

Activists as “alternative” science communicators — Exploring the facets of science communication in societal contexts

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Abstract

For many decades, NGOs and social movements have acted as “alternative” science communicators. They have made strategic use of science to promote their ideological stances, to influence political and/or economic decision-making and to motivate civic action. To date, however, our understanding of science communication in activism has received little critical attention. This set of commentaries acts as a starting point for further research and reflection. The different cases and perspectives urge readers to consider the impact, democratic legitimacy, and relevance of alternative science communication, and the challenges that alternative science communicators pose for science communication and society.

Keywords

Participation and science governance; Public perception of science and technology; Science communication in the developing world

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In recent years, Swedish climate activist Greta Thunberg has become one of the most publicly visible advocates for climate science. With her calls to “unite behind the science” and to “listen to the scientists”, 17 year old Thunberg has mobilized young people across the globe through the social movement “Fridays for future” and attracted broad public and political attention to her international campaign. Thunberg exemplifies the capacity of NGOs, social movements and pressure groups to apply science to generating political and social change. She is certainly a prominent figure. However, she is not the only activist using science in communication.

For many decades, NGOs and social movements have referred to empirical evidence and scientific assessments to promote their ideological stances. Rachel Carson’s book “Silent Spring” is considered as one of the starting points of the international environmental movement, and it appeals strongly to scientific evidence — although not necessarily scientific consensus [Murphy, 2019] — to make its arguments. Carson’s activist work contributed to the ban on DDT in many

countries. Activist communication conducted by the global NGO, Amnesty International has long employed scientific findings in campaigning [Thomsen, Helweg-Larsen and Rasmussen, 1984] and scientific methods to mobilize political attention [Macintyre, 2020]. The environmental NGO, Greenpeace, drew criticism from the scientific community for its (mis)use of science in their campaign against genetically modified organisms (GMO); 156 Nobel laureates signed a letter urging Greenpeace to end its opposition to GMOs [Achenbach, 2016]. In public communication to Greenpeace, the UN and national governments argued that activist campaigns spearheaded by this environmental group have misrepresented the risks, the benefits, and the impacts of GMOs and “supported the criminal destruction of approved field trials and research projects” that were meant to help to fight global famine [Support Precision Agriculture, 2016].

This range of examples helps to show how activists take on roles as “alternative” science communicators [Maesele, 2009]. When talking about activists as science communicators, we use broad conceptions of the terms “science communication” and “activism”. Science communication, undoubtedly, has undergone tremendous changes in recent years against the backdrop of digital disruption (or transformation). Today, scientists and professional science communicators join a broad range of diverse societal actors who are involved in the public communication of scientific topics, findings, methods or actors in the diversified and fragmented public sphere [Schäfer, Kessler and Fähnrich, 2019; Kahan, Scheufele and Jamieson, 2017]. Activism (e.g. environmental activism, health activism, food activism, and social justice activism) is considered by political theorists to be a form of civic participation in the policy-making process. It is more or less formally organized within NGOs or social movements; activists apply social media campaigns, public education, protests and demonstrations, whistle blowing or direct lobbying initiatives to advance their positions [Norris, 2002; Kaun and Uldam, 2018]. Activists play at least two roles in society [Cox, 2013]. On the one hand, activist communication can be considered to be “pragmatic”: it informs, educates, alerts and persuades publics as well as political actors about the assumed urgency of societal or environmental problems and hints at possible approaches and solutions to tackle them. On the other hand, in a more constructionist approach, activist communication can be considered “constitutive”. “Problems become problems only when someone identifies a threat to important values we hold” [Cox, 2013, p. 24]. Activist communication thus constructs representations of society or the environment and so defines specific developments as problems that require societal and political attention, negotiation, decision making, and change. In a pluralist society, however, activists represent only one perspective and compete with other agents for public attention and sovereignty over issues and opinions.

Against this backdrop, science communication matters for activism: In the battle for public attention, it has been shown that activists use scientifically informed expertise as a social currency [Fähnrich, 2018]. Activists draw on the “symbolic legitimacy” of science [Cox, 2013] to confer credibility on their claims in the wider social or political environment [Sardo and Weitkamp, 2017]. They make strategic use of science to influence political and/or economic decision-making and to motivate civic action [Yearley, 2014]. But activism also matters for science communication albeit in different ways. An investigation of the relationships between science and activism reveals different role constellations that are important to consider for their impact on public perceptions and legitimation of

science. In a gross distinction, science and activism can serve as “accomplices” or “opponents”. Health campaigns, or the fight against the extinction of species, serve as examples of activities where activists might build upon science to substantiate their arguments [Gordon, 2006; Maesele, 2009; Fähnrich, 2018] and thus contribute to the public acceptance of scientific evidence. In contrast, activism can also oppose or even threaten scientific legitimacy. Civic protests against potentially risky or ethically contested scientific or technological developments such as genetic engineering, nuclear research or nano-technology are relevant examples. The strategic (mis)use of science or the use of counter science by social movements — e.g. anti-vaccine campaigns [Kata, 2012] — draws attention to the critical role that activism can play for science communication. Misleading science criticism by populist movements [Mede and Schäfer, 2020], the adaptation of counter science strategies by global pressure groups, and scientific exaltation and uncritical propagation of science by social movements [Haack, 2011] can threaten positive public perceptions and the legitimacy of science.

To date, our understanding of activists as “alternative” science communicators has received little critical attention. The area lacks substantial research and evidence to inform theory. This set of commentaries acts as a starting point for further research about the role of activists as “alternative” science communicators. It starts with a conceptual work by *Jane Gregory* who explores different perspectives and understandings of the terms ‘alternative’ and ‘activist’ in the context of science communication and therefore takes the reader on a journey through the history of science and democracy. Gregory’s commentary builds an instructive conceptual framework for the following commentaries included in this collection. These commentaries explore a range of science communication issues and focus on a range of different activist groups in diverse national contexts. For example, *Simone Rödder* explores the role of environmental NGOs in climate communication, raising questions about their role as advocates for climate science. She argues that this climate-centric framing may challenge lived experience and belief systems within the communities where they work. She points to a potential mismatch between the ways that environmental NGOs attribute responsibility for climate change and the ways that local communities attribute responsibility, which suggests that local communities may accept shared responsibility between global and local practices. *Susana Herrera-Lima* explores the role of citizen collectives in Mexico and Latin America and argues that these collectives take on a mediator role between local people scientists and politicians. She argues that, through this work, these activists are playing a unique role in social and environmental transformation. They ground visible versions of socio-environmental conflicts in public experience and scientific knowledge.

Many of these commentaries focus on a specific case study. *Louise Windfeldt* describes the case of the Danish Seed Savers. This NGO has sought to challenge the implementation of EU legislation, but also works proactively with Danish ministries to enable them to meet their obligations to international treaties. While much focus around alternative science communicators makes a distinction between communicators who communicate on behalf of institutions and those who act as activists, the case of the Danish Seed Savers suggests a blurring of these boundaries. This NGO isn’t always acting in opposition to institutional communicators, but, in some instances, works to the same ends, raising questions about whether they might be considered alternative under Maesele’s [2009] definition or not.

Also working in the area of genetics, *Ivan Lukanda* explores the case of anti-GMO protesters in Uganda. Lukanda argues that these anti-GMO activists have positioned themselves as knowledge holders in the public debate about the adoption of GMOs. These activists may not mobilise scientific evidence, but they are important players for anyone seeking to influence the public debate around the adoption of GMOs. Lukanda calls for a model of science communication that would allow scientists and activists to discuss the social aspects of GMOs and how or whether this technology could be safely adopted. The final two commentaries focus on forms of public activism and associated scientific and political discourse. *Hannah Feldman* looks at the case of the School Strike for Climate in Australia. She argues that young people play important roles in the climate change communication arena. Feldman points out that young Climate Strikers mobilise scientific knowledge with the intention of affecting political discourse, but their youth is emphasised in efforts to discredit them. Our final commentary focuses the people's science movements in India. *TV Venkateswaran* challenges the notion that such movements are anti-science, anti-modernity and anti-development. Instead, he argues that people in these movements see science as a way to challenge existing inequalities. In India, these movements seek collaboration between lay publics and experts to gain greater social justice for marginalised community members.

These commentaries shed light on assumptions about who is or is not a science communicator and what science communicators might do to address socio-ecological problems. The voices contained in this set of commentaries, each in their own way, urge readers to consider the impact, democratic legitimacy, and relevance of alternative science communication, and the challenges that alternative science communicators pose for science communication and society.

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