rationalists. But we can confirm our hypotheses about the world by testing them against the empirical content of our sense experience and the complex ideas derived from that experience.

It would take much more space than we have available here to do justice to these rich and complex traditions. So for the purposes of the present discussion, we will focus on some significant moves in the debate surrounding truth and facticity as it has developed since the early 20<sup>th</sup> century. While the last hundred years or so hardly contain the whole story

relevant to the matter of alternative facts, a focus on the relatively recent chapters in that story will supply the key pieces necessary to approach the idea of alternative facts as it figures into contemporary political discourse.

Let's begin with Bertrand Russell and his correspondence theory of truth. The correspondence theory of truth is perhaps the most intuitively obvious such theory. Moreover, it affords a clear and intuitive role to facts. According to the correspondence theory, truth is a property that sentences have if and only if what they assert about the world corresponds to how the world actually is. Put another way, a sentence is true if and only if the content it asserts corresponds to the facts, where facts are objective conditions of the world, not features of language about the world. "Truth," Russell writes, "consists in some form of correspondence between belief and fact." (Russell 1998, 70).

The relationship between the truth of sentences and facts as understood by the correspondence theory has, since the 1930s, often been expressed with the help of Tarski sentences, so-named in honor of their inventor, logician Alfred Tarski (Williams 2002). A Tarski sentence states the conditions under which an assertion is true. For instance:

(T1) "Cats are mammals" is true if and only if cats are mammals.

The left hand side of the bi-conditional (that is, the content to the left of the words "if and only if") identifies an assertion in English, whereas the right side identifies the condition under which that assertion is true. The condition identified on the right (in this case, the condition of cats being mammals) is the *fact* that makes the assertion on the left (in this case,

“Cats are mammals”) true. Thus, whereas truth is, strictly speaking, a property of sentences in a language, facts are conditions of the world itself.

The correspondence theory of truth suggests what we can call the “common-sense theory of facts.” According to the common sense theory, the world just has, objectively and prior to our linguistic and conceptual engagement with it, a particular structure. Moreover, we are often able to perceive, more or less accurately, how the world objectively is and capture this in the sentences of our languages. These sentences are then true or false, and can be recognized as such, insofar as they capture and express the objective structure of the world (e.g. the mammalian status of cats) or else fail to do so.

One problem that arises in connection with the common sense theory is how to make sense of the idea of correspondence between language and the world. The world, after all, is not made of language, so what does it amount to for a bit of the world to correspond to a bit of language? Perhaps the most obvious possibility, which enjoyed some support during the 18<sup>th</sup> century, is that ideas somehow resemble, or are isomorphic with, the facts that cause them via sense experience, and language represents these ideas. But it is hard to understand how this can be right. After all, in what sense could either an idea, or the English sentence, “Cats are mammals,” resemble the mammalian character of cats? This sort of difficulty suggests that the correspondence between sentences and facts cannot be any kind of resemblance. But then what is it? It is notoriously difficult to say.

Another, related difficulty arises from the common sense theory’s assumption that the world is structured into logically discrete pieces that can be adequately captured by particular sentences. For instance, if sentence T1 above is true, it must make sense to say that the world itself, as opposed to the world as somehow refracted through the prism of

language, is structured in such a way that cats *just are* mammals, period. But is there any reason to believe that the world beyond language has such clean joints? Or, put more simply, is the correspondence theory of truth undermined not so much by the absence of correspondence between facts and language as by the non-existence of facts altogether? Following Bernard Williams, let's call those who are skeptical about common sense theory "deniers."

On the face of it, the deniers' position might seem patently crazy, problems just raised notwithstanding. After all, how could it possibly be false that there is a fact about the world's roughly spherical shape that renders true the sentence "The earth is roughly spherical"? The basic argument for the deniers' position relies on the observation that there is no way for us to experience the world without interpreting it through the lens of our own subjective point of view, a point of view that is, for beings like us, a social and linguistic one. Put another way, we cannot escape our own, irreducibly first-person perspective and the socially and linguistically structured categories of thought on which that perspective depends in order to reach out and grab the world as it really is, in and of itself. And since this is true, why shouldn't we think that the facts the world seems to present to us are instead products of our own socially and linguistically structured experience of the world?

Many deniers have complicated their critique of the common-sense idea of facticity with the idea of language games, which has its roots in the later work of Ludwig Wittgenstein (2009). A language game is a self-contained system of rules and practices that groups of people inhabit together in order to interpret one another and the world around them. Richard Rorty—perhaps Anglo-American philosophy's most strident denier in recent years—places the idea of language games at the heart of his critique of the common sense

theory (Rorty 1979, 1989). Two of his favorite language games to contrast are those of naturalism and religion or, as he at one point puts it, of “Saint Paul versus Freud” (Rorty 1989, 5) Each of these language games includes a comprehensive vocabulary for making sense of experience, complete with rules for creating and interpreting accounts of what goes on in the world and why. Each of these may present itself as capturing and presenting what is really, objectively going on in the world outside of each game, but there is, in the end, no reason to believe this. Rorty writes:

When the notion of “description of the world” is moved from the level of criterion-governed sentences within language games to language games as wholes, games which we do not choose between by reference to criteria, the idea that the world decides which descriptions are true can no longer be given a clear sense. (Rorty 1989, 5)

If the deniers are right to think that the idea of objective facts is much less secure than many of us suppose, what becomes of truth? If there is no world of facts (or none that we can access) outside of our socio-linguistic practices, how are we to say that what one group of people asserts as factual is any more so than another group’s different, and incompatible, assertions of fact? To bring the question back home to our present political situation, how are we to say that what Kellyanne Conway’s conservative community takes to be the facts about attendance at the inauguration is not a genuine alternative to the facts offered by her interlocutor on *Meet the Press*? If Conway and her political allies engage the world as members of a language game with its own rules and norms for interpreting experience, and



if the deniers are right to reject the idea of access to a common, objective world of facts, why should we scoff at Conway's alternative facts? If Rorty and the others deniers are right, it is hard to see why Conway shouldn't be entitled to her alternative facts. One can almost hear the right's gleeful retort: "So facts and truth are all about interpretation and language games? Well, how do you like this interpretation? It is, by your own standards, no worse than yours. So deal with it."

The deniers, though a major contingent in the truth wars, are hardly uncontested. Some philosophers have argued that although we should take their point about the inescapability of interpretation, that point needn't drive us to a wholesale rejection of objective facticity. One of the most significant of these "affirmers," as we may call them, is Bernard Williams. According to Williams (2002, 2014), deniers like Rorty are guilty of a fairly elementary error in reasoning about truth and facticity. First, they provide the reasons just reviewed for doubting that there is truth about the world that is entirely independent of our cultural and linguistic engagement with it. From this premise, they attempt to draw the conclusion that there are no objective facts about the world at all. But surely, the conclusion only follows from the premise if we assume that the only genuine facts are facts that in no way depend on linguistic or cultural structures. Why, though, should we think any such thing? Why can't we be accountable to one another for interpreting the world accurately, even if we can't make sense of accuracy in some totally extra-linguistic, pre-interpretive sense?

One possible reply is that members of distinct social, political, and religious communities experience the world so differently that there is simply no sense to be made of truths that transcend those dimensions without appealing to an utterly independent Truth,

out there in the world, all on its own. While it is perhaps possible to imagine beings so different from us that it would be hard to share standards of truth and facticity with them, it is brazenly cynical to suggest that Republicans and Democrats fail to share such standards with one another. Even if truth and facticity depend on shared structures of thought and language, we *do* share structures of thought and language, and that makes it possible for us to hold one another accountable for getting it right. Moreover, we may expect one another to try as hard as possible to do well, using the best methods we can justify one another in light of careful reflection, practice, and study. This may not get us to a transcendent Truth about the matter, but that hardly means we can't do a better or worse job ascertaining the truth about it.

With all of this in mind, let's return to Conway and her alternative facts. If we are right that there is no need for there to be transcendent Facts and Truth in order for there to be more mundane facts and truth grounded in our shared engagement with the world, the possible non-existence of transcendent Facts and Truths can provide no quarter for her position. If there are any genuinely alternative facts, this cannot follow trivially from an assumption that no putative facts are any better than their alternatives. This raises an important question: Even if we should reject global skepticism about truth and facticity, is there any sense in which at least some purported facts are genuine alternatives to one another? And, in particular, in what sense, if any, does our political discourse contain such truly alternative facts, and in what varieties? In order to address these questions, we propose to develop a typology of what we might broadly describe as factual disagreement. Once we have constructed this typology, we will illustrate each of its types with a real set of contested claims from the discourse of environmental politics.

### 3. Types of Disagreement and Essentially Contested Concepts

Many concepts—perhaps most—are contested in some way. But some concepts are *essentially* contested. As formulated by W.B. Gallie and since refined by many other authors (e.g. Gray 1985, Swinton 1985, Fallon 1997, Waldron 2002, van der Burg 2017), an essentially contested concept is one for which disagreement about how to interpret and apply it is essential to its use. Unlike concepts that are either contingently contested or non-contested, essentially contested concepts are such that there is no way (or almost no way) to imagine the disagreements surrounding them coming to an end. This is not to say that essentially contested concepts cannot serve as common conceptual currency among people who disagree about how to deploy them. To the contrary, disagreement about what answers to an essentially contested concept is part of its ordinary functioning, not a barrier to its ordinary functioning. As Jeremy Waldron puts the point, the “essentially” in “essentially contested concept” is “not just an intensifier” (Waldron 2002, 149). Rather, it indicates that concepts of this kind are contested as part of their regular, proper, and predictable use.

Most scholars who deploy the idea of essentially contested concepts identify four conditions as necessary and jointly sufficient for a concept to count as essentially contested. Wibren van der Burg frames them as follows:

According to Gallie, an essentially contested concept is (1) an appraisive concept, (2) which signifies or accredits an internally complex achievement that is (3) initially variously describable and (4) open. (van der Burg 2017, 223)

It will be useful to explicate briefly each of conditions 1-4. First, an appraisive concept is simply an evaluative concept. To say that essentially contested concepts are appraisive is to say that they have evaluative content. In other words, it is impossible to deploy the concept without making a judgment about how something or someone *ought* to be or behave. Second, to say that an essentially contest concept “signifies...an internally complex achievement” is to say that essentially contested concepts have multiple dimension that cannot be “fully disaggregated” (van der Berg 2017, 234). Van der berg offers democracy as an example:

Elements of democracy are the majority principle, the equality of all citizens, and continuous active participation; each of these elements should be included in our description, but we may grade their importance differently, and we may interpret each of them differently. (Van der Berg 2017, 234)

Third, essentially contested concepts are “initially variously describable” in the sense that different users of the concept can disagree about what answers to the concept without any of them misusing the concept. Ronald Dworkin famously frames this point in terms of his distinction between concepts and conceptions (Dworkin 1978, 103; cited at van der Berg 2017, 236). A conception of a concept is an interpretation of what that concept amounts to. For example, “cruel and unusual punishment” is a concept that admits of numerous conceptions, some of which count capital punishment as cruel and unusual and others of which do not. Although it might be a moral error to deny that capital punishment is cruel or unusual, this error does not amount to an incorrect use of the concept of cruel and unusual

punishment in the way that denying that trees are plants amounts to an incorrect use of the concept of plants. Fourth, and finally, essentially contested concepts are open in the sense that the range of conceptions they admit can change over time (van der Berg 2017, 237).

We propose to deploy the idea of essentially contested concepts to make sense of the range of contested concepts in contemporary political discourse. We offer a typology of such disagreement that contains three categories, or branches, each of which divides into subcategories, and each of whose subcategories we will illustrate with a contentious disagreement from environmental politics. First, there are disagreements about essentially contested concepts, such as justice, equality, and the like. There is little reason to believe that disagreement about these concepts will find resolution. Second, there are disagreements about contingently contested, empirical concepts. Although these concepts are in fact contested, they are not essentially so, and we may reasonably hope that they might not always remain so. Third, and most interestingly, there are political disagreements involving concepts that present outwardly as only contingently contested but are, in fact, invested with essentially contested content. This is the troubling domain of “alternative facts” in the Conway sense, wherein empirical claims seem to rest on bizarrely shifting sands. And if we are to follow Williams and the truth affirmers in opposition to Rorty and the truth deniers, we should resist the temptation to see genuine alternatives in this domain.

### ***3.1 Typology Branch 1: Essentially Contested Concepts***

We include in this branch all disagreements about truths regarding concepts that are clearly and openly essentially contested. A classic example is the disagreement between certain people on the right and the left about the relationships between private property,

taxation, and slavery. According to some, such as the late American philosopher Robert Nozick (Nozick 1974), private property is inherently bound up with our shared status as free and equal moral persons, and non-optional redistribution (e.g. by taxation) is theft. But according to others, such as the 19<sup>th</sup> century French thinker Pierre-Joseph Proudhon, private property is itself a kind of theft, and liberty is only to be had in workers' collectives (Proudhon 1970). This disagreement hinges on (at least) two essentially contested concepts, namely property and liberty. Consequently, disagreements of this kind are likely to be intractable. This is not to say that there is no hope of rational persuasion about essentially contested concepts, or that all opinions about them are just as good as any others. Rather, it is merely to say that even the best arguments about essentially contested concepts leave open the possibility of reasonable rebuttals. Essentially contested disagreement is very important to some of the central problems in political theory, including that of legitimate coercion in a pluralist society (see e.g. Rawls 1995, Gaus 2010, and Valier 2014). In the present context, essentially contested concepts such as property, independence, liberty, and animal dignity (among others) play an important role in the environmental debates we will use to illustrate our typology of alternative facts. For now, though, let us put straightforwardly essentially contested agreement to one side in order to consider the rest of the typology.

### ***3.2 Typology Branch 2: Contingently Contested Concepts***

When disagreement about empirical matters of fact goes well, it is contingent and, in principle, soluble. Or, in some cases, disagreement may be only a matter of emphasis, behind which lies substantive agreement. In any case, there is in such cases no sense in which

disagreement is inevitable or just part of the conceptual territory at hand. In the language we've been developing, these are disagreements about concepts that, insofar as they are contested, are only *contingently* contested rather than essentially so. In this first branch of our typology, we distinguish four varieties of such contingently contested disagreements.

### *3.2.1 Equivalent Alternative Facts*

The first variety are what we will call "equivalent alternative facts." Such a fact about a particular object differs from other facts about that same object in how it quantitatively or qualitatively frames or presents that object. These facts are logically, informationally, and materially equivalent but can have different effects on individuals because "they cast the same information in either a negative or positive light" (Tversky and Kahneman 1986, Druckman 2004, p. 671). Examples include describing the percentage of people currently working as "90% employment" or "10% unemployment," or the amount of fat in a product as "97% fat free" or "3% fat" (Chong and Druckman 2007). Qualitative examples include describing a light as "off" or "not on," a door as "open" or "not closed," or a glass "half empty" or "half full." While the differences between such equivalence frames should not matter from a mathematical or logical perspective as they are functionally equivalent, research has shown that they can indeed influence how people respond to the underlying information embedded in them (Tversky and Kahneman 1981; Morton et al. 2011; Kuhn 1997).

An example from the domain of environmental politics demonstrates the nature of this type of alternative fact. A study published in the Proceedings of the National Academy of Sciences concludes that there is a 1 in 20 chance (or 5%) that climate change will pose existential threats to a majority of the human population by 2100 (Xu and Ramanathan

2017). This probability could also be framed, however, as a 19 in 20 chance (or 95%) that humanity will not become extinct in the next 100 years. As research by Tversky and Kahneman (1986) on prospect theory discovered, the prior negative (or “loss”) framing often promotes risk aversion, as it focuses attention on the losses associated with the probability, while the latter positive (or “gain”) framing can provoke risk seeking behavior, as it highlights the gains (or the likelihood of the status quo being maintained). Thus the same information presented in these two different frames can have significantly different effects on people’s actions.

Depending on the context, loss frames can be more effective in influencing behavior than gain frames, and vice versa (Morton et al. 2011). For example, the influence of such frames may depend on levels of uncertainty associated with the numbers presented. An experiment conducted by Morton et al. (2011) presented groups of participants with different statements about the probability that global warming of 2 degrees C will (or will not) cause abrupt and severe changes to regional weather patterns such as monsoons or the El Niño. The statements differed in the direction of the probability (20% likely will not cause or 80% likely will cause) and the certainty of the probability (20% vs. 10%-30% and 80% vs. 70%-90%). Participants who received loss frames highlighting the likelihood of climate change causing weather changes expressed greater intentions to modify their behavior when the probability of those changes was presented as a range. Such an effect was not found for participants who received gain frames.

Many other factors can influence how such frames can impact behavior, including the response mode (choice vs. rating/judgment), the qualitative or quantitative nature of the risk, the number of risky events, and the type of problem domain (Kühberger 1998). For



example, gain frames have been found to be more effective at encouraging individuals to prevent the onset of disease (Rothman, Bartels, Wlaschin, & Salovey, 2006). At some level there may be underlying individual-level differences in risk tolerance that may represent “essential” differences that are not easily resolved, making them similar to the essentially contested concepts such as democracy discussed above. However, research on framing effects suggests that once we identify all of these competing framing effects, we may become more aware of the biases they are creating and more capable of making more rational or objective assessments. Thus in this sense the facts, concepts, and issues associated with such equivalency frames are contingently-contested and not inherently unresolvable.

Sunstein (2005) discusses one framework by which these differences in risk assessments may be resolved once we are aware of the differences between competing equivalent alternative facts. In the context of climate change and other types of threats that have a low probability of a high impact “catastrophic” effect. The underlying reasoning is that given the nature of such catastrophes, from the possible extinction of humanity to the destruction of the Earth (caused by “strangelets” that could be created in powerful particle accelerators), it is reasonable to adopt a position of risk aversion, regardless of how that risk is framed. This might be one way to decide which type of alternative fact to focus on in such contexts. Similarly, at a more individual level, it may be reasonable for doctors to present the risks of surgery in loss frames by default (1% chance of complications instead of 99% chance of no complications), as death is a relatively catastrophic event for an individual.

### *3.2.2 Anchored Alternative Facts*

A second form of alternative fact is anchored alternative facts. Such a fact about a particular object differ from other facts about that object in how it compares that object to other objects. Such a comparison inherently links or “anchors” the object in question to those other objects, and influences how individuals perceive the information presented about the original object. Returning to the example regarding the probability of climate change posing an existential threat to a majority of humanity, one of the authors of the study explains, “When we say five per cent-probability high-impact events, people may dismiss it as small but it is equivalent to a one-in-20 chance the plane you are about to board will crash” (Collins 2017). In this statement, he has created an anchored alternative fact by metaphorically linking the original probability of high-impact events to the probability of crashing in an airplane. An article in the Atlantic creates a similarly anchored alternative fact by stating that the risk of human extinction to climate change may be higher than the actual – not metaphorical – probability of Americans dying in a car accident (Meyer 2016).

By suggesting that climate change risks are more likely than risks that are more familiar to the layperson and that society has spent significant resources mitigating, these anchored alternative facts imply that similar if not more efforts should be made to mitigate the risks of climate change. However, different but no less accurate alternative facts could suggest different implications. For example, the probability of human extinction due to climate change might be compared to the greater risk of death from heart disease or cancer (National Safety Council 2016). Such a comparison might suggest that more effort should be spent on reducing these threats before resources are expended on mitigating climate change.

Several other examples further demonstrate the effects of such anchored alternative facts. One relates to the budget of the Environmental Protection Agency, which the Trump administration has proposed cutting by nearly one third, to 5.6 billion USD. Defenders of the EPA have anchored this fact with references to its past budgets – “it would give the EPA its smallest budget in 40 years, adjusting for inflation” (Meyer 2017). It has also been compared to the 54 billion USD increase in the budget for US military (Gibbens 2017), and presented as a percentage of the overall federal budget (0.12%) and its cost per American (\$26) (Save EPA n.d.). Proponents of the cuts, however, have anchored the fact of the budget cuts differently, implicitly comparing it to the overall national debt. As Ralph Norman, a Republican congressman from South Carolina, states, “Every dollar spent by the federal government must be scrutinized...As our national debt grows in excess of \$20 trillion (that’s 20,000 billion for the folks following at home), each of my 15 grandchildren is being saddled with a \$61,000 share of the debt” (Norman 2017).

### *3.2.3 Emphasized Alternative Facts*

An emphasized alternative fact is a third form of a contingently-contested concept, and differs from other facts about a particular object in what aspects of that object it emphasizes. Instead of utilizing equivalence frames that differ in the presentation of identical information, such facts utilize emphasis frames that highlight different information about an object (Chong and Druckman 2007). For example, Hardisty et al. (2010) find that Republicans and Independents were more likely to choose more expensive products that include an environmental fee when that fee is presented as an offset as opposed to a tax. The offset frame emphasizes the positive benefits of the fee while the tax frame emphasizes the

negative costs of the fee. It is true that the fee is both a tax and an offset, but some people perceive the fee differently depending on which of these two alternative facts is used to describe it.

As a further example, Hart (2011) find that participants in a survey experiment were more likely to support government policies to mitigate climate change if they were exposed to a fact that emphasized a broad theme about climate change (a “thematic” frame) rather than a fact about a specific anecdotal impact of climate change (an “episodic” frame. In his study, the alternative fact emphasizing a thematic frame focused on the impact that climate change was having on all polar bears, while the alternative fact emphasizing an episodic frame was about a single polar bear trying to survive the warming climate in the Arctic.

A final example comes from the context of measures of carbon dioxide emissions and the question of which country is the largest source of such emissions. While on the surface this may sound like a straightforward question, multiple correct alternative facts exist depending on the time frame and the scale considered. In terms of historical emissions between 1850 and 2007, the largest emitter is the United States (339,174 MT, or 28.8%). In terms of current emissions (based on 2011 data), China is the largest emitter (9,697 MT, or 28.6%). If we change the scale of the measure from the national level to the individual level, the people of Qatar are the largest emitters, as of 2010 (36.9 tonnes per person, compared to 17.3 tonnes for Americans and 5.4 tonnes for the Chinese). Likewise, the per capita historical leaders are the people of Luxembourg (1,429 tonnes). All of these measures are based on CO<sub>2</sub> emissions from production processes, which places more responsibility on countries that manufacture goods for the rest of the world to consume. If the metric is instead based on emissions from consumption and the purchase of those goods, the people

of Belgium have the largest “carbon footprint” and are the leading source of per capita CO2 emissions (as of 2008). And all of these results are based on CO2 emissions; the leaders in each category would likely be different if all greenhouse gases were included (all data presented here is cited from Clark 2011).

Each of these facts may be true, but they emphasize different dimensions of responsibility for anthropogenic climate change and orient people towards ascribing responsibility based on those dimensions. While these emphasized alternative facts may reflect different political interests and be deployed for different political ends, they themselves are not incorrect; they just do not encompass the full truth about the sources of the world’s greenhouse gas emissions.

#### *3.2.4 Procedural Alternative Facts*

The fourth form in this branch of our typology is procedural alternative facts. A procedural alternative fact about an object differs from other facts about that object in the robustness of the process used to produce that fact. These facts differ not in how they are presented, how they are anchored, or how they are emphasized to the exclusion of other facts, but in how they are constructed. They are in many ways what we think of as proverbial “facts;” bits of information that have been developed through some sort of inductive or deductive process and have undergone some form of review, evaluation, and confirmation. Their quality or robustness can be assessed based on their falsifiability (Popper 1959), the extent to which they were developed according to accepted scientific norms (Merton 1973), or the breadth of support for them among particular communities with relevant expertise (Kuhn 1977). Specific norms might include the disinterestedness of the actors who

generated the facts, for example, or the transparency of the processes by which those facts were generated.

A debate around the environmental footprint of the Toyota Prius illustrates how such procedural alternative facts are developed and contested. In 2007, CNW Marketing Research published a report that claims that the Prius uses more energy per mile than a Hummer. The analysis is based on the full life cycle of these automobiles, and includes the energy used in their production, operations, and disposal, from their fuel economy to repair and maintenance costs to transportation and dealership expenses. Numerous scholars and organizations soon published detailed critiques of the report's methodology (CNW Marketing Research 2007). Gleick (2007), for example, asserted that "the report's conclusions rely on faulty methods of analysis, untenable assumptions, selective use and presentation of data, and a complete lack of peer review." Hauenstein and Schewel (2007) conducted their own analysis and were unable to replicate the results of CNW's research, and conclude that the "Prius has a smaller lifetime environmental impact than the Hummer regardless of lifespan or assembly energy assumptions." They also state their work highlights the "deep divide between CNW's study and all scientifically reviewed and accepted work on the same topic" (Hauenstein and Schewel 2007).

This example demonstrates the procedural contestations that can surround certain alternative facts. The CNW report was originally motivated by a concern that existing studies focused too much on fuel economy and did not measure the "total energy consumption for the auto industry" (CNW Marketing Research 2007, p. 5). In building their research design, they considered over 4000 data points to be pertinent (CNW Marketing Research 2007, p. 6). The critics conversely argued that the CNW authors violated several norms of scientific

research, including being transparent about both their methods and their sources of funding and using the most appropriate and accepted methods of analysis (Gleick 2007). These arguments over scientific procedures and norms infuse debates about many other environmental issues, and particularly around the facts of climate change (Hoffman 2011).

#### ***4.3 Typology Branch 3: Infiltrated Concepts***

Beyond the arguments surrounding essentially-contested alternative facts and the four different types of contingently-contested alternative facts discussed above, our current political discourse is shot through with a distinctive brand of disagreement that has become explosively divisive and deeply problematic for reasoned debates about possible solutions to the problems of modern society. On the surface, these disagreements appear to be over claims about reality, such as the physical consequences of human action on the natural world. Unlike the disagreements in the first branch of our typology, these are not obviously about concepts that are essentially contested. For instance, “carbon dioxide,” “atmospheric warming,” and “climate” (not to mention “inauguration attendee”) are not essentially contested concepts. Nevertheless, political actors on opposing sides of the political spectrum are locked in passionate, apparently intractable debates about them that resembles debate about essentially contested concepts. So they do not appear to be fighting over contingently-contested concepts either. Why is this? Are people confused? Or acting in bad faith?

We suggest that disagreement of this kind, of which we will shortly consider four different examples, is grounded in the *infiltration* of empirical, non-essentially contested concepts by normative, essentially contested concepts. When we fight about climate change, for instance, what purports to be a fight about whether humans have warmed the planet by

burning fossil fuels is, more fundamentally, a fight about what human communities should prioritize in their relationships to their environments, their governments, and one another. Let's call this phenomenon *conceptual infiltration*. We argue that conceptual infiltration is the source of the conflicts that stand behind Conway's suggestion that conservatives might have alternative empirical facts to offer to liberals. People embedded in fundamentally different normative perspectives can allow the content of essentially contested concepts, like freedom and prosperity, to infiltrate concepts that are not essentially contested, like atmospheric carbon and event attendance. When this occurs, the idea of alternative facts begins to look plausible, because debaters find themselves in intractable disagreements that have the surface grammar of factual disagreements, despite concealing a deeper logic of normative disagreement. This is a regrettable and confused state of affairs that we would do well to confront in our political culture.

We have identified four primary drivers of such infiltration, which we will broadly term ideology, tribalism, religion, and skepticism. While imperfect terms, they capture the broad sense of each category:

- *Ideology*: An overarching commitment to an idea or set of ideas as important organizing frameworks for social relations;
- *Tribalism*: A deep commitment to advancing the interest of one's own family, tribe, or broader social in-group, whether they be identified by race, class, ethnicity, nationality, or some other category;
- *Religion*: An essential commitment to a particular understanding of the meaning of life, the nature of death, and the relationship between humans and the rest of the universe;



- *Skepticism*: A firm belief that humans are generally unable to adequately measure natural and human phenomenon and accurately determine the causes of those phenomenon.

In order to understand the idea of infiltrated concepts and their role in public discourse, it will be useful to re-visit some of the cases described above.

#### *4.3.1 Ideologically-Infiltrated Alternative Facts*

Above we mentioned the idea of environmental taxes, which have been proposed as one mechanism that could both discourage environmental pollution and raise money for the development of environmentally-friendly technologies. There are many strengths and weaknesses of this approach that can and have been debated by both scholars and policymakers. However, what often seems to infiltrate these discussions is a dogmatic resistance to taxes as an idea to even consider as a solution. For example, once the cap-and-trade proposals that were being discussed in Congress in 2009 were framed as “cap and tax,” support for them dropped dramatically among Republicans, including one of their primary sponsors, Senator John McCain (Lerer 2009). Such a resistance to taxes may represent a deeper concern about the size and role of government in society, the legitimacy of the state more generally, and the appropriateness of the federal government taking action to solve major social and environmental problems.

These concerns likely flow from an either well-articulated or vaguely-felt commitment to libertarian or conservative ideologies, and are important for both politicians and citizens to engage and discuss. But they should be debated openly on their own terms and not in the context of whether a tax is an effective way to solve a particular problem,

which is an empirical question. This only serves to obfuscate both sets of issues – identifying the proper policy and committing to the proper ideology.

#### *4.3.2 Tribally-Infiltrated Alternative Facts*

The case of budget cuts for the EPA discussed above provide a clear example of competing anchored alternative facts. Those rhetorical competitions over how to frame those budget cuts would likely be relatively mundane and easily resolved if they were not being infiltrated by deeper battles over interests and identities. The EPA in many ways has become a rallying point for both liberals and conservatives in the hyper-partisan climate of American politics. It is seen by many of those on the right as a refuge of radical environmentalists who are undermining American progress; as Congressman Richard Hudson (R-NC) asserts, “The EPA is not only threatening the American dream, but our very livelihood” (Hudson 2015). Meanwhile, most on the left view it as a critical bastion in efforts to protect the environment and human health. As one editorialist writes, “The EPA is not an organization where all employees are tree-huggers. They’re people who play a vital role in our society and help make modern life more livable” (Escobar 2017).

The EPA has thus become an avatar for both political camps, and a symbol that differentiates in-groups from out-groups, our tribe from their tribe. This dynamic is not driven by ideology nor even necessarily economic interests, although they may sometimes contribute to the tension. It is primarily about identity and defending one’s own collectively-defined sense of self. Facts about symbols like the EPA that either represent that identity or threats to that identity thus can become battlegrounds where these tribal tensions play out.

### *4.3.3 Religiously-Infiltrated Alternative Facts*

The third type of conceptual infiltration can be illustrated by the discussion about the risk of human extinction above. While that discussion was complicated by the existence of different equivalence frames, we suggested that debates over how to frame such risks might be reasonably resolved by agreeing that catastrophic risks should be approached from a position of risk aversion. Such an agreement, however, is itself at risk if people have a religious conviction that fundamentally changes their expectations about the future, such as a belief that the world will soon be re-created and the “end times” are near. As Phan explains, “it may be asked why, morally speaking, efforts, sometimes extraordinary, should be undertaken to save the environment, if in the end it will disappear, or to use a biblical metaphor, will be reduced to ashes in a universal conflagration.”

Such a position is not theoretical. Roser-Renouf et al. (2016) report that 15% of Americans think God controls the climate and therefore people can’t be causing global warming, 11% think the end of the world is coming so we don’t need to worry about global warming, and 9% think the apocalypse will happen in their lifetime. Barker and Bearce (2012) show that individuals who believe in such end-times theology are less likely to support policies designed to mitigate climate change. Specifically, “a belief in the Second Coming reduces the probability of strongly agreeing that the government should take action by more than 12 percent” (Barker and Bearce 2012). Similarly, how people perceive and engage with debates about the extent to which humans are responsible for climate change and the probability that climate change will result in human extinction may also be influenced by their religious beliefs. Rather than engage with these empirical and theological

questions separately, they can become entangled and indistinguishable as the acceptance of certain facts is perceived as undermining and threatening one's religious identity.

#### *4.3.4 Skepticism-Infiltrated Alternative Facts*

Skepticism about science and the ability of humans to comprehend and measure phenomenon in the real world has a long history, and has been extensively explored in the fields of the history and philosophy of science and science and technology studies. Both liberal and conservative intellectuals and activists have deployed the insights and implications of these academic traditions, which center on the socially-constructed nature of knowledge claims and the dynamics of power that underlie many of these claims, for their own ends. Liberals, for example, have questioned the ability of science to accurately measure the risk of toxic substances, contending that animal-based and epidemiological studies that claim certain chemicals at a certain level do not take into account the full complexity and extent of their possible effects. Conservatives likewise have raised numerous questions about the science of climate change, claiming that the historical measurements of both greenhouse gases and temperature are inadequate and that the models designed to predict future climate scenarios are incomplete.

Such skepticism can infiltrate the discussion of alternative facts by providing rhetorical ammunition for partisans to support their pre-existing position on an issue, as their social networks, interests, ideologies, tribal affiliations, or religious convictions have already oriented towards. True skeptics would be distrustful of any scientific claim about toxics or climate change, as they would question whether either side has the ability to support their position with convincing evidence. They would thus not engage with the

debate at all. Selective skeptics might be convinced of the ability of some areas of science to ascertain the nature of reality, but doubtful of others. Strategic skeptics would deploy the uncertainty argument in debates in which the other side is making an evidence-based claim regardless of whether they truly doubt the underlying science.

While determining whether someone is a true, partial, or strategic skeptic is difficult, EPA Administrator Scott Pruitt does appear to practice strategic skepticism. He rarely explains his specific doubts about the methods used to measure the extent and impacts of climate change, but frequently invokes skeptical arguments in talking about the facts of climate change. For example, in January 2018, he stated, “It’s pretty arrogant for people in 2018 to say we know what the ideal surface temperature should be in 2100” (Brumfiel 2018). And in March 2017 he asserted, “I believe that measuring with precision human activity on the climate is something very challenging to do, and there’s tremendous disagreement about the degree of impact” (Worland 2018). But in neither interview does he specifically mention why he is skeptical about those measurements or predictions, why we should not be concerned about what the impacts of climate change in 2100, or why we should not be equally skeptical of claims that there is no significant anthropogenic climate change happening. The tone and content of his statements, as well as those made by liberal activists about the science of toxic chemicals, suggests a skepticism that is not motivated by a true concern about the underlying science but by other economic, philosophical, social, or religious considerations.

## 5. Conclusion

In this paper, we have established that despite the lack of conclusive and universal evidence of transcendent Facts and Truth, it is still possible for us to come to agreement on more mundane facts and truth based on our shared experience of the world as an empirical reality. Nevertheless, there may exist conditions under which multiple facts about that reality can co-exist and be equally true. Our typology of alternative facts reveals the nature of those conditions. First, those facts may be about concepts like democracy, liberty, or equality that are essentially contested because they are normatively evaluative, internally complex, describable in multiple ways, and subject to change over time.

Second, they may be equally true because they present functionally equivalent information in different ways, are anchored to equally factual comparisons, or provide equally factual information about different dimensions of the same object. While such equivalent, anchored, and emphasized alternative facts can be both true and legitimate, there may also be mechanisms and logics by which people can agree on their relative value and appropriateness. Alternatively, they may be able to co-exist, and in fact their co-existence may actually inform and improve the quality and depth of debate about particular issues, as they serve as windows to different perspectives on those issues.

The fourth type of contingently-contested alternative fact represents a limit to the discursive value of some forms of alternative truth-claims. To the extent that certain procedural alternative facts do not hold up to standards of knowledge production generally accepted by society, such as falsifiability, replicability, validity, and accuracy, then they do not deserve equal status in our understanding of the world. In this particular case, Chuck Todd is right – such alternative facts are indeed falsehoods. And given the evidence, the

claims of the Trump Administration about the 2018 inauguration day crowds fall into this category.

This in itself is unproblematic, as we make true-false assessments all the time. The problem emerges when this process of identifying procedurally-better facts becomes infiltrated by other considerations, be they ideological, religious, or tribal in nature. Such infiltration goes beyond an intellectually-honest and understandable skepticism about knowledge claims and is indeed the root of our contemporary political phenomenon of disagreement about facts that should be more easily agreed upon. There will always be some uncertainty about the facts surrounding complex social problems and their potential solutions, but such uncertainty cannot be an excuse to never come to a general agreement on the nature of those problems and on actions to resolve them.

This infiltration has developed because we have lost the vocabulary, ability and fora to engage in respectful conversation and thoughtful debate about essentially-contested concepts like justice, freedom, and community. Some might argue that we have never had such a vocabulary, such an ability, or such fora, but American history is populated with numerous periods where the level of debate about ideas was elevated, maintained, and paid attention to by large numbers of people. The period of the founding of the republic was one, the Progressive era punctuated by Jane Addams, Theodore Roosevelt and Woodrow Wilson was another, and the civil rights era of the 1960s was yet another. None were perfect examples of robust, respectful, and widespread philosophical debate, but they offer a window into the possibilities that we can collectively achieve and transcend.

But instead we are stuck in a political culture that condones and encourages regular and unadulterated infiltration of knowledge production by forces uninterested in

discovering those mundane truths about reality. As an example of this culture, we have a President who openly admits to making up claims about trade deficits in discussions with another head of state. To those forces, power, beauty and faith are more important than truth, which as many political theorists have pointed out, are commitments that do not bode well for democracy, peaceful human relations, and the general welfare of humanity. Without a commitment to truth-seeking and truth-telling, we risk a reversion into Hobbes' state of nature where the most powerful determine the nature of reality.

We therefore need to resurrect our commitment to procedurally-robust facts. We also must simultaneously re-commit to respectfully engage our fellow citizens in debates about essentially-contested concepts that can never be resolved but must always be grappled with. Citizens in a democratic polity must become comfortable with ideological, religious, and tribal pluralism, and be continuously reminded of its value and importance, as the alternatives are authoritarianism, totalitarianism, and bloodshed. Similarly, they need to become comfortable with decision-making under uncertainty and the co-existence of competing alternative facts that represent different values, interests, and perspectives on reality. Only then will be able to truly engage with one another and collectively solve the many problems facing our nation and society.

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