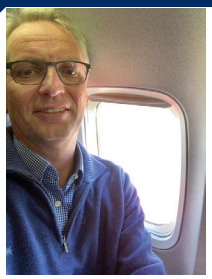
YOUR NEXT CONFERENCE: COMBAT GREENHOUSE GAS EMISSIONS AND STAY AT HOME

1811-5209/17/0371-$0.00 DOI: 10.2138/gselements.13.6.371



Friedhelm von Blanckenburg … who had better stay home.

Last year, I left a terrible carbon footprint. On top of an already travel-packed year, I flew from Berlin to San Francisco for the American Geophysical Union (AGU) Fall meeting. With my >18,000 km round trip to San Francisco, I emitted ~2 tonnes of CO_2 to the atmosphere (which alone amounts to the global per capita emissions required by 2050 to meet the 2 °C warming goal, not even counting my energy consumption for everyday life). The mood of the meeting, coming just after the US presidential election, was gloomy, amid grave concern over the future of international efforts to combat climate change. One attendee tweeted: "25,000 other geophysicists at #AGU16 in San Francisco. Zero of whom ask whether anthropogenic climate change is real." Just one month earlier, I had learnt from an article that appeared in *Science* by Notz and Stroeve (2016) that, with the 2 tonnes of CO_2 emitted by my trip to Fall AGU, I was responsible for the loss of 6 m^2 of Arctic summer ice cover. Scaling this to AGU's 25,000 participants, the Fall meeting resulted in the reduction of ice cover by about 70,000 m^2. Yet many of us flew there. Do we all reflect too little on the link between our individual actions and the consequences of climate change? Maybe most of us, but not all: see Dwyer (2013) and the "Flying Less" blog[1] for scientists who do consider that link and act upon it.

Obviously, such thoughts are dwarfed in the face of our good reasons to attend international conferences: we stay informed of the latest developments in our fields, we gain exposure for our own work, we cultivate and maintain networks, the young advance their careers, and the more established attend important business meetings. We enjoy social activities, receptions, and meeting and making friends. At the institutional level, the organising societies generate revenue from these meetings. Not attending a conference would leave us at a disadvantage relative to those 'competitors' that do attend. More generally, I ask myself why I should save these 2 tonnes of CO_2 when they pale into insignificance against the 35 billion tonnes of anthropogenic CO_2 emitted each year. We find ourselves in a classic dilemma of moral philosophy: as individuals, we collectively contribute to a problem at a global scale. Yet, we feel that changing our individual behaviour in isolation would contribute nothing towards its resolution.

Let's think about the responsibility that we, as Earth scientists, bear, because it is we who know best of all about the consequences of climate change. We in the industrialised nations are driving an Earth-system perturbation unrivalled in scale and rapidity (at least over the Cenozoic). We are also contributing towards "global structural injustice". In moral philosophy terms, this concept refers to the fact that we live in a system in which some benefit from this structure at the cost of disadvantages suffered by others. Benefitting are those who are in the economically privileged position of being able to attend international conferences. Suffering are those who are living in low-income countries and communities that do not have the resources to deal with the consequences of droughts, floods, storms, and rising sea levels. Because we, as individuals, contribute to climate change, we all bear a personal moral responsibility for such structural injustice.

Being part of the privileged group that caused the problem, I can think of urgent initial steps that could be taken at three different levels, and in doing so, begin to face up to these moral responsibilities. First, *as individuals* we can begin by doing nothing more than omitting every second international conference that comes our way. Second, *as academic organisations* this behaviour can be fostered by limiting travel through CO_2 budgets to be shared within research groups (for example, ETH Zürich is currently developing greenhouse gas reduction targets at the departmental level). Scientific societies could schedule their conferences only biennially, and offer virtual attendance options (Le Quéré et al. 2015), thereby setting an international ethical precedent – if done pointedly and publicly. Third, when copied multiple times, such measures could begin to trigger responses at a scale that will ultimately bring us to the required solution of the problem: the level of *politics*. Remember: concrete actions taken by the Earth science community have added gravitas because we are already the communicators of climate change.

Personal advantages may present still better motivators for action than all these scientific or moral arguments. May I advise the "staying home" (in) action as actually being beneficial for us? Let's face it, aren't the advances between two annual conferences often so incremental that holding meetings biennially instead could serve to make us much more aware of true progress? One could use the three weeks otherwise required for conference preparation, attendance, and recovery to read a few seminal papers or, better yet … write one! For my part, I took action. This year, my furthest science trip led me from Berlin to the Goldschmidt conference in Paris – practically around the corner. As to whether this self-imposed travel ban has impaired my ability as a geochemist, the jury is still out.

Comment on this opinion at elementsmagazine.org/forum.

Friedhelm von Blanckenburg, Principal Editor

Dwyer J (2013) On flying to ethics conferences: climate change and moral responsiveness. International Journal of Feminist Approaches to Bioethics 16: 1-18

Le Quéré C and 9 coauthors (2015) Towards a culture of low-carbon research for the 21st century. Tyndall Centre for Climate Change Research Working Paper 161, 35 pp

Notz D, Stroeve J (2016) Observed Arctic sea-ice loss directly follows anthropogenic CO_2 emission. Science 354: 747-750

1 "Flying less" blog: https://academicflyingblog.wordpress.com