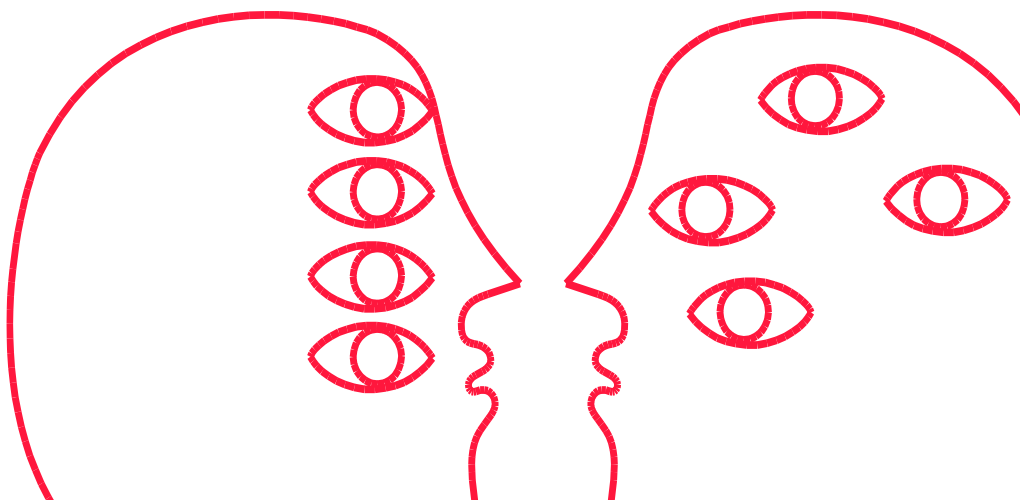


17th Berlin Debate on Science and Science Policy

“Public Engagement: Anchoring Science in Society and Society in Science”

7 Nov 2022

SUMMARY



[Hier eingeben]

Introduction

The 17th Berlin Debate on Science and Science Policy allowed the hosts from Robert Bosch Foundation to once again welcome their guests in the beautiful setting of the Foundation's Berlin headquarters. After an online meeting in 2020 and a hybrid gathering in 2021, almost all participants were able to join the 2022 edition of the Berlin Debate in person, with only two attendees connecting remotely.

As Henry Alt-Haaker, the Debate's host, pointed out, the Debate has stayed true to the same principles since its inception in the early 2000s: to identify a key issue in global science and science policy, to look for the perfect mix of people to tackle this issue, and to offer the luxury of a safe intellectual space allowing a select group of international experts to discuss this topic from a variety of angles. Referring to the broad range of definitions of public engagement in science, Henry Alt-Haaker pointed out that the Foundation's understanding of the term ultimately goes beyond the classic notion of "science communication" and notably includes the aim to make science better and to strengthen society and democracy.

Nick Ishmael-Perkins, the Debate's moderator from the International Science Council, introduced the topic of this year's Debate. He noted that the interventions will focus on the relationship between science and society as well as on practical approaches for how we can have a generative and continuous relationship between the two. Pointing to lessons learned from the pandemic, he also underlined the importance of thinking about public engagement because it makes science more trustworthy. Finally, he also expressed his hope for conversations to be insightful and transformative for participants.

Opening Keynotes: The What and Why of Public Engagement in Science

In the first of two opening keynotes, Massimiano Bucchi from the University of Trento spoke about how to move "*From public engagement to social conversation*". As a sociologist, he noted, it is particularly interesting to look at the changes in vocabulary around public engagement in science. Over the years, we have witnessed the succession of a range of keywords, from "transfer of knowledge" to "raising the public profile of science" to "a new mood for dialogue" to

“science and society” to “science in society”, to name just a few. However, according to Massimiano, these keywords lack a broader vision of what public engagement should be. They also assume the existence of a golden standard of how to communicate science. This standard, however, does not exist. How to communicate science depends on a number of variables, with context being only one of them. It is, therefore, essential to move to a new understanding of science communication. Building on his research, Massimiano proposed a new perspective on science communication as a continual process of a social conversation around science, of how society talks about science. This perspective emphasises the long-term continuity of science communication and underlines its open-endedness and its unpredictability. It also allows the integration of important notions such as equity and inclusion.

In the second keynote, Johannes Vogel from the Museum für Naturkunde Berlin, argued that “*Science needs to learn to listen*” more to society than it currently does. Sharing lessons learned from the museum, he pointed out that the more he and his colleagues listen to people, to visitors, to the young, the more excellent their science becomes – and the more relevant. Trading excellence for relevance is something that the science system needs to do very urgently but is not yet ready to do. Claiming that science has failed democracy, Johannes Vogel proposed a fundamental change: 20% of all funds that go into science should be dedicated to the service of democracy. The same should apply to the time of researchers. “It’s either deep change or slow death”, he warned.

The discussion kicked off with participants stating that, historically, scientists did broadcast to society but did not listen – and that this needs to change. This entails moving from dissemination to communication to dialogue to finally lead to participation. If you want to be serious about participation, however, you have to understand and recognise your very different audiences, you have to create new spaces, and you have to institutionalise them. How can this be done? While listening alone is not enough, it is a necessary start of the journey for science to go from being self important to being relevant to others.

Session I: Science systems, structures and Public Engagement

Session I focused on how institutional contexts can impede or facilitate public engagement with science.

In the first input of this session, “*National systems of innovation versus grassroots innovation*”, Angus Campbell from the University of Auckland zoomed in on the topic of innovation in South Africa. He contrasted a top-down bureaucratic national system of innovation which supports R&D policy and funding in higher education on the one hand and a highly creative system of grassroots innovation on the other that is inspired by local needs and acknowledges the provenance and expertise of its creators, such as indigenous groups. Despite the proven value of grassroots innovation, he noted, a strong tradition of scientific R&D and a lack of expertise in participatory and co-design methodologies continues to sway the benefit of most innovation, policy and funding down a well-trodden path.

The work of Marina Joubert from Stellenbosch University focuses on the scientists themselves and how to help them address the challenges and risks that public engagement might entail for them. In her input “*Including public voices in scientific research*”, she pointed out that, for many scientists, the idea to “go out there” is still a very daunting prospect. While, historically, science acted in a closed system, it now becomes increasingly intertwined in other sectors of society, such as politics. While scientists want to help people to make better and more informed decisions, they are not trained to do so. Marina’s take-away message: scientists need support and training when it comes to public engagement.

In her input “*From individual to institutional agency*”, Kamila Navarro from National University Singapore shared insights from the science system in the Philippines. In a national context marked by persistent government under-spending in science education, it is individual scientists who drive innovations in public engagement activities and who develop small-scale technologies with communities, while facing resistance from the established bureaucracy. However, things are slowly starting to change: in 2022, the Philippine Department of Science and Technology published their first ever national roadmap for science communication. Quoting the 2015 UNESCO Science Report that highlighted that good governance is good for science, Kamila underlined that good governance is also needed for public engagement in the Philippines to flourish. Only then can science truly serve the Filipino people.

In the last input of Session I, Anne Glover from University of Strathclyde asked the important question of “*What do we do science for?*” Most of the

research carried out globally, she pointed out, is funded by the public. Hence, it is important for the public to know what scientists do because they ultimately fund the science. Also, in the same spirit, public engagement is essential for a functioning democracy. According to Anne, research not communicated is research not done. This should be a guiding principle for all scientists. Non-specialist conversation should not be an ad-on but an integral part of each researcher's basis training. And it should not be considered to be an annoying obligation – but rather a joyful endeavour, based on the conviction that we as scientists find out what works by asking and listening.

The ensuing discussion touched on a broad range of issues. It was pointed out that we are living in the middle of a data revolution in which science can play a significant role in helping people be sceptical and hold power to account. Also, it was noted that too many major areas of science still go unnoticed and undiscussed, and that this needs to be addressed, for instance by fostering marketplaces of narratives instead of echo chambers.

The suggestion by Johannes Vogel to dedicate 20% of science funding to democracy was applauded but also questioned regarding its feasibility. What exactly will these funds be used for, and what does this imply regarding structures and processes? Will science funding be increased accordingly? To this, the answer was that the funding pie will not be getting larger but that a change in attitude is required: If we don't communicate the research that we do, we might just not have done it. It would also be used much more, and generate more impact; we would get much better outcomes of our research.

Science communication can help mediate between problem description and possible solutions. And while there are still many open questions when it comes to public engagement, it is essential for the world of science to embrace dialogue, to learn to experiment, to be open to fail and to accept to change.

Session II: Science communication across power lines and the roles of intermediaries

Session II provided a dedicated space to explore the role of intermediaries of public engagement, such as stakeholder organisations, and to examine more deeply processes, challenges and best practices.

In the first input of this session, Lewis Hou from Science Ceilidh focused the discussion on the topic of *“Balancing who is centred, who is in control and whose expertise is valued between communities and research”*. His organisation works at a very practical level to support cultural democracy and engages in particular with youth. To Lewis, it is important to re-focus the conversation and leave the idea of research organisations as the sole producers of knowledge behind. He is interested in fostering public engagement that is genuinely led by communities, who also define the agenda, the funding, the decision-making, the delivery and what success looks like. Lewis discussed his experiences in bringing together communities, in particular underrepresented ones, and researchers and underlined that, in the context of his work, thinking about process is even more important than thinking about outcomes.

In her input on *“Moving beyond the status quo: Centering inclusivity and equity in science communication”*, Jylana Sheats, Associate Director of the Science & Society Program from the Aspen Institute, urged that we must go beyond traditional models of science communication. She recommended adopting a social-ecological perspective, which enables a systems-level lens and considers the complexities and interrelatedness of the systems in which intended audiences belong. Exploring and identifying the respective actors at each level of analysis (individual, interpersonal (social networks), community, organisational, and policy/societal), may help us understand who needs to be included and influenced within and across levels, which may inform what strategies (e.g. townhall meeting vs. blog vs. radio vs. social media vs. edutainment) to use with various actors. Engaging with actors these ways removes our own biases, beliefs, and lived experiences as scientists; the experiences of direct and indirect stakeholders at each level of the social-ecological model can both inform and shape our world, as well as our engagement with community strategies. Jylana introduced the concept of ‘inclusive science communication’, a movement that has turned traditional approaches on their head. Being inclusive requires that the language be changed and that the focus be on those whose voices are historically

marginalised. These communication modes pay attention to framing information as relevant and are conscious of the fact that how we communicate informs what we communicate. Inclusive science communication prioritises working with the community to figure out who these actors are and how to reach them. Jylana concluded her intervention by noting that communities “move at the speed of trust” – hence, as a scientist, you can only get so far as communities trust you.

Moumita Mazumdar from CSIR-NIScPR and co-founder, Sciteum took participants on a journey to India, with her intervention on “*Taking science across the diverse Indian subcontinent by overcoming language and cultural barriers*”. She reminded her fellow attendees that, while India is a country with over 1.4 billion people and more than nineteen thousand (19,000) dialects, policies are only being communicated in the 22 official languages – and only the elite speaks English. This poses significant challenges for science communication. While it is possible to reach students, connecting to a broader audience or even the masses is nearly impossible. Hence, what her organisation does is to work with the students and teach them how to communicate science to their families, and even their grandparents. But what they would hope to do in the near future, is to considerably expand their reach by using non-traditional media of science communication, such as folk media. This is where she is looking for suggestions on how to put this in practice – to help connect the unconnected.

“*Putting science on the news agenda*” was the title of the fourth and final input in Session two. Erez Garty from the Davidson Institute of Science Education presented the approach his institute takes to generate interesting content related to science and take it to a broad audience. The institute works with a fluctuating pool of PhD students who are experts in their own field, understand the science and are able to translate it to topics of interest for a broader audience. These scientists have both the ability to critically read the original study and communicate it in plain language but keeping it within the proper framing. They are being supported by a professional team of editors who help polish the articles and turn them into highly readable and authentic pieces. The idea behind this approach to science communication is “to reach people in their areas of interest” and to bring science close to their daily realities. Every article is then offered (and in most cases also published) in the national media thereby more people are being exposed to science based contents in their natural

environment. Thereby Science is being brought to every smartphone in the country.

The discussion inspired by the four interventions took up and expanded on a broad number of aspects the inputs touched upon. Participants noted that reaching the underprivileged is particularly challenging in countries such as India or Uganda. While it is easy to connect to the ones that speak English, reaching the masses is a challenge that calls for innovative approaches. As one attendee put it, “you need to walk the complex path”. This takes commitment and diligence and also calls for a change in attitudes at a higher level to shift the power balance to the lower-level decision makers

While a lot of the exchanges focused on sharing promising practices of public engagement in science, attendees also underlined that there are no general rules for public engagement and that it is important not to create any – since you can always prove the opposite. What is important, though, is to understand that you cannot reach everyone and that building a community of partners, people, intermediaries that help share the message is therefore even more essential – as is the creation of spaces for connection and exchange. There is already a lot of knowledge out there on how to do it, but so far, the insights from intermediaries have not been synthesised. Funding this exercise would be a worthwhile endeavour that funding organisations could take on to help increase the effectiveness of public engagement and avoid duplication of efforts.

Finally, participants highlighted once more the importance of reaching your audiences where they are, to be relevant for them and not to fail their trust.

Concluding Keynote address: Zooming in on Public Engagement at the policy/science nexus

The concluding keynote was delivered by Rhona Mijumbi-Deve from Makerere University. She introduced the Centre for Rapid Evidence Synthesis that she founded, an institutional knowledge broker/intermediary working at the science-policy nexus to provide high-quality, relevant and timely evidence. She shared the journey it took to make the Center a reality as well as some of the lessons learned. In the absence of trust, Rhona underlined, no engagement can happen at the

science-policy nexus. Yet, so many scientists, she noted, do not realise what it takes to build this kind of trust – and how long it takes to build it. For a continuum of trust to be reached, we need to understand each other’s realities. This requires humility on the part of the scientists and also the acknowledgement that science is not above values. For society to grow and be at its optimum, it needs to take advantage of science and contribute to science according to its needs. And science needs to “take a back seat, before it can actually be welcome at the floor”. For science to meet the needs of society, it has to speak to and be immersed in society.

In his reponse to Rhona Mijumbi-Deve’s keynote, David Budtz Pedersen from Aarhus University pointed out that the nexus between science and policy is a hotly debated issue and has become even more so in the context of the coronavirus pandemic. COVID 19 was as much a communication and social emergency as it was a health crisis. It showed very clearly that so-called complex, multidimensional challenges require perspectives and input from a broad range of disciplines. When responding to a crisis situation, thinking carefully about the behavioural and social underpinnings at play is key to building trust. David argued that we cannot do without a “citizen-centric style of science communication”. Creating this citizen-centric science communication includes numerous dimensions, such as building data and evidence into narratives and stories – since scientific facts don’t speak for themselves. It requires context, knowledge translation and knowledge brokering. And it demands that scientists and policy-makers trust citizens to be co-producers of their own world and life story.

In the concluding round of discussions, participants reflected, among others, on the notion of nexus which was perceived as an central concept of the debate. How can the feeling of an “inside” and an “outside” be mitigated? How can science communication feed back into science? How can the felt gap between “rational” science and “emotional” citizens be overcome? Would it help if scientists acknowledged emotional aspects and values more than is often the case today – since, at the end of the day, we are all human beings?

To sum up the proceedings, Nick Ishmael-Perkins reminded participants of an expression that had been mentioned earlier in the day: “toxic assumptions”. To him, these two words are very powerful since they say a lot about the culture in which public engagement in science is operating. In the inquiry of science, when it comes to science communication, we

encounter a lot of received ideas about what we should be doing, who we should be talking to, why we do what we do. And, he cautioned, we do not spend enough time interrogating or evidencing these received ideas. Hence, to be vigilant with ourselves and our peers on these assumptions might already be a major step forward towards truly inclusive public engagement.

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