# TFA R1 AC- Falsity (w/ Delineated Analytics)

## Inherency (0:20)

#### Objectivity is worsening in the status quo which causes *polarization*, but its reversible

Sands 20 (Sands, John. "Americans Are Losing Faith In An Objective Media. A New Gallup/Knight Study Explores Why.". Knight Foundation, 2022, https://knightfoundation.org/articles/americans-are-losing-faith-in-an-objective-media-a-new-gallup-knight-study-explores-why/. Accessed 2 Mar 2022. //chskk)

1) Americans see increasing bias in the news media: One of the primary reasons Americans don’t think the media works for them is because of the bias they perceive in coverage. Many feel the media’s traditional roles, such as holding leaders accountable, is compromised by bias, with nearly 7 in 10 Americans (68%) who say they see too much bias in the reporting of news that is supposed to be objective as “a major problem,” up from 65% in the 2017 Knight/Gallup study. They see it in their own news sources (57%), and more than 6 in 10 are concerned about bias in the news other people are getting, the survey finds. Some 7 in 10 Americans worry that owners of media companies are influencing coverage. 2) Americans think the media is pushing an agenda. Eight in 10 Americans say that when they suspect an inaccuracy in a story, they worry it was intentional —because the reporter was misrepresenting the facts (52%) or making them up (28%). Only 18% say they think the inaccuracies were innocent mistakes. And when it comes to news sources they distrust, nearly three-quarters of Americans (or 74%) say those outlets are trying to persuade people to adopt a certain opinion. 3) Distrust in the media cuts along partisan lines: Views on the media vary widely by party, though overall, Americans view the media more negatively than positively. The breakdown: Nearly 7 in 10 Republicans (67%) have a very or somewhat unfavorable opinion of the news media, versus 1 in 5 Democrats (20%) and about half of independents (48%). 4) A majority of Americans say the media are under political attack – but are divided by party on whether it’s warranted: While people from all political persuasions agree that the media is being politically attacked, 66% of Democrats say those attacks are not justified, while 58% of Republicans say they are. 5) Opinions on the media also vary widely by age. Young Americans, for example, tend to have more negative views on the media. One in 5 American adults under 30 (20%) say they have a “very” or “somewhat” favorable opinion of the news media, versus almost half of those aged 65 and older (43%). 6) Americans blame the media for political divisions, but they also see the potential for the media to heal these divides. Forty-seven percent of Americans say the media bears “a great deal” of blame for political division in this country, and 36% say they bear “a moderate amount.” At the same time, 8 in 10 Americans believe the media can bring people together and heal the nation’s political divides.

## Adv: Public Health (1:10)

#### Vaccination rates low in the status quo

WHO 21 ("Immunization Coverage". Who.Int, 2021, [https://www.who.int/news-room/fact-sheets/detail/immunization-coverage. Accessed 3 Mar 2022](https://www.who.int/news-room/fact-sheets/detail/immunization-coverage.%20Accessed%203%20Mar%202022). //chskk)

-year end 2021 data not available yet so this is most recent data we have

Global coverage dropped from 86% in 2019 to 83% in 2020 An estimated 23 million children under the age of one year did not receive basic vaccines, which is the highest number since 2009 In 2020, the number of completely unvaccinated children increased by 3.4 million. Only 19 vaccine introductions were reported in 2020, less than half of any year in the past two decades. 1.6 million more girls were not fully protected against human papillomavirus (HPV) in 2020, compared to the previous year

#### Casual link between mainstream media misinformation and vaccine refusal- DTP and MMR

Dees 13 (Dees P., Berman D.M. (2013) The Media’s Role in Vaccine Misinformation. In: Chatterjee A. (eds) Vaccinophobia and Vaccine Controversies of the 21st Century. Springer, New York, NY. <https://doi.org/10.1007/978-1-4614-7438-8_21> //chskk)

-at: recency- misinformation covid 19 this ev just implies a casual link

DTP In 1974, Kulenkampff et al. [ 32 ] published a report claiming an association between the DTP vaccine and serious neurologic complications. Despite the fact that numerous independent studies had shown no causal link between the immunization and permanent brain damage, the media continued to cover the Kulenkampff study. Rates of immunization dropped from 81 to 31 % and more than 100,000 cases and 36 deaths from pertussis followed [ 27 ]. Despite the report being published in England, the press coverage extended internationally and vaccination rates decreased while increased mortality due to pertussis were reported in Japan, Sweden, and Wales [ 27 ]. The media once again failed to report the increased rates of morbidity and mortality, and preferred to focus on the controversy created by the Kulenkampff report. In 1982, a teledocumentary produced by a Washington, D.C. news station, WRC-TV, called DPT : Vaccine Roulette included commentary from a former US FDA employee and neurologists who supported accounts that the DTP vaccine caused serious and permanent brain damage. Although the program was speedily debunked by medical experts, it is hailed as the catalyst for the modern vaccine controversy and ultimately garnered an Emmy award [ 5 ]. MMR Much like the Vaccine Roulette fi lm did for the DTP controversy, Wakefi eld’s report linking the MMR immunization to autism was dramatized to the masses by the British Broadcasting Company (BBC) program Panorama in 2002. They televised a segment called How safe is MMR ? and brought the vaccine controversy to the front of the press’ news agenda and therefore into the public eye [ 10 ]. As previously discussed, the media has been criticized for inaccurately balancing claims of a causal link between the MMR vaccine and autism, despite powerful evidence to the contrary. The press was also faulted for not providing information that parents could turn to in order to address vaccine-related questions [ 28 ]. In addition, several studies found that, astonishingly, more resources and mobilizing information were actually offered to proponents of the vaccine-autism link than to the contrary [ 10 , 28 ]. The fact that Wakefi eld’s co-author’s never supported his claim to use single immunizations over the triple MMR vaccine also went largely unreported [ 10 ]. Speers and Lewis [ 14 ] published that rates of MMR uptake tangibly decreased as media coverage of the vaccine controversy increased, and vice versa. They attributed this directly to the public’s perception that the vaccine was unsafe following signifi cant periods of focus in the press, and noted that once media interest fell away, immunization rates subsequently increased. These fi ndings were replicated on a local scale when Mason and Donnelly [ 29 ] examined the impact of the South Wales Evening Post’s campaign against the MMR vaccine in Wales. Before the promotional push began, immunization rates were signifi cantly higher in the distribution area when compared to their control population. However, after the MMR : Parents Fight for Facts campaign ran, vaccination rates fell by 13.6 % in the target community, compared to only a 2.4 % drop in areas outside of the paper’s circulation. HPV Despite the lessons from the DTP and MMR media scares, stories of more recently developed vaccines, such as the HPV immunization, continue to highlight inaccuracies. Although the HPV vaccine received a signifi cant amount of press when it was approved by the FDA, many news stories left out critical pieces of information [ 15 ]. One of the main themes in the media’s coverage of this vaccine is that recipients will increasingly engage in risky sexual behavior, which has negatively infl uenced parent’s perceptions on the vaccine [ 30 ]. Future Considerations Undoubtedly, the media has the power to infl uence the public’s perception. They are enlisted to both educate and warn people on matters of public health. By reviewing the press’ role in modern vaccine controversy, it is clear that we cannot devise methods of disseminating trustworthy health information to the public without considering the role of the media. Lewis [ 10 ] summarized this best by stating, “The battle for public trust, in other words, can no longer be won by straightforward appeals to authority: it needs to be based on an understanding of the nature of public concern and an awareness of media frameworks.” By revisiting the press’ obligations to the 21 The Media’s Role in Vaccine Misinformation

#### Vaccines save hundreds of millions of lives on the low end because of direct prevention and herd immunity means this number is orders of magnitude higher

Vanderslott et al 19 (Samantha Vanderslott, Bernadeta Dadonaite and Max Roser (2013) - "Vaccination". Published online at OurWorldInData.org. Retrieved from: 'https://ourworldindata.org/vaccination' [Online Resource]//chskk)

We know that vaccines save lives. But how many lives vaccines have they saved? The World Health Organisation (WHO) suggests that vaccination prevents 2-3 million deaths each year.2 However, while we are certain that vaccines have saved millions of lives, calculating a precise number is impossible. Also the quoted number from the WHO is in important ways a very low estimate. The counterfactual world, in which vaccines would have never been developed, would be so different that an estimate of the impact of vaccines is impossible. One example that makes this clear is to consider the impact of the smallpox vaccine: Smallpox was once an extremely common and deadly infectious disease, but it has been eradicated globally back in 1977 thanks to the vaccination against the disease. It is impossible to know exactly how many people would die of smallpox today if scientists had not developed the vaccine. Reasonable estimates are in the range of around 5 million lives per year, which implies that between 1980 and 2018 around 150 to 200 million lives have been saved.3 This makes clear why it is so difficult to estimate the number of lives saved every year and why the WHO estimate is rather low. How vaccines work & herd immunity The basic mechanism by which vaccines work is simple: Vaccines create immunity in an individual by introducing a weakened or killed form of the pathogen that make us ill – such as bacteria or viruses – or its toxins or one of its surface proteins. The vaccine induces acquired immunity so that when your body encounters the real disease-causing agent it is ready to mount a defense. There is a collective social benefit in a high vaccination coverage. For most diseases, the greater the proportion of people who are immunized, the better protected is everyone in the population as the disease transmission can be reduced or stopped. Herd immunity is a community protection that is created when a high percentage of the population is vaccinated, such that it less likely that the infectious disease spreads.4 Herd immunity provides a protective barrier, especially also for those who cannot be vaccinated. These include vulnerable groups such as babies too young to be vaccinated or immune-compromised children who are the first potential victims of low vaccination rates. When a person is immune to a disease they can act as a barrier to slow down or prevent the transmission of disease to other people. When the number of people in a population that are immune against a disease is reached, such that a disease no longer persists in the population, this is called the herd immunity threshold (HIT). The table shows the HIT for several diseases. Measles and pertussis are highly contagious airborne diseases and a larger share of people need to be vaccinated to stop the transmission. Because of this these diseases have the highest HIT rates that need to be reached. For example, two doses of measles vaccination offers 99% protection, while in the absence of immunization, the lifetime risk of infection is nearly 100%.5

#### Disease causes extinction

Millett 17 [Piers Consultant for the World Health Organization, PhD in International Relations and Affairs, University of Bradford, Andrew Snyder-Beattie. “Existential Risk and Cost-Effective Biosecurity.” <http://online.liebertpub.com/doi/pdfplus/10.1089/hs.2017.0028>]

Historically, disease events have been responsible for the greatest death tolls on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world’s population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization. A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to remote populations, overcome rare genetic resistances, and evade detection, cures, and countermeasures. Even evolution itself may work in humanity’s favor: Virulence and transmission is often a trade-off, and so evolutionary pressures could push against maximally lethal wild-type pathogens.5,6 While these arguments point to a very small risk of human extinction, they do not rule the possibility out entirely. Although rare, there are recorded instances of species going extinct due to disease—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also historical examples of large human populations being almost entirely wiped out by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include native American tribes exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and theWestern Abenaki (which suffered a staggering 98% loss of population).9 Piers Millett, PhD, is a Senior Research Fellow, and Andrew Snyder-Beattie, MS, is Director of Research; both at the University of Oxford, Future of Humanity Institute, Oxford, England. ª Piers Millett and Andrew Snyder-Beattie, 2017; Published by Mary Ann Liebert, Inc. This Open Access article is distributed under the terms of the Creative Commons License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly credited. Health Security Volume 15, Number 4, 2017 Mary Ann Liebert, Inc. DOI: 10.1089/hs.2017.0028 373 In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-21 Although these experiments had scientific merit and were not conducted with malicious intent, their implications are still worrying. This is especially true given that there is also a long historical track record of state-run bioweapon research applying cutting-edge science and technology to design agents not previously seen in nature. The Soviet bioweapons program developed agents with traits such as enhanced virulence, resistance to therapies, greater environmental resilience, increased difficulty to diagnose or treat, and which caused unexpected disease presentations and outcomes.22 Delivery capabilities have also been subject to the cutting edge of technical development, with Canadian, US, and UK bioweapon efforts playing a critical role in developing the discipline of aerobiology.23,24 While there is no evidence of staterun bioweapons programs directly attempting to develop or deploy bioweapons that would pose an existential risk, the logic of deterrence and mutually assured destruction could create such incentives in more unstable political environments or following a breakdown of the Biological Weapons Convention.25The possibility of a war between great powers could also increase the pressure to use such weapons—during the World Wars, bioweapons were used across multiple continents, with Germany targeting animals in WWI,26 and Japan using plague to cause an epidemic in China during WWII.27

## Adv: Climate (1:20)

#### A climate crisis is happening now, but its not too late to solve

Dunne 2020 – (MA from City, University of London Daisy, 4-9-2020, Deep emissions cuts this decade could prevent ‘abrupt ecological collapse’, Eco-Business, <https://www.eco-business.com/news/deep-emissions-cuts-this-decade-could-prevent-abrupt-ecological-collapse//recut> chskk)

The research, published in Nature, finds that uncontrolled climate change would see tropical ocean ecosystems exposed to potentially catastrophic temperature rise by 2030. By 2050, tropical forests could also face such conditions. By comparison, limiting global warming to below 2C – the goal of the Paris Agreement – could delay the date of exposure by up to six decades, according to the research. The results “show very clearly that it is not too late to act and the benefits of acting now will be massive”, a study author tells Carbon Brief. Burning up Rising temperatures and changing rainfall patterns are expected to make existing habitats inhospitable for many animal species. Due to this, some scientists expect that climate change will overtake land-use change to become the largest threat facing wildlife by the end of the century. However, it is not yet certain at what point this century the effects of climate change will begin to overwhelm ecosystems. The new study addresses this question by looking at when various land and ocean ecosystems are likely to be exposed to possibly intolerable increases in temperature. The results suggest the fate of ecosystems could hinge on the world taking immediate action to tackle climate change, says study author Dr Alex Pigot, a research scientist at the Centre for Biodiversity and Environment Research at University College London. He tells Carbon Brief: “Our results show that with continued high emissions of greenhouse gasses, losses of biodiversity and disruption of ecosystems from climate change are likely to happen abruptly and could occur much sooner than we had expected. “According to our models, biodiversity losses are likely to be already underway in the tropical oceans and over the next few decades these risks are expected to escalate rapidly, spreading to tropical forests and then higher latitudes by 2050.” Corals to forests For their research, the authors estimated the first date at which species in different world regions are likely to face temperatures beyond what they are known to tolerate in the wild. Exposure to such temperatures could cause species to die out in that region – or to go “locally extinct”. However, it is possible that some species could adapt to intolerable temperatures, Pigot says: “It is important to note exposure does not necessarily mean extinction. Some species may be able to persist at temperatures warmer than those under which they have previously been found, but this is not something we should blindly assume. Indeed, for some species we already have very good evidence that their current [temperature range] is likely to correspond closely to their physiological limits.” They did this for more than 30,000 species spanning the world’s habitats, from tropical coral reefs to highland pine forests. It should also be noted, however, that the authors only studied changes to temperature and rainfall exposure. They did not model other climate-change impacts known to affect wildlife, such as heatwaves or the disappearance of Arctic sea ice. The authors looked at the timing of exposure under several scenarios for future climate change, known as the “Representative Concentration Pathways” (RCPs). These scenarios include one where future greenhouse gas emissions are very high (RCP8.5) and one where temperatures are limited to below 2C (RCP2.6). (It is important to note that RCP8.5 is not a “business as usual” scenario, but rather a scenario where no policies are put in place to tackle climate change.) The two maps below illustrate how the risk to wildlife differs in these two scenarios. The maps show the risk of an ecosystem seeing an “abrupt exposure event” under RCP2.6 (top) and RCP8.5 (bottom). An “abrupt exposure event” is defined as when more than 20 per cent of all species in an ecosystem are exposed to temperatures beyond their natural range in a single decade. The maps show how, under high emissions, many biodiversity hotspots, including the Amazon, parts of southern Africa and southeast Asia, could face a very high risk of exposure to intolerable temperatures by the end of the century. The research finds that, under 2C of global warming, only 2 per cent of ecosystems worldwide are likely to face an abrupt exposure event by the end of the century. Under 4C, this proportion rises to 15 per cent. The authors also find that limiting global warming to below 2C could delay the time when ecosystems first experience abrupt exposure events by up to six decades, when compared to the RCP8.5 scenario of very high emissions. This is indicated on the charts below, which show the projected percentage of the world’s ocean (left) and land (ecosystems) exposed to intolerable temperatures under RCP2.6 (light blue) and RCP8.5 (purple) from 2020-2100. (The chart also shows results for RCP4.5 (orange), a scenario where future emissions are moderately high.) ‘Not too late’ The research finds that, under a very high emissions scenario, ecosystems could be exposed to intolerably high temperatures as early as this decade. However, this does not mean it is too late to act, Pigot tells Carbon Brief: “Our results show very clearly that it is not too late to act and the benefits of acting now will be massive and will accumulate over time. By holding warming below 2C, we can effectively ‘flatten the curve’ of how climate risks to biodiversity accumulates over time, delaying the exposure of the most at-risk species by many decades and averting exposure entirely for many thousands of species.” The findings are “very strong and convincing” says Peter Soroye, a PhD candidate in biology from the University of Ottawa, Canada, who recently published a study on projected bumblebee declines worldwide. He tells Carbon Brief: “One of the critical things that this and other large-scale studies on climate change-related biodiversity impacts show is the positive effect of reducing carbon emissions on future biodiversity. Work like this demonstrates that while future climate change will modify ecosystems around the globe – overwhelmingly for the worse – we can mitigate many of these impacts by rapidly reducing our carbon emissions.”

#### Advocacy creates echo chambers which spread climate misinformation across the electorate

Hewitt 21 ("Media Coverage Of Climate Change Is Improving. But That Alone Won't Stamp Out Disinformation". Wbur.Org, 2022, https://www.wbur.org/cognoscenti/2021/07/02/heat-political-bias-in-climate-coverage-frederick-hewett. Accessed 3 Mar 2022. //chskk)

But delving deeper into YPCCC’s data reveals that acceptance of climate change is not growing equally across the political spectrum. Republicans are actually a bit less likely to believe human activities cause climate change today than in 2008, while the fraction of Democrats accepting human causation has increased substantially over the same period. That divide along party lines calls into question the ability of media coverage to influence opinion about climate change. Tucker Carlson’s program on Fox News, the most-watched “news” program on cable, recently featured a guest who professed that climate change is just a fabrication of the liberal media. Overt climate change denial is also pervasive in the comment threads of Fox’s weather-related stories. Meanwhile, left-leaning networks like MSNBC regularly run segments on the seriousness of the climate crisis. But do the media drive beliefs about climate change, or do they merely align their content with the prevailing political views of their audience? The cause and effect relationship between media coverage of climate change and what people believe about it has been the subject of academic study. One paper published in the journal Climatic Change in 2014 concluded that “partisan media tends to reinforce and solidify the pre-existing worldviews of audience members who share the partisan slant of the media outlet.” What that research is describing is more commonly known as an echo chamber. Rather than thinking about a causal relationship between media coverage of extreme weather and public views on climate change, it’s more helpful to think in terms of positive feedback loops that tend to amplify political polarization. Social media platforms throw gasoline on that fire by ensuring that readers only see content that conforms to their beliefs. Another study by the same authors determined that political biases once again neutralize the information content of news items about new findings in climate science. Conservative media outlets have conditioned their audiences to distrust climate scientists who present evidence supporting the widely-shared consensus on global warming. Unfortunately, this manufactured prejudice works against the recently maturing ability of scientists to quantitatively assess the degree to which climate disruption increases the probability and severity of particular extreme weather events.

#### A misinformed electorate results in policy failure- objectivity is a prerequisite to climate solutions

Griffin 05 Griffin, John (Professor of Political Science at the University of Colorado, Boulder) and Brian Newman. "Are voters better represented?" The Journal of Politics 67.4 (2005): 1206-1227.

These results provide empirical support for the common claim that government represents voters more than nonvoters. To recapitulate, we found substantial evidence that even though Senators may not know with certainty who votes and what their preferences are, their patterns of roll-call voting respond to voters’ opinions, but not to nonvoters’ opinions. We also showed that Senators’ better representation of voters is not simply a reflection of voters’ greater attention to Senators’ decisions or their identification with their Senator’s political party. Finally, we uncovered suggestive evidence that this link between voters and Senators results from voters’ selection of relatively like-minded representatives, their greater rates of communicating preferences via other forms of participation, and Senators’ desire for reelection. Thus, Senators may be more responsive to voters’ preferences both because they purposely focus on voters and due to indirect influences operating even when Senators do not know who voters are and what they want. However, we do not claim we have entirely explained this phenomenon. More research is required to specify the precise mechanisms by which voters’ preferences become advantaged in governmental decision making.21 Although our analyses cannot fully explain the processes by which voters are better represented, they point strongly toward the conclusion that Senators do in fact respond more to voters’ preferences than nonvoters’. This finding has important implications for our understanding of American politics and raises significant normative issues. On the explanatory side, our study points to three underappreciated features of the participation-representation link in American politics. First, these analyses advance existing evidence that government rewards those who vote (e.g., Bullock 1981; Hill and Leighley 1992; Keech 1968; Martin 2003). As many have assumed, those segments of the public that do not vote appear, as a group, to have little influence on legislators’ roll-call voting, opening the path to biases in legislator behavior and ultimately public policy. Where previous studies generally analyze policy outcomes, our focus on roll-call voting explores another aspect of representation, looking at an important feature of the policymaking process. Our examination of legislators’ behavior and three possible links between participation and representation moves us a step closer to comprehending the paths from political participation to government action. Understanding those paths ultimately may point to ways of encouraging more equal representation. Next, we found that representational biases cut in a conservative direction. Voters are more conservative than nonvoters, and voters are better represented by elected officials. Contrary to the conclusions of national-level analyses (e.g., Bennett and Resnick 1990; Highton and Wolfinger 2001), our results based on state-level differences between voters and nonvoters suggest that increases in turnout may lead to greater policy liberalism.

DATA/METHOD FOR ABOVE

Griffin, John (Professor of Political Science at the University of Colorado, Boulder) and Brian Newman. "Are voters better represented?" The Journal of Politics 67.4 (2005): 1206-1227.

Data and Method We model Senators’ roll-call behavior as a function of voter opinion, nonvoter opinion, and Senator partisanship. We use state-level opinions as measured in the General Social Survey (GSS) from 1974 to 2002 to model Senators’ roll-call behavior over the same period (93rd to 107th Congresses). If Senators respond more to voter opinion, coefficients for voter opinion should exceed those for nonvoter opinion. We also control for Senators’ partisanship, which gives us a sense of how responsive Senators are to voters over and above the partisan electoral consequences of participatory inequalities. Beyond electing Republicans or Democrats, do voters’ preferences have a greater effect on Senator roll-call decisions? Dependent Variable We measure the aggregate voting behavior of Senators using DW-NOMINATE coordinates, which range continuously from -1 to 1 (McCarty, Poole, and Rosenthal 1997).3 Studies of congressional roll-call voting have frequently employed these and alternative versions of NOMINATE scores as dependent variables (e.g., Ansolabehere, Snyder, and Stewart 2001; Jenkins 1999). As a practical matter, NOMINATE coordinates are highly correlated with alternative, summary measures of legislator roll-call behavior such as interest group ratings and HeckmanSnyder scores (Burden, Caldeira, and Groseclose 2000). Explanatory Variables and Controls We model these scores as a function of voters’ and nonvoters’ general political ideologies and Senators’ party affiliations, using an indicator for Republican affiliation. Finding measures of constituency opinion is a difficult task for studies of representation (see e.g., Achen 1978; Erikson 1978). These studies require reliable and valid measures of district- or state-level opinion, and such measures are hard to come by for two reasons now familiar to representation scholars. First, most national surveys sample far too few respondents in most states to render reliable measures of state opinion. Second, most national surveys are designed to draw samples representative of the nation, rather than states. As a result, estimates of state-level preferences drawn from national surveys are plagued with measurement error, attenuating estimated relationships between constituency opinion and legislator behavior (Achen 1978; Erikson 1978). The National Election Studies’ 1988–92 Senate Election Study (SES) was designed to overcome these difficulties by providing relatively large samples drawn to be representative of states (the three waves provide average state samples of 185 respondents). Although these studies have proven a rich source for representation studies (e.g., Erikson 1990), the state samples fall short of the extra demands of our study. Reliability coefficients (Jones and Norrander 1996) suggest that these samples provide reasonably reliable estimates of state-level ideology for voters (r = .74), but not for nonvoters (r < .50).4 Although analyses with the SES data generated results similar to those we report below, we searched for more reliable measures. In the absence of single surveys that draw reliable state-level samples, one strategy is to pool samples over time. Erikson, Wright, and McIver (1993, hereafter EWM) adopted this approach, pooling New York Times/CBS surveys from 1976 to 1988 for measures of state ideology and partisanship These pooled samples provide reliable, stable, and valid measures of state ideology. Unfortunately, most of the surveys they used did not ask whether respondents voted, so we cannot use their data to test whether voters are better represented. We adopted their approach, however, and pooled the GSS over time. The GSS provides estimates of state voter and nonvoter opinion in 44 states.5 Pooling over time generates state-level samples averaging 829 respondents.6 To measure Voter Ideology and Nonvoter Ideology, we took the mean ideological self-placement of a state’s voters (those who reported having turned out in the most recent presidential election) and nonvoters (see the appendix for question wording). Although this approach dilutes the sample size in each state to an average of 539 voters and 290 nonvoters, the samples remain much larger than those used in previous studies of representation.7 The GSS measures prove reasonably reliable, stable, and valid. Although the GSS does not draw state-level samples, Brace et al. (2002) found that its state samples correspond with state population characteristics and produce highly reliable measures of state opinion. In fact, reliability coefficients for voter ideology and nonvoter ideology are .88 and .63, respectively. Since the estimated relationship between unreliable measures and the dependent variable will be attenuated and the measure of nonvoter ideology is less reliable, evidence that Senators respond more to voters may be the result of measurement error. To be sure measurement error is not driving our results, we give nonvoter ideology an advantage, explicitly accounting for its error wherever possible in our models, but assuming that voter ideology is perfectly measured.8 If voter ideology continues to be more closely related to Senators’ voting behavior, we can be reasonably sure that Senators really are more responsive to voters.

#### Warming causes extinction

Peter Kareiva 18 (Ph.D. in ecology and applied mathematics from Cornell University, director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA, et al., September 2018, “Existential risk due to ecosystem collapse: Nature strikes back,” Futures, Vol. 102, p. 39-50//recut chskk)

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (climate change, global freshwater cycle, and ocean acidification) do pose existential risks. This is because of intrinsic positive feedback loops, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all directly connected to the provision of food and water, and shortages of food and water can create conflict and social unrest. Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields). Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. Ample clean water is not a luxury—it is essential for human survival. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease. Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms. A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people. 4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes Humans are remarkably ingenious, and have adapted to crises throughout their history. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). However, the many stories of human ingenuity successfully addressing existential risks such as global famine or extreme air pollution represent environmental challenges that are largely linear, have immediate consequences, and operate without positive feedbacks. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm. In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, the Earth’s climate system is rife with positive feedback loops. In particular, as CO2 increases and the climate warms, that very warming can cause more CO2 release which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios. Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002). Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that forest fires will become more frequent and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This catastrophic fire embodies the sorts of positive feedbacks and interacting factors that could catch humanity off-guard and produce a true apocalyptic event. Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming. Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967). Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009). The key lesson from the long list of potentially positive feedbacks and their interactions is that runaway climate change, and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks portends even greater existential risks. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

## Advocacy (1:25)

#### Thus, we affirm that in a democracy a free press ought to prioritize objectivity over advocacy. Negative positions that do not defend advocacy over objectivity affirm. We defend the resolution as a whole and will defend the Watt’s solvency mechanism and enforcement as normal means.

#### An objective press is achieved by a four-tier process- it best solves

Watts 21 (Watts, Duncan J., et al. “Measuring the News and Its Impact on Democracy.” Proceedings of the National Academy of Sciences, vol. 118, no. 15, 2021, <https://doi.org/10.1073/pnas.1912443118>. //chskk)

The objective of a comprehensive research agenda to study the origins, nature, and consequences of misinformation on democracy in turn entails assembling four subsidiary components: 1) A large-scale data infrastructure for studying the production, distribution, consumption, and absorption of news over time and across the entire information ecosystem (including the web, television, radio, and other modes of production). 2) A “mass collaboration” model that leverages the shared infrastructure to advance replicable, cumulative, and ultimately useful science. 3) A program for communicating the insights generated by the research to stakeholders outside of the research community (e.g., journalists, policymakers, industry leaders, the public). 4) A network of academic–industry partnerships around data and solutions. Objective 1: Building a Large-Scale Data Infrastructure for Studying News Production, Distribution, Consumption, and Absorption. A primary requirement for comprehensive research agenda around misinformation is a shared, open infrastructure for collecting data and running experiments at scale for diverse populations over long timescales. Such an infrastructure would facilitate results that generalize better than prior work and can be more easily implemented in practice. Moreover, the infrastructure would be open, meaning that it would be made available to the research community while also addressing issues of data security, individual privacy, and intellectual property. To illustrate the scale and scope of the proposed infrastructure, Fig. 1 shows a schematic of the information ecosystem, which is represented in four “layers”: 1) production, 2) consumption and distribution, 3) absorption and understanding, and 4) action and engagement. Each layer corresponds to a different stage of the process by which information about events and issues affecting a democracy ultimately impacts public opinion, understanding, and civic engagement. Each layer also corresponds to different types of data that derive from distinct sources, typically in different formats and sampled in different ways. Fig. 1. Schematic representation of the information ecosystem. Production (web, TV, radio). What information is produced, either by online publishers or by TV or radio broadcasters, that could potentially inform and/or influence public opinion? The web alone comprises many thousands of news sources, ranging from large and comprehensive (e.g., The New York Times, The Wall Street Journal) to small and niche, from neutral to partisan, and including original news publishers as well as aggregators and distributors. As noted earlier, publishers can bias the news they produce in several ways, including selection (what they choose to cover vs. ignore), emphasis (how prominently a given story is featured and for how long), slant (how headlines are written, the tone of the article, the relative emphasis of different facts), and finally outright deception (fake news, propaganda, etc.). To obtain a comprehensive, longitudinal view of information production, the research community requires a continuously updated catalog of information sources relevant to contemporary issues and political discourse. Several media databases already exist (e.g., Media Cloud, Event Registry, GDELT, Internet Archive’s TV news archive, Newsbank). However, they are not designed to directly support the range of queries that are the focus of many research questions; thus, results typically require substantial investment in postprocessing. In addition, they do not exhibit the kind of methodological transparency that is required for academic research (41) and/or they do not have the comprehensiveness across the necessary range of site and modes. To illustrate the problem, simple keyword searches (e.g., “Hillary Clinton emails”) on unpreprocessed corpora of articles will return many irrelevant articles (i.e., those that contain the keywords but are not about the topic) and will also miss many relevant articles (i.e., those that are on the topic but do not use the exact keywords). Moreover, the results contain no information about features such as partisanship or sentiment that must then be appended by the researcher. Keyword-based search results, in other words, are largely uninformative without a large amount of supplemental data cleaning and analysis. Because this work is typically done in a one-off, nonreplicable manner, simply collecting and storing vast amounts of news data does not on its own do much to accelerate the research process. A central objective for any collective research effort, therefore, is to build data processing pipelines and systems on top of the raw data that make them easily queryable by researchers and journalists alike. Included in this objective is also the capability for independent researchers to develop and contribute new modes of querying (e.g., abstracting away from specific stories to broader themes or narratives) as well as new methods for generating relevant metadata (e.g., stance, sentiment, partisan bias, etc.). Consumption and distribution (desktop and mobile panels). Much of the information that is produced receives little attention, while some stories resonate with millions. Even comprehensive and well-annotated data on news production, therefore, do not on their own tell us how that information is or is not reaching consumers, let alone how different types of information reaches different types of consumers. Are there groups of people who watch MSNBC in the morning, surf mainstream news during the day, and watch Fox News at night? Do Breitbart and Daily Kos readers also get mainstream news on TV or the web? One potential direction for research on media consumption is to leverage commercial panel providers such as Nielsen, ComScore, Pew Research, and YouGov. Although valuable (see, e.g., next section), these “off-the-shelf” solutions also exhibit some important limitations. In particular, desktop-only panels increasingly suffer from coverage gaps in part because they do not capture mobile activity, and in part because an increasing amount of web traffic is contained in “walled gardens” such as Facebook within which user activity is visible only to the platform. Ultimately, therefore, it will be necessary to develop new data sources. For example, a dedicated mobile panel would greatly facilitate the measurement of information consumption across social and conventional media, as well as enable linkage to other behaviors of potential interest. In addition, certain modes of consumption—in particular social media (e.g., Facebook, Twitter, Reddit), but also email, messaging services (e.g., WhatsApp)—are also mechanisms for distribution. A proper understanding of consumption, therefore, will also require data on information distribution. Absorption and understanding (polls, virtual labs). Just as the publication of a particular piece of information does not guarantee that anyone will see it, so is exposure to information no guarantee of awareness, understanding, or agreement about its meaning (4, 42). Exposure to disconfirming information may reduce polarization, increase it, or have no effect depending on other factors (43, 44). Understanding how consumption translates into knowledge and/or beliefs is therefore critical to designing and evaluating possible interventions. Building off of recent advances in nonprobability polling techniques (45, 46), one could conduct regular panel surveys to probe public knowledge and explore the baselines and shifts in knowledge and attitudes. Polling of this sort could yield indices of facts and sentiment from the general population that could be correlated with media consumption on various issues and, ultimately, civic participation. Understanding of opinion change, influence, and deliberation would also be accelerated via experiments conducted in online “virtual labs” (47). Action and engagement (admin data, ethnography). In addition to being an end in itself, knowledge is also important to democracy inasmuch as it translates into political action: voting, community organizing, engagement with legislators, political speech, and protest. An important goal for any comprehensive research agenda is therefore to understand the link between the production, consumption, and absorption of information on the one hand, and action on the other hand. Because “political action” is a multidimensional concept, however, quantifying action is challenging, at a minimum requiring diverse administrative datasets (e.g., voter records, campaign contributions, volunteering, protesting, search, activity on social media, etc.), but also survey and ethnographic data to elucidate levels of engagement in the political process, broadly construed (48). Alternatively, or in order to get repeated actions or more coverage, researchers could leverage proxies for engagement such as search queries as a proxy for intent (49) or lightweight user actions (following, retweeting, liking, commenting, etc.) as a proxy for interest (50). Objective 2: Build a “Mass Collaboration” Model to Advance Replicable, Cumulative, and Useful Knowledge. Maximizing the value of the data infrastructure just described will also require a “mass collaboration” model in which many researchers leverage the same data assets (51). Mass collaboration models based on shared infrastructure have an established track record in the physical sciences (e.g., the Sloan Digital Sky Survey, the Large Hadron Collider, the Laser Interferometer Gravitational-Wave Observatory) and also in biology (e.g., the Human Genome Project), but are unfamiliar to many social scientists (the closest model would be surveys such as the General Social Survey, the American National Election Studies, and the Panel Study of Income Dynamics). The ultimate success of any such model is therefore subject to its acceptance by the relevant research community, which cannot be guaranteed ex ante. Nonetheless, the model has some advantages over the traditional single investigator model that we believe increase its chances of successful adoption. 1) It will enable the research community to better leverage the data assets to produce many times the research output that would be possible with a traditional laboratory model in which both data collection/curation and research are conducted in-house. 2) It lends itself to more comparable research, as researchers can more easily replicate the questions, data, and analytics of previous work, when conducting new inquiries. Often replication efforts are complicated by potentially subtle differences in framing, data, and methods between exploratory and confirmatory studies. 3) It allows researchers to contribute in a variety of ways including a) additional data sources (e.g., text of radio transcripts, social media data); b) improved methods for processing and/or analyzing existing data (e.g., better named entity extraction or topic identification); c) appending useful metadata derived from their own research (e.g., content categories, partisanship labels); d) direct financial support from research grants to support overhead. By accommodating different types of contributions, a shared infrastructure approach should appeal to a wider range of potential collaborators, thereby also increasing its value to subsequent researchers. Objective 3: Communicate Insights to Nonacademic Stakeholders. An important facilitator of success in the proposed research enterprise is that it be perceived as both legitimate (i.e., rigorous, transparent, and nonpartisan) and also useful. In addition to gathering and organizing data and coordinating research across many research groups, an important goal is therefore to translate the output of the work for nonacademic audiences. More broadly, it is important to advocate for the importance of the social sciences in addressing critical needs, like information ecosystem design in democracies. Although there are many ways to engage stakeholders outside of academia (e.g., blog posts, white papers), one interesting approach that naturally leverages the existence of a centralized data infrastructure is to expose the data itself via web-based interactive visualizations (aka “dashboards”) that allow journalists, activists, policymakers, researchers, and members of the public to explore the evidence directly. Another benefit of data dashboards is that, in contrast with published research findings, they are dynamic entities that maintain their relevance even in a fast-moving environment. Rather than reading a statistic about the prevalence of fake news or the diversity of news consumption as it was when the researchers did their work months or even years ago, for example, a dashboard populated with (nearly) live data could show its prevalence as of yesterday, as well as how it has changed in the past week, month, or year. Visualizing data in a way that is psychologically effective and also scientifically valid is a nontrivial undertaking that requires expertise in statistics, user experience design, and software development as well as the substantive domain in question (52, 53). Without downplaying the challenges inherent in designing and implementing useful interactive dashboards, we hope that they will help to ground the public debate around misinformation and democracy on rigorous, nonpartisan evidence. Objective 4: Develop Academic-Industry Partnerships around Data and Solutions. Modifying the information ecosystem to better support democracy is an example of what has been called solution-oriented social science (40, 54, 55), meaning that it advances fundamental understanding of the social sciences in the course of solving concrete problems of practical interest (56). Rather than pursuing a research agenda based purely on theoretical interest, that is, research should address the concrete challenges confronting the participants (e.g., technology and media companies, fact-checking organizations, scientific societies, etc.) in the information ecosystem. To this end, it is critical to foster academic–industry partnerships with the goal of not only understanding but also improving the information ecosystem. Partnerships could advance solution-oriented research in a variety of ways, including helping to define the research agenda and specific questions, contributing data, providing analytical tools, translating research findings into design principles, and implementing and testing potential solutions. Journalists and media organizations are perfectly situated to ask questions and provide a platform for disseminating results, while technology firms have data that researchers could use, as well as access to analytical tools. For example, voter files offer ground truth voting behavior (57), search queries correlate with certain offline behaviors (58, 59), and lightweight user actions (e.g., replying, liking, sharing, and commenting) are a useful proxy for engagement. Finally, beyond harvesting existing telemetry data, the capability to design, implement, and test interventions (e.g., reducing uncivil discourse, increasing relative consumption of high-quality information, etc.) requires direct access to proprietary platforms. The topic of academic–industry partnerships around data has been of increasing interest to academic researchers (see, e.g., ref. 60), but only limited progress has been made in securing the cooperation of industry partners. Perhaps the most prominent recent example is Social Science One (https://socialscience.one/), a commission of senior academics who work with companies (thus far restricted to Facebook) to make preapproved datasets available to researchers while also waiving their right to suppress publication of unfavorable results (39). Although Social Science One is promising, our proposed approach differs from it by starting first with an independent, researcher-designed, and managed data infrastructure. As both these models, along with other models that are being developed in the domain of government administrative data (see, e.g., https://www.aisp.upenn.edu/) and health informatics (see, e.g., https://saildatabank.com/), have their respective strengths and weaknesses, we see them as complements rather than substitutes. Research Questions In this section, we briefly summarize a selection of completed, in-progress, or planned research projects that utilize data of the sort described above. These examples are intended only to illustrate some possibilities and not to limit the scope of the overall research agenda, which we hope will be determined by the collective creativity of a whole research community. Putting Fake News in Context. As described above, in recent work (18), we have quantified fake news consumption across multiple platforms including television, desktop, and mobile web, finding that it constitutes less than 1/10th of 1% of total daily media consumption, and less than 1% of overall news consumption. Surprisingly, we also find that news consumption in general constitutes a small fraction of overall media consumption (roughly 14%) and is heavily biased toward television across all age categories. Selection vs. Framing. Which is more important to the underlying and perceived partisanship of publications: selection (which topics they choose to cover) or framing (what slant they give those topics they select to cover)? In future work, we plan to track and map both activities historically and in real time for daily news events spanning television and online content. Content Overlap in Online News. In response to declining revenue, news publishers have reduced costs by replacing original content with copied or slightly edited versions of generic stories provided via wire services (i.e., AP, Reuters). In ongoing work, we are attempting to quantify the proportion of news reporting that is either copied or unique, as well as the patterns of content overlap that exist within and between news articles. In future work, we will construct networks of publishers characterized by their cocopying patterns, identifying clusters of redundant coverage. Snippet-Based Content Classification. Prior work on news consumption has relied on classifications of content at the domain (e.g., http://nytimes.com or http://infowars.com) or program (e.g., Today Show, CBS Evening News) level. This approach, while easy to implement, misclassifies content that is not representative of the domain/program of which it is a part (e.g., news content on late-night comedy shows) or is simply not a part of any domain/program (e.g., user-generated content). In ongoing work, we are developing methods using human labelers to classify content at the “snippet” level, where a snippet is defined as a short piece of text or video, thereby allowing us to compare the proportion of news and misinformation across platforms. Ideologically Segregated Consumption. Partisan echo chambers, and selective exposure to partisan news more generally, are of key concern to communication scholars and the public (61, 62). In ongoing work, we seek to replicate previous findings (63–65) regarding the ideological segregation of online news exposure over the 2016–2018 interval as well as to compare it with television news consumption. Comparing Survey with Behavioral Data. Surveys are a vital tool in understanding public opinion and knowledge, but have been shown to overestimate news consumption (66, 67). In forthcoming work (68), we show that the bias extends to online and social media-based news consumption and also fails to accurately capture trends. We highlight how behavioral data are more easily adaptable to the wide range of possible results that a researcher may need to answer with different, but related, sets of questions about news consumption. Measuring Awareness and Understanding of News Events. In ongoing work, we are pulling the top facts from online articles each day and running regular polls that ask 1) whether respondents are aware of a given event, and 2) if so, whether or not they know the facts in question. In addition to measuring the relationship between news coverage and public awareness, this dataset will initiate a larger program of tracking which types of information are absorbed by the news consuming public, and via which channels. Conclusion The debate around misinformation and its potentially damaging effects on public opinion, understanding, and democratic decision making is complex and multifaceted. There is not, to our knowledge, any general consensus on what “the problem” is, and even less agreement on what the solution or solutions ought to be (2, 4, 5, 13, 16, 17, 24, 29). We do not pretend that our approach will resolve these disagreements over what matters and what to do about it. To the extent that such disagreements arise and persist because of the absence of systematic empirical evidence, however, we hope that it will help, in two ways. First, the creation of a shared, open data infrastructure to support research on misinformation and its effect on democracy will reduce existing barriers to producing rigorous, replicable, and ultimately useful science. Second, exposing the data and research insights to external stakeholders via continuously updating interactive visualizations will force interlocutors to confront the world as it is (or at least as it has been measured) rather than how they imagine it to be. Of course, we acknowledge that measurement itself is also imperfect in important ways; however, we do not see these shortcomings as a reason not to rely on data, but rather as a motivation to design better instruments and to collect better data. That data will also be imperfect, and the process of discovering that will in turn motivate better instruments, and so on. Just as no one experiment can settle any complex social scientific question, no one dataset can ever satisfactorily capture everything that we might care about. The process of informing our understanding of the world with evidence will therefore be an ongoing one. Our proposal is simply that we cannot afford not to begin this process.

#### Put away your circumvention cards- empirically verifiable facts guarantee a basis for objective truth and the method by which we defend objective practices ensure the best outcome

Sonnemaker 15 (Sonnemaker, Tyler, "Objectivity and the Role of Journalism in Democratic Societies" (2015). CMC Senior Theses. Paper 1057. <http://scholarship.claremont.edu/cmc_theses/1057> //chskk)

In thinking of this objectivity-subjectivity spectrum, we must remember that it does not span endlessly in either direction. On one end, we can reject entirely any claims of truth that directly contradict objective, empirically verifiable facts about the external world. For example, “a water molecule is composed of two hydrogen atoms and one helium atom,” is untenable. Water is actually composed of two hydrogen atoms and one oxygen atom, and we have myriad scientific methods by which to confirm that this is how hydrogen is composed in reality. Thus, the former statement has no claim on truthfulness at all. On the other end, human fallibility and our limited knowledge prevents us from saying something like “the law of gravity is, has, and will always be a constant force in the universe.” But within this range is a multitude of facts, theories, opinions, and even values that we place on the spectrum according to the degree with which we can objectively verify their truth. As I will show to some extent in the remainder of this chapter, and more extensively in Chapters 3 and 4, there are certain criteria that journalists ought to rely on in order to accomplish this. The crucial point here is that, while no one denies the importance of ontological accuracy (how well does a fact actually correspond with reality), the emphasis is on identifying objective methods by which to verify their reliability. Determining a statement’s objective truth is a process of inquiry — by ensuring the integrity of this process, we ensure that the outcome of our inquiry (our various ontological claims about the world), are as reliable as possible.34 But before we can determine the methods and criteria that should guide this process, we need an understanding of how our cognition exposes us to the world

## Framing (0:50/1:30)

#### I value morality

#### The standard is maximizing well-being, specifically act hedonism

#### 1]

**Pleasure and pain *are* intrinsic– everything else *regresses* – robust neuroscience.**

**Blum et al. 18**

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Pleasure is not only one of the three primary reward functions but it also defines reward. As homeostasis explains the functions of only a limited number of rewards, the principal reason why particular stimuli, objects, events, situations, and activities are rewarding may be due to pleasure. This applies first of all to sex and to the primary homeostatic rewards of food and liquid and extends to money, taste, beauty, social encounters and nonmaterial, internally set, and intrinsic rewards. Pleasure, as the primary effect of rewards, drives the prime reward functions of learning, approach behavior, and decision making and provides the basis for hedonic theories of reward function. We are attracted by most rewards and exert intense efforts to obtain them, just because they are enjoyable [10]. Pleasure is a passive reaction that derives from the experience or prediction of reward and may lead to a long-lasting state of happiness. The word happiness is difficult to define. In fact, just obtaining physical pleasure may not be enough. One key to happiness involves a network of good friends. However, it is not obvious how the higher forms of satisfaction and pleasure are related to an ice cream cone, or to your team winning a sporting event. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure [14]. Pleasure as a hallmark of reward is sufficient for defining a reward, but it may not be necessary. A reward may generate positive learning and approach behavior simply because it contains substances that are essential for body function. When we are hungry, we may eat bad and unpleasant meals. A monkey who receives hundreds of small drops of water every morning in the laboratory is unlikely to feel a rush of pleasure every time it gets the 0.1 ml. Nevertheless, with these precautions in mind, we may define any stimulus, object, event, activity, or situation that has the potential to produce pleasure as a reward. In the context of reward deficiency or for disorders of addiction, homeostasis pursues pharmacological treatments: drugs to treat drug addiction, obesity, and other compulsive behaviors. The theory of allostasis suggests broader approaches - such as re-expanding the range of possible pleasures and providing opportunities to expend effort in their pursuit. [15]. It is noteworthy, the first animal studies eliciting approach behavior by electrical brain stimulation interpreted their findings as a discovery of the brain’s pleasure centers [16] which were later partly associated with midbrain dopamine neurons [17–19] despite the notorious difficulties of identifying emotions in animals. Evolutionary theories of pleasure: The love connection BO:D Charles Darwin and other biological scientists that have examined the biological evolution and its basic principles found various mechanisms that steer behavior and biological development. Besides their theory on natural selection, it was particularly the sexual selection process that gained significance in the latter context over the last century, especially when it comes to the question of what makes us “what we are,” i.e., human. However, the capacity to sexually select and evolve is not at all a human accomplishment alone or a sign of our uniqueness; yet, we humans, as it seems, are ingenious in fooling ourselves and others–when we are in love or desperately search for it. It is well established that modern biological theory conjectures that organisms are the result of evolutionary competition. In fact, Richard Dawkins stresses gene survival and propagation as the basic mechanism of life [20]. Only genes that lead to the fittest phenotype will make it. It is noteworthy that the phenotype is selected based on behavior that maximizes gene propagation. To do so, the phenotype must survive and generate offspring, and be better at it than its competitors. Thus, the ultimate, distal function of rewards is to increase evolutionary fitness by ensuring the survival of the organism and reproduction. It is agreed that learning, approach, economic decisions, and positive emotions are the proximal functions through which phenotypes obtain other necessary nutrients for survival, mating, and care for offspring. Behavioral reward functions have evolved to help individuals to survive and propagate their genes. Apparently, people need to live well and long enough to reproduce. Most would agree that homo-sapiens do so by ingesting the substances that make their bodies function properly. For this reason, foods and drinks are rewards. Additional rewards, including those used for economic exchanges, ensure sufficient palatable food and drink supply. Mating and gene propagation is supported by powerful sexual attraction. Additional properties, like body form, augment the chance to mate and nourish and defend offspring and are therefore also rewards. Care for offspring until they can reproduce themselves helps gene propagation and is rewarding; otherwise, many believe mating is useless. According to David E Comings, as any small edge will ultimately result in evolutionary advantage [21], additional reward mechanisms like novelty seeking and exploration widen the spectrum of available rewards and thus enhance the chance for survival, reproduction, and ultimate gene propagation. These functions may help us to obtain the benefits of distant rewards that are determined by our own interests and not immediately available in the environment. Thus the distal reward function in gene propagation and evolutionary fitness defines the proximal reward functions that we see in everyday behavior. That is why foods, drinks, mates, and offspring are rewarding. There have been theories linking pleasure as a required component of health benefits salutogenesis, (salugenesis). In essence, under these terms, pleasure is described as a state or feeling of happiness and satisfaction resulting from an experience that one enjoys. Regarding pleasure, it is a double-edged sword, on the one hand, it promotes positive feelings (like mindfulness) and even better cognition, possibly through the release of dopamine [22]. But on the other hand, pleasure simultaneously encourages addiction and other negative behaviors, i.e., motivational toxicity. It is a complex neurobiological phenomenon, relying on reward circuitry or limbic activity. It is important to realize that through the “Brain Reward Cascade” (BRC) endorphin and endogenous morphinergic mechanisms may play a role [23]. While natural rewards are essential for survival and appetitive motivation leading to beneficial biological behaviors like eating, sex, and reproduction, crucial social interactions seem to further facilitate the positive effects exerted by pleasurable experiences. Indeed, experimentation with addictive drugs is capable of directly acting on reward pathways and causing deterioration of these systems promoting hypodopaminergia [24]. Most would agree that pleasurable activities can stimulate personal growth and may help to induce healthy behavioral changes, including stress management [25]. The work of Esch and Stefano [26] concerning the link between compassion and love implicate the brain reward system, and pleasure induction suggests that social contact in general, i.e., love, attachment, and compassion, can be highly effective in stress reduction, survival, and overall health. Understanding the role of neurotransmission and pleasurable states both positive and negative have been adequately studied over many decades [26–37], but comparative anatomical and neurobiological function between animals and homo sapiens appear to be required and seem to be in an infancy stage. Finding happiness is different between apes and humans As stated earlier in this expert opinion one key to happiness involves a network of good friends [38]. However, it is not entirely clear exactly how the higher forms of satisfaction and pleasure are related to a sugar rush, winning a sports event or even sky diving, all of which augment dopamine release at the reward brain site. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure. Remarkably, there are pathways for ordinary liking and pleasure, which are limited in scope as described above in this commentary. However, there are **many brain regions**, often termed hot and cold spots, that significantly **modulate** (increase or decrease) our **pleasure** or even produce the opposite of pleasure— that is disgust and fear [39]. One specific region of the nucleus accumbens is organized like a computer keyboard, with particular stimulus triggers in rows— producing an increase and decrease of pleasure and disgust. Moreover, the cortex has unique roles in the cognitive evaluation of our feelings of pleasure [40]. Importantly, the interplay of these multiple triggers and the higher brain centers in the prefrontal cortex are very intricate and are just being uncovered. Desire and reward centers It is surprising that many different sources of pleasure activate the same circuits between the mesocorticolimbic regions (Figure 1). Reward and desire are two aspects pleasure induction and have a very widespread, large circuit. Some part of this circuit distinguishes between desire and dread. The so-called pleasure circuitry called “REWARD” involves a well-known dopamine pathway in the mesolimbic system that can influence both pleasure and motivation. In simplest terms, the well-established mesolimbic system is a dopamine circuit for reward. It starts in the ventral tegmental area (VTA) of the midbrain and travels to the nucleus accumbens (Figure 2). It is the cornerstone target to all addictions. The VTA is encompassed with neurons using glutamate, GABA, and dopamine. The nucleus accumbens (NAc) is located within the ventral striatum and is divided into two sub-regions—the motor and limbic regions associated with its core and shell, respectively. The NAc has spiny neurons that receive dopamine from the VTA and glutamate (a dopamine driver) from the hippocampus, amygdala and medial prefrontal cortex. Subsequently, the NAc projects GABA signals to an area termed the ventral pallidum (VP). The region is a relay station in the limbic loop of the basal ganglia, critical for motivation, behavior, emotions and the “Feel Good” response. This defined system of the brain is involved in all addictions –substance, and non –substance related. In 1995, our laboratory coined the term “Reward Deficiency Syndrome” (RDS) to describe genetic and epigenetic induced hypodopaminergia in the “Brain Reward Cascade” that contribute to addiction and compulsive behaviors [3,6,41]. Furthermore, ordinary “liking” of something, or pure pleasure, is represented by small regions mainly in the limbic system (old reptilian part of the brain). These may be part of larger neural circuits. In Latin, hedus is the term for “sweet”; and in Greek, hodone is the term for “pleasure.” Thus, the word Hedonic is now referring to various subcomponents of pleasure: some associated with purely sensory and others with more complex emotions involving morals, aesthetics, and social interactions. The capacity to have pleasure is part of being healthy and may even extend life, especially if linked to optimism as a dopaminergic response [42]. Psychiatric illness often includes symptoms of an abnormal inability to experience pleasure, referred to as anhedonia. A negative feeling state is called dysphoria, which can consist of many emotions such as pain, depression, anxiety, fear, and disgust. Previously many scientists used animal research to uncover the complex mechanisms of pleasure, liking, motivation and even emotions like panic and fear, as discussed above [43]. However, as a significant amount of related research about the specific brain regions of pleasure/reward circuitry has been derived from invasive studies of animals, these cannot be directly compared with subjective states experienced by humans. In an attempt to resolve the controversy regarding the causal contributions of mesolimbic dopamine systems to reward, we have previously evaluated the three-main competing explanatory categories: “liking,” “learning,” and “wanting” [3]. That is, dopamine may mediate (a) liking: the hedonic impact of reward, (b) learning: learned predictions about rewarding effects, or (c) wanting: the pursuit of rewards by attributing incentive salience to reward-related stimuli [44]. We have evaluated these hypotheses, especially as they relate to the RDS, and we find that the incentive salience or “wanting” hypothesis of dopaminergic functioning is supported by a majority of the scientific evidence. Various neuroimaging studies have shown that anticipated behaviors such as sex and gaming, delicious foods and drugs of abuse all affect brain regions associated with reward networks, and may not be unidirectional. Drugs of abuse enhance dopamine signaling which sensitizes mesolimbic brain mechanisms that apparently evolved explicitly to attribute incentive salience to various rewards [45].

#### 2] Extinction first

#### Extinction is the worst impact under any framing: irreversibility, infinite magnitude, and moral uncertainty

MacAskill 14 (MacAskill, William, Oxford Philosopher and youngest tenured philosopher in the world, Normative Uncertainty, 2014//chskk)

The human race might go extinct from a number of causes: asteroids, supervolcanoes, runaway climate change, pandemics, nuclear war, and the development and use of dangerous new technologies such as synthetic biology, all pose risks (even if very small) to the continued survival of the human race.184 And different moral views give opposing answers to question of whether this would be a good or a bad thing. It might seem obvious that human extinction would be a very bad thing, both because of the loss of potential future lives, and because of the loss of the scientific and artistic progress that we would make in the future. But the issue is at least unclear. The continuation of the human race would be a mixed bag: inevitably, it would involve both upsides and downsides. And if one regards it as much more important to avoid bad things happening than to promote good things happening then one could plausibly regard human extinction as a good thing.For example, one might regard the prevention of bads as being in general more important that the promotion of goods, as defended historically by G. E. Moore,185 and more recently by Thomas Hurka.186 One could weigh the prevention of suffering as being much more important that the promotion of happiness. Or one could weight the prevention of objective bads, such as war and genocide, as being much more important than the promotion of objective goods, such as scientific and artistic progress. If the human race continues its future will inevitably involve suffering as well as happiness, and objective bads as well as objective goods. So, if one weights the bads sufficiently heavily against the goods, or if one is sufficiently pessimistic about humanity’s ability to achieve good outcomes, then one will regard human extinction as a good thing.187 However, even if we believe in a moral view according to which human extinction would be a good thing, we still have strong reason to prevent near-term human extinction. To see this, we must note three points. First, we should note that the extinction of the human race is an extremely high stakes moral issue. Humanity could be around for a very long time: if humans survive as long as the median mammal species, we will last another two million years. On this estimate, the number of humans in existence in the The future, given that we don’t go extinct any time soon, would be 2×10^14. So if it is good to bring new people into existence, then it’s very good to prevent human extinction. Second, human extinction is by its nature an irreversible scenario. If we continue to exist, then we always have the option of letting ourselves go extinct in the future (or, perhaps more realistically, of considerably reducing population size). But if we go extinct, then we can’t magically bring ourselves back into existence at a later date. Third, we should expect ourselves to progress, morally, over the next few centuries, as we have progressed in the past. So we should expect that in a few centuries’ time we will have better evidence about how to evaluate human extinction than we currently have. Given these three factors, it would be better to prevent the near-term extinction of the human race, even if we thought that the extinction of the human race would actually be a very good thing. To make this concrete, I’ll give the following simple but illustrative model. Suppose that we have 0.8 credence that it is a bad thing to produce new people, and 0.2 certain that it’s a good thing to produce new people; and the degree to which it is good to produce new people, if it is good, is the same as the degree to which it is bad to produce new people, if it is bad. That is, I’m supposing, for simplicity, that we know that one new life has one unit of value; we just don’t know whether that unit is positive or negative. And let’s use our estimate of 2×10^14 people who would exist in the future, if we avoid near-term human extinction. Given our stipulated credences, the expected benefit of letting the human race go extinct now would be (.8-.2)×(2×10^14) = 1.2×(10^14). Suppose that, if we let the human race continue and did research for 300 years, we would [to] know for certain whether or not additional people are of positive or negative value. If so, then with the credences above we should think it 80% likely that we will find out that it is a bad thing to produce new people, and 20% likely that we will find out that it’s a good thing to produce new people. So there’s an 80% chance of a loss of 3×(10^10) (because of the delay of letting the human race go extinct), the expected value of which is 2.4×(10^10). But there’s also a 20% chance of a gain of 2×(10^14), the expected value of which is 4×(10^13). That is, in expected value terms, the cost of waiting for a few hundred years is vanishingly small compared with the benefit of keeping one’s options open while one gains new information.

#### 3] Actor Specificity

#### Policymakers only know aggregations and therefore can’t morally deliberate without being infinitely regressive

#### 4] TJF’s

#### A] Frameworks must be theoretically justified because it leads to out of round terminal impacts like education- they’re a meta-constraint on your ability to run framework

#### B] Accessibility: Util is accessible to novices because they’re familiar with consequential moral calculus- o/w on education because more people doing debate the more people gain education

#### C] Topic Research: Lit base grounded in empirics allows for wider ground and more clash which is key to education

#### 5] Lexical Prerequisite: A subject must be alive in order to engage in ethics- bodily security is a prior question to ethical theories

## Underview (0:40)

#### 1] I get 1AR theory- key to fairness

#### A] Without checks the 1NC can be infinitely abusive

#### B] Allows for reciprocity since the 1N gets theory

#### 2] 1AR theory is the highest layer of the debate

#### A] The 1AR is too short to cover substance and solve abuse

#### B] Uplayering 1AR shells with the NC makes it impossible to solve abuse

#### 3] 1AR theory is

#### A] Drop the debater to deter further abuse

#### B] Competing interps- 1) reasonability starts a race to the bottom where debaters will try to get away with the most abuse possible 2) bright lines collapse to interps but are more vague 3) competing interps leads to norm setting which allows for better models of debate

#### C] No RVI’s- 1) illogical to vote us down for being fair 2) no time skew if there’s no abuse story 3) chilling effect deters norm setting since people will always lose to better theory debaters 4) people will bait theory with abuse 5) doesn’t deter friv theory, cx has less friv and rvi’s

#### 4] Presumption affirms

#### A] If we don’t assume statements to be true then we can’t start a strand of reasoning and knowledge would be impossible

#### B] We presume statements true more often than false- if I tell you my name is kyren you’d believe me

#### C] Affirming is harder- 4-6-3 time skew and ground disparity

#### D] Neg args presuppose the aff being true to indict it

#### Scenario analysis enhance reflexivity, deconstructs cognitive biases and flawed assumptions, and enables the imagination and creation of alternative futures.

Barma et al. 16 – (May 2016, [Advance Publication Online on 11/6/15], Naazneen Barma, PhD in Political Science from UC-Berkeley, Assistant Professor of National Security Affairs at the Naval Postgraduate School, Brent Durbin, PhD in Political Science from UC-Berkeley, Professor of Government at Smith College, Eric Lorber, JD from UPenn and PhD in Political Science from Duke, Gibson, Dunn & Crutcher, Rachel Whitlark, PhD in Political Science from GWU, Post-Doctoral Research Fellow with the Project on Managing the Atom and International Security Program within the Belfer Center for Science and International Affairs at Harvard, “‘Imagine a World in Which’: Using Scenarios in Political Science,” International Studies Perspectives 17 (2), pp. 1-19, <http://www.naazneenbarma.com/uploads/2/9/6/9/29695681/using_scenarios_in_political_science_isp_2015.pdf)//recut> chskk

Over the past decade, the “cult of irrelevance” in political science scholarship has been lamented by a growing chorus (Putnam 2003; Nye 2009; Walt 2009). Prominent scholars of international affairs have diagnosed the roots of the gap between academia and policymaking, made the case for why political science research is valuable for policymaking, and offered a number of ideas for enhancing the policy relevance of scholarship in international relations and comparative politics (Walt 2005,2011; Mead 2010; Van Evera 2010; Jentleson and Ratner 2011; Gallucci 2012; Avey and Desch 2014). Building on these insights, several initiatives have been formed in the attempt to “bridge the gap.”2 Many of the specific efforts put in place by these projects focus on providing scholars with the skills, platforms, and networks to better communicate the findings and implications of their research to the policymaking community, a necessary and worthwhile objective for a field in which theoretical debates, methodological training, and publishing norms tend more and more toward the abstract and esoteric. Yet enhancing communication between scholars and policymakers is only one component of bridging the gap between international affairs theory and practice. Another crucial component of this bridge is the generation of substantive research programs that are actually policy relevant—a challenge to which less concerted attention has been paid. The dual challenges of bridging the gap are especially acute for graduate students, a particular irony since many enter the discipline with the explicit hope of informing policy. In a field that has an admirable devotion to pedagogical self-reflection, strikingly little attention is paid to techniques for generating policy-relevant ideas for dissertation and other research topics. Although numerous articles and conference workshops are devoted to the importance of experiential and problem-based learning, especially through techniques of simulation that emulate policymaking processes (Loggins 2009; Butcher 2012; Glasgow 2012; Rothman 2012; DiCicco 2014), little has been written about the use of such techniques for generating and developing innovative research ideas. This article outlines an experiential and problem-based approach to developing a political science research program using scenario analysis. It focuses especially on illuminating the research generation and pedagogical benefits of this technique by describing the use of scenarios in the annual New Era Foreign Policy Conference (NEFPC), which brings together doctoral students of international and comparative affairs who share a demonstrated interest in policy-relevant scholarship.3 In the introductory section, the article outlines the practice of scenario analysis and considers the utility of the technique in political science. We argue that scenario analysis should be viewed as a tool to stimulate problem-based learning for doctoral students and discuss the broader scholarly benefits of using scenarios to help generate research ideas. The second section details the manner in which NEFPC deploys scenario analysis. The third section reflects upon some of the concrete scholarly benefits that have been realized from the scenario format. The fourth section offers insights on the pedagogical potential associated with using scenarios in the classroom across levels of study. A brief conclusion reflects on the importance of developing specific techniques to aid those who wish to generate political science scholarship of relevance to the policy world. What Are Scenarios and Why Use Them in Political Science? Scenario analysis is perceived most commonly as a technique for examining the robustness of strategy. It can immerse decision makers in future states that go beyond conventional extrapolations of current trends, preparing them to take advantage of unexpected opportunities and to protect themselves from adverse exogenous shocks. The global petroleum company Shell, a pioneer of the technique, characterizes scenario analysis as the art of considering “what if” questions about possible future worlds. Scenario analysis is thus typically seen as serving the purposes of corporate planning or as a policy tool to be used in combination with simulations of decision making. Yet scenario analysis is not inherently limited to these uses. This section provides a brief overview of the practice of scenario analysis and the motivations underpinning its uses. It then makes a case for the utility of the technique for political science scholarship and describes how the scenarios deployed at NEFPC were created. The Art of Scenario Analysis We characterize scenario analysis as the art of juxtaposing current trends in unexpected combinations in order to articulate surprising and yet plausible futures, often referred to as “alternative worlds.” Scenarios are thus explicitly not forecasts or projections based on linear extrapolations of contemporary patterns, and they are not hypothesis-based expert predictions. Nor should they be equated with simulations, which are best characterized as functional representations of real institutions or decision-making processes (Asal 2005). Instead, they are depictions of possible future states of the world, offered together with a narrative of the driving causal forces and potential exogenous shocks that could lead to those futures. Good scenarios thus rely on explicit causal propositions that, independent of one another, are plausible—yet, when combined, suggest surprising and sometimes controversial future worlds. For example, few predicted the dramatic fall in oil prices toward the end of 2014. Yet independent driving forces, such as the shale gas revolution in the United States, China’s slowing economic growth, and declining conflict in major Middle Eastern oil producers such as Libya, were all recognized secular trends that—combined with OPEC’s decision not to take concerted action as prices began to decline—came together in an unexpected way. While scenario analysis played a role in war gaming and strategic planning during the Cold War, the real antecedents of the contemporary practice are found in corporate futures studies of the late 1960s and early 1970s (Raskin et al. 2005). Scenario analysis was essentially initiated at Royal Dutch Shell in 1965, with the realization that the usual forecasting techniques and models were not capturing the rapidly changing environment in which the company operated (Wack 1985; Schwartz 1991). In particular, it had become evident that straight-line extrapolations of past global trends were inadequate for anticipating the evolving business environment. Shell-style scenario planning “helped break the habit, ingrained in most corporate planning, of assuming that the future will look much like the present” (Wilkinson and Kupers 2013, 4). Using scenario thinking, Shell anticipated the possibility of two Arab-induced oil shocks in the 1970s and hence was able to position itself for major disruptions in the global petroleum sector. Building on its corporate roots, scenario analysis has become a standard policymaking tool. For example, the Project on Forward Engagement advocates linking systematic foresight, which it defines as the disciplined analysis of alternative futures, to planning and feedback loops to better equip the United States to meet contemporary governance challenges (Fuerth 2011). Another prominent application of scenario thinking is found in the National Intelligence Council’s series of Global Trends reports, issued every four years to aid policymakers in anticipating and planning for future challenges. These reports present a handful of “alternative worlds” approximately twenty years into the future, carefully constructed on the basis of emerging global trends, risks, and opportunities, and intended to stimulate thinking about geopolitical change and its effects.4 As with corporate scenario analysis, the technique can be used in foreign policymaking for long-range general planning purposes as well as for anticipating and coping with more narrow and immediate challenges. An example of the latter is the German Marshall Fund’s EuroFutures project, which uses four scenarios to map the potential consequences of the Euro-area financial crisis (German Marshall Fund 2013). Several features make scenario analysis particularly useful for policymaking.5 Long-term global trends across a number of different realms—social, technological, environmental, economic, and political—combine in often-unexpected ways to produce unforeseen challenges. Yet the ability of decision makers to imagine, let alone prepare for, discontinuities in the policy realm is constrained by their existing mental models and maps. This limitation is exacerbated by well-known cognitive bias tendencies such as groupthink and confirmation bias (Jervis 1976; Janis 1982; Tetlock 2005). The power of scenarios lies in their ability to help individuals break out of conventional modes of thinking and analysis by introducing unusual combinations of trends and deliberate discontinuities in narratives about the future. Imagining alternative future worlds through a structured analytical process enables policymakers to envision and thereby adapt to something altogether different from the known present. Designing Scenarios for Political Science Inquiry The characteristics of scenario analysis that commend its use to policymakers also make it well suited to helping political scientists generate and develop policy-relevant research programs. Scenarios are essentially textured, plausible, and relevant stories that help us imagine how the future political-economic world could be different from the past in a manner that highlights policy challenges and opportunities. For example, terrorist organizations are a known threat that have captured the attention of the policy community, yet our responses to them tend to be linear and reactive. Scenarios that explore how seemingly unrelated vectors of change—the rise of a new peer competitor in the East that diverts strategic attention, volatile commodity prices that empower and disempower various state and nonstate actors in surprising ways, and the destabilizing effects of climate change or infectious disease pandemics—can be useful for illuminating the nature and limits of the terrorist threat in ways that may be missed by a narrower focus on recognized states and groups. By illuminating the potential strategic significance of specific and yet poorly understood opportunities and threats, scenario analysis helps to identify crucial gaps in our collective understanding of global politicaleconomic trends and dynamics. The notion of “exogeneity”—so prevalent in social science scholarship—applies to models of reality, not to reality itself. Very simply, scenario analysis can throw into sharp relief often-overlooked yet pressing questions in international affairs that demand focused investigation. Scenarios thus offer, in principle, an innovative tool for developing a political science research agenda. In practice, achieving this objective requires careful tailoring of the approach. The specific scenario analysis technique we outline below was designed and refined to provide a structured experiential process for generating problem-based research questions with contemporary international policy relevance.6 The first step in the process of creating the scenario set described here was to identify important causal forces in contemporary global affairs. Consensus was not the goal; on the contrary, some of these causal statements represented competing theories about global change (e.g., a resurgence of the nation-state vs. border-evading globalizing forces). A major principle underpinning the transformation of these causal drivers into possible future worlds was to “simplify, then exaggerate” them, before fleshing out the emerging story with more details.7 Thus, the contours of the future world were drawn first in the scenario, with details about the possible pathways to that point filled in second. It is entirely possible, indeed probable, that some of the causal claims that turned into parts of scenarios were exaggerated so much as to be implausible, and that an unavoidable degree of bias or our own form of groupthink went into construction of the scenarios. One of the great strengths of scenario analysis, however, is that the scenario discussions themselves, as described below, lay bare these especially implausible claims and systematic biases.8 An explicit methodological approach underlies the written scenarios themselves as well as the analytical process around them—that of case-centered, structured, focused comparison, intended especially to shed light on new causal mechanisms (George and Bennett 2005). The use of scenarios is similar to counterfactual analysis in that it modifies certain variables in a given situation in order to analyze the resulting effects (Fearon 1991). Whereas counterfactuals are traditionally retrospective in nature and explore events that did not actually occur in the context of known history, our scenarios are deliberately forward-looking and are designed to explore potential futures that could unfold. As such, counterfactual analysis is especially well suited to identifying how individual events might expand or shift the “funnel of choices” available to political actors and thus lead to different historical outcomes (Nye 2005, 68–69), while forward-looking scenario analysis can better illuminate surprising intersections and sociopolitical dynamics without the perceptual constraints imposed by fine-grained historical knowledge. We see scenarios as a complementary resource for exploring these dynamics in international affairs, rather than as a replacement for counterfactual analysis, historical case studies, or other methodological tools. In the scenario process developed for NEFPC, three distinct scenarios are employed, acting as cases for analytical comparison. Each scenario, as detailed below, includes a set of explicit “driving forces” which represent hypotheses about causal mechanisms worth investigating in evolving international affairs. The scenario analysis process itself employs templates (discussed further below) to serve as a graphical representation of a structured, focused investigation and thereby as the research tool for conducting case-centered comparative analysis (George and Bennett 2005). In essence, these templates articulate key observable implications within the alternative worlds of the scenarios and serve as a framework for capturing the data that emerge (King, Keohane, and Verba 1994). Finally, this structured, focused comparison serves as the basis for the cross-case session emerging from the scenario analysis that leads directly to the articulation of new research agendas. The scenario process described here has thus been carefully designed to offer some guidance to policy-oriented graduate students who are otherwise left to the relatively unstructured norms by which political science dissertation ideas are typically developed. The initial articulation of a dissertation project is generally an idiosyncratic and personal undertaking (Useem 1997; Rothman 2008), whereby students might choose topics based on their coursework, their own previous policy exposure, or the topics studied by their advisors. Research agendas are thus typically developed by looking for “puzzles” in existing research programs (Kuhn 1996). Doctoral students also, understandably, often choose topics that are particularly amenable to garnering research funding. Conventional grant programs typically base their funding priorities on extrapolations from what has been important in the recent past—leading to, for example, the prevalence of Japan and Soviet studies in the mid-1980s or terrorism studies in the 2000s—in the absence of any alternative method for identifying questions of likely future significance. The scenario approach to generating research ideas is grounded in the belief that these traditional approaches can be complemented by identifying questions likely to be of great empirical importance in the real world, even if these do not appear as puzzles in existing research programs or as clear extrapolations from past events. The scenarios analyzed at NEFPC envision alternative worlds that could develop in the medium (five to seven year) term and are designed to tease out issues scholars and policymakers may encounter in the relatively near future so that they can begin thinking critically about them now. This timeframe offers a period distant enough from the present as to avoid falling into current events analysis, but not so far into the future as to seem like science fiction. In imagining the worlds in which these scenarios might come to pass, participants learn strategies for avoiding failures of creativity and for overturning the assumptions that prevent scholars and analysts from anticipating and understanding the pivotal junctures that arise in international affairs.