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## **The rhetorical limitations of the #FridaysForFuture movement**

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**The students striking for action on climate change admirably display civic engagement on a pressing issue. Nevertheless, their movement's message focuses far too heavily on the need to "listen to science", which is at most a point of departure for answering the ethical and political questions central to climate action.**

Sixteen year-old climate activist Greta Thunberg has powerfully mobilized students (and others) to protest against political inaction on ambitious mitigation of climate change. On the infamous Ides of March (2019) – a historical day of reckoning and political change – there were 1,693 protests registered across 106 countries, with an estimated 1.5 million students striking. This comes only half a year after Thunberg stood alone protesting political inaction on this topic outside of Riksdagshuset (the Parliament House) in Stockholm, Sweden.

The activism, which has taken up the hashtag banner #FridaysForFuture (or, alternatively #YouthStrike4Climate) due to encouraging students to protest outside political assembly buildings weekly on Fridays, has voiced a few laconic core messages. Perhaps chief amongst the rhetoric is an admonition for political leaders to listen to the science on climate change. During a speech to the European Social and Economic Committee (including Jean-Claude Juncker, President of the European Commission) on 21 February, Thunberg urged her audience to "unite behind the science; that is our demand" and to "talk to the scientists; listen to them". On the #FridaysForFuture website, a rationale given for the Friday strikes is "Why spend a lot of effort to become educated, when our governments are not listening to the educated?" Similarly, as the closing admonition in the video pinned at the top of her Twitter

page, Thunberg asserts, “and what is the point of learning facts in the school system, when the most important facts given by the science of that same school system clearly mean nothing to our politicians and our society?” Thunberg wrote on her Facebook page on 17 March, “only guided by the best available science (as is clearly stated throughout the Paris Agreement) can we together start creating the global way forward” and “We are just passing on the words of the science. Our only demand is that you start listening to it. And then start acting.”

I leave no room for ambiguity; Thunberg and her compatriots are heroes for speaking up and becoming civically active on a (perhaps the) defining issue of our age. Nevertheless, the core rhetoric and claims of the #FridaysForFuture movement are underdeveloped and lack necessary nuance. The fundamental problem is that science can only ever be a point of departure for normative decision-making and political action. The language of the students’ activism, however, treats science as the clear arbiter of effective policy. Placing science on such a pedestal – conceiving of it akin to Durkheim’s<sup>1</sup> ideas of the sacred – misunderstands the role of objective knowledge in ethical political action, and is uncomfortably reminiscent of the unquestioned scientific progressivism of the modern era<sup>2</sup>. Today’s students’ argument is notably different from the Cold War faith in science as the panacea to all ills<sup>3</sup>; yet, it still incorrectly assumes that science itself can tell us what action humans should take.

### **Science has limits**

“Scientizied” is a word that has emerged to describe situations in which science is used to cloak normative statements and bypass the necessary logical justification for positions held<sup>4</sup>. Note that “scientization” is not a problem confined to young activists; respected academics regularly commit this error in high-profile publications (e.g., 5). Scholars in the field of science and technology studies have argued for decades that instead of science providing a single objective answer, the scientific process generates numerous socially-constructed truths that are products of the questions asked, the people doing the science, values of funding organisations,

and epistemological commitments about methodological appropriateness<sup>6</sup>. It goes too far to state that no objective knowledge exists or that any scientific finding is entirely constrained by cultural context. Nonetheless, it behooves all scientists and decision makers using science to understand and acknowledge the role of values in shaping scientific findings and the different roles that science and value-based reasoning can and should play in political decisions.

Thunberg stated in her address at COP24 in Poland, “We have to speak clearly, no matter how uncomfortable that may be.” Indeed. But one does little more than obfuscate the decision-making process if they assert that science can answer ethical and political questions. Yes, the science says that horrible things are likely to happen to humans and things that humans value due to climate change, and that action can prevent some of this<sup>7</sup>. Nevertheless, the fact remains that someone needs to take that action. For example, the science says that coal burning creates some of the worst energy-associated fossil fuel emissions for climate change, so this naturally means that coal-burning countries need to clean up their act first, right? Or does it mean that nations who have historically burned the most coal need to do the most to mitigate climate change? Or does it mean that nations producing coal that is sent to developing nations for burning are responsible for the lion’s share of mitigation? This is reminiscent of a debate going back at least to the first major international environmental regime negotiation – the UN Conference on the Human Environment in Stockholm in 1972. It raises a host of ethical, historical, and cultural questions that at most tangentially connected to any scientific findings. Science did not solve the question of who should act and when they should act in 1972 (or in the major international regime negotiations since then); it will not do so today.

Nobel Laureate Lord Bertrand Russell<sup>8</sup> cautioned the limits of science when he wrote, “Almost all the questions of interest to speculative minds are such as science cannot answer.” Solutions for climate change are undeniably such a question. What does science say about the core points of contention that arose at the COP24 meeting in December 2018? Climate finance reporting? Voluntary carbon market mechanisms? Level of transparency in national emissions

reporting? The role of “loss and damage” in affecting ongoing nationally determined commitments? Science speaks to none of these, and listening to the science moves us no closer to meaningful action.

From one perspective, the argument could even be made that science is part of the problem, due to the scientific methodological norms often being far more concerned about preventing false positives (stating a relationship exists when it does not) than preventing false negatives (stating a relationship does not exist when it actually does)<sup>9</sup>. This might suggest that the science will never truly tell us how bad things are or will be. For example, scientists often refrain from stating that an impact is likely to be caused by climate change until they are highly certain. In contrast, our behaviour in our personal lives suggests that intuitively we believe that preventing false negatives is far more important than avoiding false positives. For example, if flooding could occur in our area (even if we are not entirely certain), we take out flood insurance for our homes just in case. Of course, one could look at the science (e.g., the degree of certainty, the confidence intervals) and then argue for a precautionary approach<sup>10</sup>, but that is a normative or political argument, not a scientific one.

### **Arguments beyond science**

The #FridaysForFuture movement is right that we need to listen better, but it is not the scientists we need to listen to most. Growing literature on climate justice (e.g., 11-15) and politics of international regime negotiations (e.g., 16-18) helps us understand what the implications of the science are for societal and policy action. If a global movement of motivated, intelligent, and resolute students can rise from a single voice to a chorus of 1.5 million in six months, it would do well to select a message that is coherent and supports its core objectives – listening to science is not such a message. For the students in the #FridaysForFuture movement, it is not just the natural and physical scientists they have in their camp; a massive cadre of social scientists, philosophers, and ethicists support their cause as well.

Beyond science being incapable of being used as the dominant basis for making ethical decisions, and the norms of science perhaps even making action on climate change more difficult, one might ask what role science can play in a post-truth world. In a world of Brexit and populist leaders<sup>19</sup> such as Trump, Bolsonaro, and Orbán – in a world where leaders can lie daily on Twitter and face no real repercussions – how should we think about the role of science and knowledge in society<sup>20-21</sup>? We must remain resolute in our affirmation that science matters greatly. In absence of knowing what is, one would be hard pressed to speak about what should be; science is a necessary point of departure for policy. Nevertheless, even if everyone agreed entirely on the science, this would not negate the presence of values, history, and ethics that frustrate action on climate change<sup>22-23</sup>.

Thunberg hinted at the need for ethical reasoning in her speech at COP24 when she stated “we need to focus on equity”, when she asserted “it is the sufferings of the many which pay for the luxuries of the few”, and when she reproved political leaders for stealing children’s future. This rhetoric, however, is underdeveloped in the #FridaysForFuture movement and features far less frequently than the admonition to listen to science. Explicit arguments about the unfair distribution of impacts of climate change, the procedural deficits in how high level political decisions are made, and the lack of representation of marginalized voices (including children and youth) in the debate on climate change would help give some depth to #FridaysForFuture’s message.

Climate change is a defining juggernaut of our age that only swells in speed and fury. Action is needed. Thunberg and her adherents are right to take this issue to the streets. When they do so, however, I urge that they logically defend their positions with something more durable than logically problematic, scientized claims. To the groundswell of scientists who support these students<sup>24</sup>, please acknowledge the limits of science and the role of other forms of research, logic, and argumentation in political rhetoric on climate action. To the students

fighting for our species and planet – you invoke the science; please also invoke the normative reasoning that can take us from the science of what is to the policy of what should be.

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