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Climate change and political (in)action: an intergenerational epistemic divide?

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ABSTRACT

This paper critically examines the constructed narrative that there is an epistemic intergenerational divide on the topic of climate change, climate science, and the political actions necessary to address the most urgent threats. Analysing publicly available social media data, this paper traces the amplification of youth voice during 2019 and the emergence of this narrative. It compares the dominant messages against 2019 Afrobarometer and Eurobarometer reports which explore voter perspectives on climate change and climate action. Through a process of critical analysis it argues that the constructed narrative of an intergenerational epistemic divide is misleading. It argues that youth voices are subject to structural forms of epistemic injustice and exclusion in climate action deliberations and policy making. However, it finds that voters and older generations are also subject to similar forms of exclusion. Rather than framing this as an epistemic problem, this analysis points to the political-economy climate justice factors influencing the debate. It argues that the real points of contention now rest at the science-policy interface and with what happens when scientific evidence is refracted through dominant political ideologies and translated into policy.

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Introduction

On a global scale 2018 a marked significant year in the politics of climate change and action for at least three reasons. Firstly, between October 2018 and September 2019, as requested by global political leaders in a Decision of the 21st Conference of Parties (COP 21) of the United Nations Framework Convention on Climate Change (UNFCCC) to adopt the Paris Agreement (2015), the Intergovernmental Panel on Climate Change (IPCC) produced three special reports (*Global Warming of 1.5°C*; *Climate Change and Land*; and *The Ocean and Cryosphere in a Changing Climate*). Each report highlights the failings of political action to reduce anthropogenically generated Greenhouse Gas emissions (GHGs), to prevent the worst excesses of global warming, and to protect current and future generations against the harmful impacts of changing climates not only on human beings, but on biodiversity and functioning ecosystems across the planet. Secondly, it witnessed the emergence of a powerful new voice in the form of an organised global youth movement, including school strikes and a concerted social media campaign, #fridays-forfuture (Boulianne et al., 2020; Thew, 2019). The youth movement is calling upon political elites and policy makers to engage with the scientific evidence and consensus on climate change and biodiversity loss, and to act swiftly to drive the changes necessary to prevent further

damage and harm. Thirdly, in response to national government climate action policies, protestors took to the streets in many countries. In France, attempts to increase carbon taxes on consumers witnessed significant street protests and demonstrations in the form of the Gilet Jaunes mass movement (Royall, 2019). When the government of Ecuador sought to remove fuel subsidies, street riots followed which resulted in a reversal of this policy (Marshall, 2020). At a time when states need to invest heavily in a transition away from carbon dependency and to reduce GHG emissions, it seems that novel forms of Pigouvian taxation and transfer of costs to consumers are higher than citizens and voters are willing bear. Thus, the stage seemed set for a battle between two significant groups—youth activists, grounded in the scientific evidence, in favour of swift climate action; and voting-classes, that is, tax-payers in middle and lower income households unable to bear the burden of price increases and the costs of climate action.

This tension, it was suggested in a 2019 *Nature* editorial, is fundamentally epistemic in nature. Why, it asks, “if children can understand the meaning of the IPCC assessments, can adults not do the same?” (Nature, 2019, 572: 283). Other observers argue that it is a problem of moral corruption. Political philosopher Dale Jamieson for example, argues that voter resistance to climate action exposes an underlying problem of

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democratic systems and election cycles. Voters and politicians can know relevant truths but still not understand them or grasp their significance. The human capacity to compartmentalise, he argues, helps us to understand how voters can know that climate change presents an existential threat to human life and well-being, and yet continue to support political parties who commit to business as usual, sustain fossil fuel subsidies, and avoid taking necessary actions to transform behaviours and economies for sustainable futures (Jamieson, 2020).

However, charges of epistemic inadequacy or moral corruption do not explain why 2019 data on voter perspectives indicates a majority of peoples in the regions of Europe and Africa, for example, are concerned about climate change, and would like to see this more to the centre of political deliberations and policy making. Nor would it explain why youth voice, despite their increased volume, appears to have had a limited impact on the short-term politics and policies of climate change, with a United Nations Environmental Protection report in 2020 noting that the world remains on track for a global temperature increase of 3 degrees. This is despite the short-term dip in emissions during the COVID 19 Pandemic (United Nations Sustainable Development Group, 2020).

This paper critically examines the constructed narrative that older and younger generations are on a collision course regarding their understandings of the scientific evidence on climate change and biodiversity loss. This narrative suggests there may be troubling intergenerational epistemic disagreement on the right actions to take to respond to climate change. However, through a process of critical empirical analysis and normative reasoning, it finds that this constructed narrative is misleading. When the content of both positions is explored, it finds that the concerns of youth activists and voters point to a significant level of convergence and connection concerning rights, interests, and needs across places, spaces, contexts, and generations. The problem, it finds, is fundamentally political in nature, marked by class interests and political cognitive capture rooted in the protection of the status quo global political economy.

A series of ethical and public deliberative implications unfold through this analysis. Despite commitments outlined in the Rio Declaration, where states committed to facilitate “explicit goals of citizen participation and engagement in climate actions” (1992, Principle 10), and the Paris Agreement, which states “Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access

to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement” (2015, Article 12), research finds that the degree to which either youth actors or voting constituencies are engaged in public participatory practices and deliberation on climate action is weak and insufficient (Marshall, 2020; Hügel and Davies, 2020). From an epistemic perspective, taking both youth voice and struggling citizens’ concerns seriously points to the need for epistemically inclusive discursive practices in the areas of public reasoning, political debate, and decision making. This is necessary to respect the epistemic capacities of the plurality of constituencies and to deepen public participatory processes. The participation of a plurality of voices in political deliberation is not only the right thing to do, but also necessary to protect political stability and democratic systems, and ultimately to establish the deep degree of social cooperation necessary to implement radical climate action and structural geo-economic change to address the climate crises across multiple scales.

Methodological approach

In order to address the core research question—is there an intergenerational epistemic divide between youth climate activists and voters concerning climate change and climate action—the paper draws upon social media content and surveys of voter attitudes to explore points of convergence and divergence on understandings of climate change and necessity for climate action. It then examines political responses through the nationally determined contributions and national climate action plans which outline planned political action to address what has now become known as the climate emergency (Ripple et al., 2020).

Social media data was collected from three main sources—Twitter, Facebook and Instagram between the periods of the 1st of September 2018 to the 1st of September 2019. These sites were selected due to their reach, popularity, and influence on international political climate debates (Murphy, 2021; Narin, 2019). Following initial investigations of Twitter and Facebook, it quickly became clear that younger generations in Europe, North America, Australia and Africa seem to use Twitter to engage with politicians and influence public debates, but Instagram for youth-to-youth discussions.

The UN World Youth report (Nations, 2019) identifies the constituency of “youth” as those between the ages of fifteen and twenty-four years old. However, it recognises that this is an arbitrary age range and can vary based on individual, cultural, and social factors.

This classification marks a diverse population grouping, rather than a single homogenous group. Due to the challenge of verifying age on social media profiles, the research reviewed content from those self-identifying as youth activists and it actively sought to identify points of commonality and conflict within this broad grouping.

Using Twitter's "advance search" option to scrape for specific hashtags, phrases, and key users, we then used a snowballing technique to search for similar trends across Facebook and Instagram. It proved challenging to gather publicly available data from Facebook due to the limitations of its public search functions. Most data collected from this site was overview information, and connections to websites of movements and some key actors with public profiles. Searches for publicly available data on Instagram quickly indicated its greater popularity amongst the study population. However, it does not permit the use of time parameters and so we had limited opportunity to directly link events.

To access information on citizen's perspectives on climate change and climate action, we undertook a brief analysis of the 2019 Afrobarometer and Eurobarometer survey reports. Afrobarometer is a pan-African nonpartisan research network that conducts public attitude surveys. The Afrobarometer *Change ahead: Experience and awareness of climate change in Africa* report (2019) drew from 25,823 interviews completed across 34 countries between 2018 and 2019 (Change ahead, 2019: 2). The Eurobarometer *PARLEMETER 2019* report is a public opinion monitoring survey commissioned by the European Parliament and entails responses from 27,607 interviews from participants across 28 countries (Parlemeter, 2019: 76–77).

This multi-source comparative analysis finds considerable overlap between the concerns and interests of both constituencies, troubling the idea that an intergenerational epistemic divide explains social divisions over climate change and climate action. This prompts reflection on the epistemic dimensions of this quandary—whose voices are heard and not heard, what is heard and why, within mainstream political deliberation. Through a process of normative reasoning and evaluation, the paper finds that both youth voice and voting constituencies are subject to structural forms of epistemic discursive injustice and exclusion in climate action deliberations and policy making. Further, it argues that this constructed narrative serves to distract the collective interests of concerned populations and to displace attention away from those with protected vested interests rooted in fossil fuel capitalism. Rather than representing an intergenerational epistemic divide, this narrative serves as a distractive device to polarise communities and divert attention from their underlying

shared interests. It is essentially being used to exploit general fears and uncertainty that serve to protect the status quo global political economy of extractivist, expansionist, and exploitative practices which drive multidimensional poverty and inequalities across space and time.

Limitations

We recognise that both data sets are time-bound and limited in their geographic reach. We encountered difficulties in accessing social media data for activists in China, India, and South East Asia. Due to the limitations of publicly accessible information, the data represents a time and geographically bounded snapshot of youth and voter concerns during this period.

Findings

Rising youth voice and indicators of epistemic exclusion

Researchers have noted that 2018 marked something of a turning point, witnessing a surge of coordinated youth voice and global youth activism around climate change and biodiversity loss, pointing to the failure of the international political order to engage with the scientific evidence and to recognise the multiple threats generated by human induced climate change (Bowman, 2019; Kythreotis & Mercer, 2020; Thew, 2019; Thew et al., 2020). This follows decades of smaller scale youth-led movements at national and international scales such as the Fossil Fuel Divestment campaigns across the US and Europe (Curnow and Gross, 2016); Generation Zero in New Zealand (Narin, 2019); legal actions against governments in the US, India, the Netherlands, Pakistan, Ireland, and Norway (Borge et al., 2019); and a range of different forms of youth dissent and climate activism (O'Brien et al., 2018; Rousell & Cutter-Mackenzie-Knowles, 2020).

Commencing in August 2018, the most powerful movement to emerge with the highest number of followers and activists to date is the School Strike movement (Boulianne et al., 2020). The School Strike movement, initiated by a young Swedish woman, Ms Greta Thunberg in 2018, has moved from that of a single protester (Thunberg herself, outside the Swedish Parliament Buildings in August 2018) to a global youth movement with over 3.6 million young protesters in over 169 countries, working collectively to demand immediate political action (Parlemeter, 2019: 43). This movement uses social media and traditional forms of communication to reach across national, social,

geographical, religious and cultural borders to connect concerned youth actors across the world, trending through social media on a weekly basis at *#Friday for futures*. Since joining the social media platform *Twitter* in May 2018, Thunberg has amassed over 4.1 million followers (@gretathunberg) and 10.6 million followers on Instagram (@gretathunberg) by 2020. Such has been the influence of her voice, Thunberg was invited to deliver keynote addresses to world leaders at the UN General Assembly (2019), UNFCCC Conference of Parties (2019), and the World Economic Forum (2020).

An analysis of the social media content finds a dominant narrative across the messages suggesting that older generations do not fully grasp “the science”. This is repeated through social media content and evidenced in visual images and chants used during the Friday school strikes. Key chants are shared and encouraged through Instagram and twitter, for example, “if you don’t act like adults, we will”; “the youth united will never be defeated”; “who’s generation? Our generation!” (@fridaysforfuture CHANTS); and ‘our generation is taking this crisis seriously—we wish the adults in the room were too’ (@sunrisemvmt 24 August 2019). This suggests a belief amongst youth activists that there is a fundamental epistemic divide between younger and older present-day generations.

The idea of an epistemic intergenerational divide has been further perpetuated through mainstream media sources in their coverage of the youth move. For example, A BBC news article that was tagged under #climateactivists titled “Greta Thunberg: Why are young climate activists facing so much hate?” (Nevett, 2019) focuses on how some older-generation groups have attempted to discredit the youth movement by telling them to “go back to school” or insisting their opinions came from other adults with vested interests. The BBC article refers to a Greenpeace research project which investigated a German alt-right political campaign who claimed Thunberg was leading the establishment of “climate cult” (Boren & Kahya, 2019).

Thunberg’s words and her message to the UN General Assembly attracted the attention, and indeed the ire, of some of the most power political elites at that time, including Donald Trump and Jair Bolsonaro (Aguisa et al., 2020; Murphy, 2021; and extensive media coverage such as the; Guardian, 2019b, and the; Hill, 2019). Such is the strength and reach of the youth movement that Mohammed Barkindo, the secretary general of OPEC, the world’s most powerful oil alliance, suggested in an article in the Guardian newspaper that they may represent perhaps the “greatest threat” to fossil fuel industry. According to Barkindo, OPEC employees are concerned about this youth awakening when he

shared that “their own children are asking us about their future because . . . they see their peers on the streets campaigning against this industry” (the Guardian, 2019a). All of this suggests that while youth activists display an ability to comprehend the scientific evidence, and to link this to the need for urgent action to change current production and consumption patterns, and to shift away from carbon-dependent economic models, this is not the case for present-day older generations and political elites in positions of power to take action and drive change. Not for the first time, it seems, younger generations are prepared to speak the truth and to say to the powerholders that “the emperor has no clothes” (Crosson, 2019).

To understand if this apparent intergenerational divide is epistemic in nature, it is necessary to reflect on why this movement has emerged and how has it been received. On the matter of why this movement has emerged, it seems that the lived experiences of today’s youth population, and their learning in formal education systems, simply do not cohere with the political decisions of political elites or the democratic choices of voting parents and populations who maintain such political systems and actors. At least since 1992 and in accordance with article 6 of the Convention (Nations, 1992a), many states (193 signatories to the UNFCCC) have committed to ensure that climate change and sustainable development form part of the educational curriculum for schools at primary and secondary levels (Naarksompong & Limjirakan, 2015). In addition, institutions of higher education have witnessed a significant increase in courses and modules on a broad range of interdisciplinary topics on environmental science, biodiversity and conservation, sustainable development, and climate change. Thus, younger generations are learning about the scientific basis and socio-ecological-economic implications of changing climates from young ages and in greater numbers than ever before (Kythreotis & Mercer, 2020; Rousell & Cutter-Mackenzie-Knowles, 2020). Climate change is also a core feature of their lived experiences. Wildfires, flooding, droughts, storms, extremes of heat and cold temperatures, continuous record-breaking climatic events, all form a part of their daily experiences and newsfeeds in all countries across the globe (IPCC, 2018). Yet, rather than translating this knowledge and learning into power and action, younger generations have watched the continued destruction of their natural worlds.

In excluding youth voices in the processes of social meaning making, a fundamental epistemic injustice is experienced by youth actors. This seems to point to a classic case of hermeneutical injustice. According to

Miranda Fricker, “this kind of epistemic injustice happens when a subject who is already hermeneutical marginalised (that is, they belong to a group which does not have access to equal participation in the generation of social meaning) is thereby put at an unfair disadvantage when it comes to making sense of significant areas of their social experience” (Fricker, 2013: 1319). This seems to be the case with youth climate activists as they try to help older, voting generations to understand the implications of their political decisions on environmentally sustainable social systems.

This is distinguished from a second form of epistemic injustice that can arise in contexts where contestation and debate is disabled by way of an unjust or unfair deflation of credibility of the speaker, which Fricker refers to as testimonial injustice (Fricker, 2013). Here again, we find that although amplified, youth voices do not appear to be given weight or taken seriously in the debate on climate action. Significant effort is evident of attempts to silence, belittle, and undermine these voices (Aguisa et al., 2020; Jung et al., 2020; Murphy, 2021). This suggests that youth actors and voice, in not being taken seriously in their analysis of the scientific evidence on climate change, and in not being supported to participate in the generation of social meaning of their lived experiences of climate change, are experiencing at least two distinct violations of epistemic justice—their capacities to give testimony to, and to make sense of, their experience as knowers.

However, it is important to note that there are other forms of epistemic injustice also evident in this case. Examining the social media messages of youth leaders points to evidence of what can be termed discursive injustice. Through the school strike movement and #Fridays for future, they have demanded radical change to the structures and systems underpinning the carbon-dependent global political economy rather than a simply call to individual consumers to reduce-reuse-recycle. Rather than continue pathways of excessive consumption, continued extraction and exploitation of natural systems and continued economic growth, youth activists are demanding a radical shift toward degrowth, no-growth, or green-growth principles and practices (see, for example, key demands outlined on www.fridaysforfuture.org). Their chants and slogans call for increased regulation on producers and corporations to change unsustainable practices such as plastic usage. The social media content points to a concern of climate justice, across generations and across geographies. They point to the unfairness of current systems where those with the lowest emissions levels experience the highest risk of harm, damage, and loss as a consequence of climate change. Thunberg and her followers call for

a fundamental dismantling of fossil fuel capitalism through wider and deeper systemic and structural changes (Keller, 2021). However, analysis of the outcomes of climate negotiations points to a more conservative political response (see for example, COP25: Key outcomes agreed at the UN climate talks in Madrid | Carbon Brief). Since the Paris Agreement (2015), and the commitment to hold global warming to below 2 degrees, nationally determined contributions of states points to a general failure of ambition for radical change at national scales, when 2020 planned actions collectively commit the planet to global warming of 3 degrees (United Nations Sustainable Development Group, 2020). This mismatch between youth calls for radical change, and the kinds of climate actions proposed by states, points to a form of discursive injustice whereby the perspectives and content of youth action calls are not given serious consideration in political debate and policy formation.

Thus, it seems as though there is an epistemic divide between youth actors and political decision maker concerning the implications of the scientific evidence on climate change and the range of actions that are required to prevent the most harmful outcomes of climate breakdown. There are indications of at least three forms of epistemic injustice—hermeneutical, testimonial, and discursive. However, whether this marks an epistemic intergenerational divide is not yet clear. The following explores voter attitudes on climate change and climate action to determine if there is evidence of an epistemic divide.

Rising concerns of citizens and indicators of epistemic injustice

Although there is evidence of a substantial gap between youth climate actors and political elites, the suggestion that this marks a battle defined by age is found to be less compelling. An analysis of two large surveys on voter attitudes in Europe and Africa suggests that the key battle ground for this debate is not age or knowledge based. A brief analysis of the 2019 Eurobarometer *Parelemeter* report identifies climate change as a top priority for the majority (52%) of European citizens in 2019 (Eurobarometer, 2019: 46). This average marks strong geographic differentials. According to the report, “67% of Spanish respondents see climate change as the most important environmental issue, compared to only 26% of Slovaks” (Eurobarometer, 2019: 47). Out of 28 countries, 18 identified climate change and climate action as key policy priorities for the European Parliament. Further, the report finds that in all European states, citizens believed that the youth

movements of 2018 to 2019 would have a significance influence on the policy priorities of political parties and elites.

However, this report also points to some troubling trends regarding participation and trust. Although the majority of citizens expressed confidence in democratic systems at regional and EU levels (EU, 2019: 15), a large proportion of respondents (49%) noted that they did not feel that their voices were heard in political deliberations and debate (Eurobarometer, 2019: 32). Further, Eurobarometer reports have consistently highlighted a serious gap between trust in institutions and trust in politicians and political parties. Although climate change may be a priority for many citizens in the EU, their trust in their politicians to translate this concern into workable policies is significantly weaker. There are significant overlaps in the 2019 report between youth perspectives and survey respondents on the urgency of the climate crises, and the sense that their voices were not informing political deliberation on this matter. In this case, there is again evidence of a form of discursive epistemic injustice, where core concerns of voters seem to be failing to influence mainstream political deliberation and policy making.

Further, analysis of the Afrobarometer report on experiences and awareness of climate change in Africa points to some similar concerns. The findings are stark—67% of respondents believe that climate change is already making lives in their countries more difficult, with 9 out of 10 respondents across East African countries experiencing this concern (Afrobarometer, 2019). According to this report, climate change and adaptation actions are experienced in everyday lives and livelihoods, as citizens across states experience increased exposure to harm and deepening levels of vulnerability. Increased food insecurity is a core concern as increased droughts and flooding have directly affected those with dependency on small scale subsistence rain-fed agriculture and farming livelihoods. The perspectives of citizens reported in the Afrobarometer report (2019) are supported by empirical evidence gathered through the World Meteorological Organisations (WMO) report, *The State of Climate in Africa* (World Meteorological Organisation, 2019) which points to rising food insecurity as a consequence of changing climates and increases in abrupt climactic events.

Analysis of earlier Afrobarometer reports to examine matters related to participation and public trust indicate relatively strong levels of trust in institutions but low levels of trust in political parties and politicians, and a view that citizen voice had limited influence on political deliberations and policy choices (Afrobarometer, 2016). Thus, there seems to be a high degree of

awareness of climate change and recognition that political action is required, but there is a gap between citizens and their elected representatives in terms of the translation of this shared consensus into policies and practices that directly affect the daily lives and livelihoods of present generations. This, again, suggests evidence of a form of discursive epistemic injustice.

From the analysis above it seems that the narrative of an epistemic intergenerational divide may be misleading. The youth climate strike movement, in motivating young activists to join in street movements, was momentarily successful in bringing concerns about climate change and action to the centre of mainstream political concern for voters. Following their remarkable intervention, it could be argued be that the youth movement has successfully moved the climate debates forward—beyond a debate about believing or trusting or uniting behind the science, towards questions of how to respond to the science—who and what ought to be considered; what kinds of trade-offs are required, and are these appropriate? Although the COVID-19 Global Pandemic brought street actions to a standstill, with many communities locked down to prevent the transmission of the virus for extended periods, and mass gathering temporarily suspended in many countries during 2020 and 2021, the stage remains set for climate concerns to re-gain central ground in mainstream political debates as governments identify actions and policies to rebuild economies following two years of extensive disruption.

The above sections point to the amplification and accentuation of youth voice and increasing evidence of concern amongst voting populations. They further point to recognition of the problem of climate change and the need for climate action amongst a majority of voters (albeit unevenly distributed across geographies). In both cases, there are indicators of different forms of epistemic injustice—testimonial, hermeneutical, and discursive. However, it is necessary to review the political responses to the calls for climate action and to reflect on the current political economic systems that drive the climate crisis.

Problematic Political Responses: Indicators of a Business [Politics] as Usual approach

Drawing on the annals of the United National Framework Convention for Climate change (UNFCCC) Conference of Party (COP) annual meetings, there is strong evidence of dispute, debate, deflection, and blame regarding the causes and consequences of climate change which have resulted in political inertia and inaction over the past two decades (Murphy, 2019).

Despite the persistent calls for action from scientists through the IPCC since its first *Assessment Report* (IPCC, 2014), mainstream political parties and elite interests in the highest income, highest emitting states, have generally continued to follow one of two paths when engaging in international negotiation and deliberation on climate change at the COP. On the one hand, political leaders in a number of powerful states have engaged in practices of direct resistance to the scientific evidence, rejecting findings and predictions, reducing funding for scientific research (Nogrady, 2018; Ledford et al., 2019), withdrawing from international climate agreements, and claiming that any harms arising from changing climates are of a natural rather than a social kind (see for example, BBC report in 2018 Trump on climate change report: “I don’t believe it”—BBC News).

On the other hand, a number of states have selected to follow a path of what might be termed “business as usual”, acknowledging the longer term cycle of human induced climate change, but selecting to utilise traditional market-based instruments to drive consumer change whilst at the same time, failing to drive structural change in regulation of production processes. This approach has seen many states continue to rely on existing fossil fuelled economic models to address the same problem these models have generated. States falling into this category, such as Ireland, the UK, and many European states, have sought to prioritise sustained economic growth over environmental sustainability, on the presumption that environmental matters can be addressed at some later stage when economic conditions may be more favourable (see for example, Cooke, 2018). The effects of this approach have seen targeted carbon taxation policies that impose regressive taxation models on consumers, based on a Pigouvian “polluter pays” principles, and, at the same time, has permitted continued subsidies to the fossil fuel industry for exploration and extraction.

There are at least two effects of such policies. Firstly, by embracing carbon taxes and a (consumer) polluter pays principle, the possibility of increased inequality and resistance to change has emerged in several states. Implementing flat carbon taxes and reducing fuel subsidies for low income households’ without providing alternative, sustainable, and affordable options is linked to social resistance and conflict, such as the experiences in French and Ecuador shared earlier. Such market mechanisms are based on classical economic assumptions that increased taxes will drive consumers away from their dependency on fossil fuel for energy and transport towards sustainable options. However, when such options do not yet exist or are not accessible or affordable, it results in energy and transport inequalities that have the harshest effects on the lowest income

households and uneven effects on communities in rural locations where services and infrastructure may be weaker. In essentially privatising and individualising responsibility for collective problems, these policies risk alienating lower income households, deepening inequalities within states, and deepening class divisions between voters. Secondly, there is a moral effect. In continuing to rely on the same economic model and practices that have generated the problem of climate change to fund the transition to more sustainable solutions, such actions push the problem into a notional distant future. Yet, it is known that this accentuates and deepens the challenges for present generations and future generations (Gardiner, 2010; Shue, 2014; IPCC, 2014; Shukla, Skea, et al., 2019) thus pointing to a fundamental moral problem of knowingly harming present and future generations.

The tactics of denial, delay, and dispersion have resulted in a situation where GHGs have continued to increase. According to the IPCC report on *Global Warming of 1.5°* (2018) the present generation remains off course to contain global warming to 1.5 or 2 degrees—heading instead, at a rapid pace, towards much higher levels of warming this century. The current model of “Nationally Determined Contributions” (NDCs), endorsed by states through the Paris Agreement (2015) has placed countries on a pathway towards global warming of 3° by 2100 (Environmental Programme, 2020; IPCC, 2018;) with devastating implications for the planet and its inhabitants. Not only has the current international political order failed to enable the fulfilment of basic obligations of intergenerational equity—that “every generation needs to pass the earth and our natural and cultural resources on in at least as good condition as we receive them” (Weiss, 2008), indications suggest that this may be beyond the capacity of the present generation. According to Weston (2008), perhaps the best we can now hope to do is to “minimise predicted harms” (2008. 376). Rather than a world of political debate concerning possibilities of climate change mitigation, it seems as though present-youth generations may instead have to arbitrate and deliberate around matters of loss and damage, liability, and indemnity.

Implications for theory: Discursive epistemic injustice and emerging political conflict

The analysis above suggests there is little evidence to support the theory that there is an intergenerational epistemic divide between younger and older generations in their understanding and acceptance of the climate science on anthropogenically fuelled climate change. Rather, the tensions that have emerged from this analysis are ethical and political in nature. From an ethical

perspective, accepting the science on climate change does not provide a basis for consensus on the right actions or policies to take to mitigate or adapt. The scientific consensus is clear, at a macro level, on what needs to be done (that is, a drastic reduction in GHG emissions, a rapid increase in carbon capture and sequestration, and a range of adaptation measures aimed at protecting those most at risk and with the least capacities to adapt). However, it does not explain who ought to do what for whom; who ought to carry the costs; how and when. Such questions are fundamentally moral in nature, with substantive policy and political implications. Less consideration has focused thus far on what happens when the scientific evidence is refracted through political worldviews and translated into policy.

The content of the calls for radical change from youth climate activists is not new in this regard. Much has been written on the matters of justice and moral responsibility through the extensive theoretical discourse on environmental, climate and intergenerational justice over several decades (for example, Weiss, 2007; Moellendorf, 2009; Shue, 2014; Caney, 2014; Gardiner, 2010, 2011; Jamieson, 2009). These debates have also investigated the spatial dimensions of today's changing climate, drawing much needed attention to unjust geo-political and economic structures and systems that require the lowest emitting states to carry the highest burden for climate adaptation, mitigation, loss and damage. As environmental justice and climate ethicist Stephen Gardiner has argued, business as usual energy-economy growth development models upon which contemporary highly industrialized high income countries are based, are not only unfit for purpose on our finite, living, shared planet (Gardiner, 2010), they are accelerating the destruction of the natural environment upon which all life depends. Functioning ecosystems, as Nancy Fraser notes, are the "constitutive elements that create the conditions of possibility" (Fraser, 2013). Drawing on the work of Karl Polanyi, Fraser argues that nature cannot be "owned" or "commodified" for sale on the market in any meaningful sense. They are the underling circumstances necessary for markets and societies to exist. Social and economic systems are embedded within and dependent upon natural systems (Fraser, 2013, 2014). Thus, it is at this fundamental level of social-economic-ecological cooperation that a change of mindset is required—from ownership to stewardship; from extractivism to reciprocity and care. In the absence of fundamental systemic change, resource conflicts, rising sea levels, increases in extreme weather events prompting forced migration are more likely (IPCC, 2014, 2018). When viewed from this perspective, the key battle ground for this debate is between those calling for radical social-economic-ecological systems

change and the mainstream political establishment that is seeking to address this challenge through a continued dependency on the same political-economic systems which generated the problem in the first instance.

When contemporary climate debates are refracted through the contemporary political economic structures, they interact with the existing non-ideal circumstances of intersecting inequalities, multi-dimensional poverty, and diverse vulnerabilities between countries and within countries (Piketty, 2019). Although deeply uneven (Harvey, 2017; Hickel, 2017), economic growth since the end of the Second World War has given rise to unprecedented improvements in human development indicators including increased life expectancy, improved health outcomes, and increased access to education in all states (Sachs, 2015). Moving away from this model of development potentially risks rolling back on these development gains. Within such circumstances, the very possibility of shifting towards alternative economic models and sustainable options may seem unrealistic, anti-competitive, economically harmful, and politically impossible. Yet, it is within these circumstances that change is required.

When faced with this challenge, the analysis of youth voice and activism suggests a difference in kind between the moral reasoning of younger generations, supported in their deliberations by the ethics and science of climate change, and political elites, when faced with the moral question—"what is the right thing to do"? The discourse informing youth movements seems to rest on a deep connection with the science of climate change; of the interconnected, interdependent, and embedded nature of human beings and natural systems; and a corresponding a form of enlightened self-interested moral reasoning whereby youth activists recognise that they cannot continue to depend on fossil fuelled economic growth. On the other hand, those that reject the calls for radical political action and deep changes to the current structures of the global political economy seem to demonstrate what Hilary Putnam and Vivian Walsh, describe as "tendencies of present-aims rationalising", or, perhaps less kindly but more accurately, "the pursuit of gross short-term self-indulgence" (Putnam & Walsh, 2012: 11).

Contemporary empirically based psychological theories of decision making and reasoning, such as the work of Daniel Kahneman and Amos Tversky, point to the many forms of cognitive capture and implicit bias that inform reasoning (Kahneman, 2011). When reflecting on the actions necessary to avoid harmful global warming, it is necessary to challenge the very foundations of contemporary political economies, systems of production and consumption, and ways of being and doing. As such, a tendency to present-aim rationalising, although ultimately futile and collectively irrational,

may be a relatively understandable human response. However, it is clearly under challenge from present-day younger generations who are questioning the incoherence of their lived experiences, scientific learnings and understandings of climate change, and the international political response marked by dangerous passivity and inaction. It is also under challenge from voting populations who emphasise the need to prioritise climate action in policy deliberations and decision making.

Implications for politics and the science-policy interface

Recognizing that traditional models of economic growth, achieved through extraction, uneven development, and maximum exploitation are problematic, it is possible to identify at least two alternative development pathways—the ecomodernist approach which entails continued steady growth, but a focus on the greening of development over time through technological advancements, and some improvements in systems of distribution (see, for example, the UN Sustainable Development Goals framework and the European Green Deal, “Europe’s New Growth Strategy”, 2020); and the more radical eco-solidarist approach that seeks to blend natural and social world concerns and realities. Such an approach would require the radical reshaping of contemporary practices of production, consumption, continued extraction, resource depletion, and economic expansion. It would require a reimagination of human-nature relations and fresh conceptualisations of prosperity without growth (see for example, Jackson, 2017).

The former approach appears most dominant in contemporary sustainable development discourse and policy—for example, the World Bank’s Kaushik Basu (2013) has suggested that “for industrialised and rich nations, the aim should be to keep growth steady but moderate, unless there is a major technical breakthrough that makes high growth environmentally sustainable. The world could be heading towards an environmental Malthusian trap. Unless there is technological innovation that removes this constraint, we may have to do some rebalancing of the distribution of consumption, across space and time” (Basu, 2013: 28). Within the UN Sustainable Development Goals (SDGs) it is argued that development needs to be “greener”, considering social and environmental dimensions and impacts in its continued pursuit of economic benefit and growth. As Jeremy Baskin (2019) notes, *delinking* growth and development from their negative environmental impacts, rather than *rethinking* development is the predominant imaginary informing eco-modernism and the sustainable development paradigm. A belief that the system that

coproduced the devastating natural effects, inequality and social disruption now evident, albeit greener and somewhat reformed, would lead to better outcomes, requires much greater critical analysis than is evident in global political discourse and debate on climate action. Further, this path will lead to disaster. Following this path, according to the IPCC (2018), taking the necessary actions to keep global warming to the 1.5 °C limit will drive an additional 100 million people into poverty by 2030 using current definitions and measurements. It is important to note that this number is likely to be significantly higher should global warming exceed 1.5°C.

Hornborg (2013), Hayward and Iwaki (2016), as advocates of an eco-solidarist approach, argue that the present global economic system is making the poor and disadvantaged worse off in terms of ecological space and access to the productive capacities (energy and matter) of this space which are essentially necessary for human life and well-being. They argue in favour of the need to rethink development and understandings of prosperity that do not depend on extraction, expansion, and continued growth. However, recognizing the imperative to move beyond an extractivist worldview in human-nature relations without reflecting upon the extractive nature of social relations, internalised beliefs and values, governance and institutional arrangements, fails to give sufficient recognition to the plurality of elements that influence policy deliberations and social change (Fraser, 2019). Further, it does not explain how this transformation should be done, how the benefits and burdens should be distributed, who and what should be protected. These are essential social and ethical debates marked by deep contestation. Shifting from prioritizing economic development to prioritizing ecological systems and environmental protection requires systems of inclusive deliberative practices, discursive engagements across a plurality of actors in different places and spaces, and a much greater degree of attention to epistemic inclusivity across generations. Although it may seem to be in the (short-term) interest of political elites to maintain the status quo, the consequence of doing so is likely to result in an increase in political instability and a risk of undermining the basis of social cooperation and trust (Fraser, 2019; Piketty, 2019).

Conclusion

This paper critically examines the constructed narrative that there is an epistemic intergenerational divide on the topic of climate change, climate science, and the political actions necessary to address the most urgent threats. Analysing publicly available social media data, this paper traced the amplification of youth voice during 2019 and the emergence of this narrative. It compared

the dominant messages against 2019 Afrobarometer and Eurobarometer reports which explore voter perspectives on climate change and climate action. Through a process of critical analysis, it found that the constructed narrative of an intergenerational epistemic divide is misleading. Youth voice is found to be subject to structural forms of epistemic injustice and exclusion in climate action deliberations and policy making. However, it finds that voters and older generations are also subject to similar forms of exclusion. Rather than framing this as an intergenerational epistemic problem, this analysis points to the political-economy climate justice factors influencing the debate. It argues that the real points of contention rest at the science-policy interface and with what happens when scientific evidence is refracted through dominant political ideologies and translated into policy.

Despite strong and consistent growth over many decades, since 2017, the rate of decline of those living in extreme poverty began to stall. According to the UN 2020 *SDG Report*, 6% of the global population are on target to remain below the extreme poverty level by 2030. As we now navigate the COVID-19 pandemic, the post-pandemic world is likely to witness further increases in extreme poverty levels (UN SDG, 2020). According to the World Bank, an additional 88–115 million people are likely to be pushed below this line because of this pandemic (UN SDG, 2020). All of this at a time when over four billion people across the world, including those in extreme poverty, have little or no access to social protection supports and collective instruments to help them cope with shocks such as the COVID-19 pandemic (ILO, 2020).

The lived experience of the majority of the global population in 2021 is marked by declining ecosystems, rising levels of damage and harm as a consequence of changing climates, increasing levels of poverty, increasing inequality within and between countries, increasing health challenges, persistent endemic discrimination based on gender, race, religion, class, and caste, and grinding poverty and hunger (UNDP, 2020). Further, there is strong evidence of societal breakdown in some of the highest income most advanced states, marked by an ever expanding gap between those who benefit from the current global political economy, and those carrying the burdens of this economic system (Fraser, 2013, 2019; Harvey, 2017; Piketty, 2019).

Those reflecting on climate action would be well served to acknowledge these background conditions and seek to ensure that climate actions do not accentuate inequalities, multidimensional poverty, and continued extractive relations with nature that drive species extinction and ecosystems decline. From a normative perspective this suggests that informed, inclusive, political decision making on actions needed to address climate change should be

deliberatively inclusive, ensuring strong representation temporally and spatially—across the generations and the plurality of human beings. Only through interaction and deliberation can common ground be established, and consensus-based action be determined. Debates which have focused on technical solutions and economic incentives cannot and do not remove the need for political deliberation and public engagement. An example of such an approach can be found in the Irish experience of the Citizen's Assembly on climate change. This model demonstrates the possibilities of inclusive discursive engagement, and how bringing together a diverse range of people, including younger voices and disaffected citizens, in political debate and deliberation concerning climate change is likely shift the narrative beyond deeply rooted biases and stereotypes, and create space and opportunity for new visions and new options to emerge. Thus, the findings from this paper point to the need for more rather than less democratic deliberation. However, such deliberation requires reflection on a set of feasible future possibilities that rest within the existing dominant ethos and social imaginary. As David Harvey notes, “change arises out of an existing state of affairs and it has to harness the possibilities immanent within an existing situation” (2010: 229).

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Do younger and older generations have different understandings of the science on climate change? Is it possible to reconcile the positions and interests of voting populations against

increases in carbon taxes and youth climate activists? This paper explores these questions. Drawing on social media and print media sources, it investigates of the rise of youth voice and activism through 2018 and 2019. It examines voter perspectives on climate change and political decision-making through an analysis of Eurobarometer and Afrobarometer 2019 reports. This analysis finds a strong degree of convergence in the perspectives of younger and older generations on the urgency of the climate emergency and, worryingly, on their perceived lack of participatory engagement in political deliberations that inform climate action policies. It finds that the real points of contention now rest at the science-policy interface and with what happens when scientific evidence is refracted through dominant political ideologies and translated into policy.

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