# Engaging Science, Technology, and Society

THEMATIC COLLECTION: STS AND INNOVATION ENGAGEMENTS

Interview: Dissolving Boundaries in the Policy System

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#### Abstract

A series of audio clip transcriptions to accompany the *Engagement* "Dissolving Boundaries in the Policy System" published as part of the STS and Innovation thematic collection. The audio clips can be accessed in STS Infrastructures at: <a href="https://nzt.net/ark:/81416/p4ds3n">https://nzt.net/ark:/81416/p4ds3n</a>.

## Keywords

science advice; science communication; science policy; innovation studies; expertise

#### Transcript 1.

Emily York: All right. I'm Emily York. I'm an Associate Editor for *Engaging Science, Technology and Society* and also here with my colleague, Noela Invernizzi, a fellow Associate Editor as part of the Editorial Collective. And we're here today with our guest, Professor Maya Horst, a Professor of Responsible Innovation and Design at the Technical University of Denmark, and member of the Danish Academy of Technical Sciences. Thank you so much for being with us here today.

Maja Horst: Thank you.

Emily York: And welcome. So to begin with, in your perspective piece, you write about serving as a member of an advisory board to the Danish minister and parliament concerning innovation policy, and then as a board member engaging with the political system around similar issues. Can you tell us a little bit more about these roles and your own career trajectory leading into them?

Maja Horst: Yes, thank you. So, if I start very briefly with my career track, I think that leads us onto where I am now. So, I did my PhD on controversies over emerging science and technology. And as part of that, I was really interested in public understanding and public engagement with science. And then I found myself

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always talking at people about my research, which was really not very well aligned with the fact that I was kind of saying that science needs to do more dialogue, more engagement, more two-way communication.

And to cut a long story short, it ended up with me making these interactive installations together with a designer and a lot of other people. But for those installations, I got awarded the Danish Science Minister's communication prize. And I think that's one of the things that started – that sort of put me in the eyes of the political system, so to say.

So, after my PhD — and the prize was later — but let's go back to the PhD. After that, I worked as an assistant and then associate professor for seven—eight years. And then by then, I was sort of lured into taking on the role as head of department in the University of Copenhagen, which is actually a full—time management role. It's more like a head of school, if you look at the size of the departments, [they] are quite big in Denmark. So, I did that. And while I was doing that, and at this point, I had also gotten that prize.

And actually, the prize also, I think, made me become a member of the Academy of Technical Sciences. But somehow that just coalesced into the, there was a call for new members of this Science and Innovation Policy Council that advises the minister in the parliament. And my boss, the dean was saying, 'oh, we're going to put you forward'. And then I know, because she told me later, the minister had seen that all the names that were being put forward. And of course, the system had suggested, oh, appoint these people. And she was looking at that list of the suggested ones to be appointed, sort of a selection out of all the ones that had been put forward. And she said, well, that was just a list of rather experienced, not to say old, a lot of men, a lot of the usual suspects. So, she'd asked for other candidates. And that's when my name had also been put forward. And that's when it popped up.

And I'm just saying this because it's very often I hear people say, oh, but I don't want to be taken because I'm a woman or because of whatever it is you represent. But actually, I just want to say that for me, that was a great thing. And people get chosen for all sorts of reasons. And of course, I wouldn't have said yes to this if I didn't think I could do a good job. But I think it's just important to say, if someone actually wants you to do something, accept it and see what you can do with it rather than kind of start thinking, oh, but it's for the wrong reasons also. So that's kind of how I ended up there.

And I think it was actually much more because of this thing with the science communication than it was my general knowledge of STS because the Danish political system doesn't really know anything about the field of STS. So, I think they recognize that I knew about sort of science communication, but not really all the other things that come along with it. Yeah, that was a long answer.

Emily York: No, I love your point about, you know, gender playing a part and just owning that.

Maja Horst: Yeah.

Noela Invernizzi: Maja, I'm sorry. Continue.

Maja Horst: No, no, yeah. Yeah, well, I was just going to say that then I had these six years on this, on this council. And then after that, I stopped a little bit early because before that was quite at the end, I got appointed to the board. That's the board of the Danish Research Councils. And then again, it actually happened that I had been on that board as a normal member for not even a year. And then the then chairman of that board resigned because he got another job. And then people were saying, 'why don't you get put forward as chair of this board?'

And I thought, that sounds like a fun thing. And then actually quite a lot of, because then I started asking people, is that a good idea? And quite a lot of people kind of said yes and put my name forward. And the then minister then said, yeah, I want her. So that's how I ended up.

And I guess the point of this is just you have to make yourself available. And then you have to kind of think about what you want to do with a position like that. And then take it when the opportunity is and possibly not have too many kind of second thoughts about lots of different things. But just go and see what you can do with it.

#### Transcript 2.

Noela Invernizzi: Yeah, great. Maya, tell us, in your article for ESTS, you discussed coming to understand that you were not there in these spaces just to represent STS, but what mattered was to make this knowledge relevant. And what helped you to make STS and other social science knowledge relevant in these discussions?

Maja Horst: So, I think it's extremely important to sort of see where you are, look around the room and see what are the other people — what's the context, what's the situation, basically. What's the context for what we're trying to do here, who are the other people, what do they know, what are their interests, how can we be helpful, so to say, in terms of what's going on, and then make some strategic choices about what is it that you can bring to the table that will kind of make a difference for the better.

And in that sense that I have, for instance, I describe how I have found myself drawing on innovation studies and sort of economic theory without knowing that much about it, but simply because that was what was relevant in that specific context. So, I think the most important thing to have is this willingness to translate whatever it is you know into something that fits the context.

So also, another way of saying that is to say you really have to start with whatever audience or audiences that you're speaking to, and then saying how can you kind of change what's going on for the better. And also, you have to be realistic in terms of how much change can you do. I mean it's no use to say, well I will only agree with this document if it's completely what I can, if it's everything I think it should be and nothing else, because then you don't get anywhere. So, you do have to have a very pragmatic attitude to what it is and then choose your battles wisely, make strategic choices about what kinds of changes you want to happen.

Yeah, I think that's sort of, that's how I have always thought about it. How can I use this position to make a difference for the better? And if I can say one more thing, I think it's also very important to think about it as a combination of abstract and specific knowledge, because I think my experience as head of department had also been in charge of a graduate school before that. But this kind of experience from management in the university was actually very useful as well, because often my arguments about whatever it could be, careers in science for instance, would be a mixture of things I know from the STS field, from research, and things I know from the sort of practical world of either being a researcher or being a manager, and then kind of combining them.

And I think that's a very, that's often, I find that's the strongest arguments if you can kind of combine the abstract and the specific knowledge that you possess.

## Transcript 3

Noela Invernizzi: Oh, that's interesting, and I can imagine that you faced several tensions there, but we were thinking about this point that you're making in your article regarding seeing your contributions as a form of science communication, and can you expand on that a little bit?

Maja Horst: Yeah, so, and that's because, I mean, in my research work, I've also argued for, I think we should understand science communication as a very broad set of practices, because basically what Sarah Davis and I have done is to define science communication as any form of communication about science, either the content or the process of science in which non-experts are taking place.

So, you could actually also argue that sometimes we do science communication when we're talking to people from a different discipline, who doesn't know much about our part of the scientific world.

But the point here is just to say, whether I am talking at a sort of outreach event to citizens about controversies over biotechnology, for instance, or whether I'm talking to policy makers or industry people, it's not entirely the same thing I say, because I always think about the audience and how to kind of get them hooked, so to say.

But it's also not very different, and the challenge is more or less the same. So, the outcome might be, the way I phrase things might be a little bit different, but it's all about understanding where the audience is and then tailoring what you're saying to a specific kind of purpose that you would like.

And of course, sometimes that purpose is just to have a dialogue with people, understand their perspectives or such, whereas other times it's very strategic. For instance, if I sit and talk to the minister, I will have very strategic ideas about what I would like the minister to understand about the way research works or things like that.

But it's all, it's the same challenge, it's about how do you engage with whatever audience you have in a way that kind of, well, gives, that makes what you're saying have a difference or makes a change with the audience, whatever that change is, that can be very, very different.

## Transcript 4

Noela Invernizzi: Maja, can you expand on what you mean when you say that we need to work both with and across policymaking? How do you see it? How does it look like?

Maja Horst: Yeah, so that's a formulation I took from Andrew Webster. [He] wrote a lot of very smart things on this. And the way I took it, and what it means for me, is that 'working with' is being useful, and that's a lot of what I've been talking about until now, whereas 'working across' you could, if you want to sort of say it very bluntly, you could say that is perhaps being annoying, being challenging, what I also just alluded to, that sometimes there are things that need to be said, or sometimes you do need to uphold ideals high.

And I think it is true . . . I try to sort of explain how we need to both be useful, but also, of course, we need to keep our ideals. Ideals are very, very important if you want to be pragmatic, because the ideal is what kind of keeps you so that you know in what ways are you being pragmatic. Ideals are what gives you direction to what you want to do.

And if I can just, before I get back to this, I just want to say a little bit about how I think STS as a community is not very good, because I think actually in STS we have quite a lot of people who've been doing policy work with quite a good effect, but I think we don't really, as a knowledge community, we don't really sort of recognize this well enough, or at least we might sort of personally recognize people, but we don't really recognize this as a collective outcome of the way we do STS.

And I think so we still kind of tend to think of it as a sort of individual thing, something some individuals do, but I think we could learn a lot. And I also think it would help us kind of pass some of these skills on to early-career researchers if we thought – if we saw it more as a collective endeavor – that we have to help each other do and to think about.

And also, this balance between idealism and pragmatism, I think it's a, for me it's not a, it's not a dilemma. It's not a problem. It's actually, it's what makes it interesting, is this kind of thing that you have to balance these things and, and I do think when I look at STS, and this is probably why I've talked so much about pragmatism and strategies here, is I think STS tends to sort of have a sense of being very clean around and sort of being very focused on the ideals.

So I think a lot of STSers might actually benefit from also kind of, we might, it might be good if we could help each other practicing pragmatism in these other contexts of communication or policy making, because I think that would also make us better able to navigate this difference between 'working with', i.e., the pragmatism and 'working across', i.e., more ideals-based advice, because I think, now I said it was not a

problem, but that doesn't mean that it's, it's not something that keeps popping up as a sort of personal question or something you need to consider.

And I think it would be really great if we could help each other considering these things and, and sort of be better at acting also, because sometimes you need to think things through in order to know how to act in a specific situation. And it helps a lot if you've sort of practiced the arguments or practiced the thinking with friends. And I think we could be each other's friends more in, within the STS community. And the next thing is that we, and that's also what I argue in the article that we could also seek friends outside STS, and I think that would make us stronger and better also because if we practiced, for instance, more dialogue with the innovation studies people, we would definitely learn something from them, but we might also learn something about ourselves from being in this dialogue with them. And I'm sure that would go for a lot of other disciplines.

#### **Transcript 5**

Emily York: So, I think that you're really already touching on this, but I want to ask you to put your teacher hat on for a moment and think about if you were trying to teach, you know, some of these, let's call them STS skills for now, if you're trying to teach these to STS students and especially for thinking about how they might go about doing this, speaking maybe outside of academia, speaking in policy kind of spaces, what would you focus on or how would you approach that as a teaching challenge?

Maja Horst: So, what I would really focus on is to, or at least first, is to get the students to understand the reality of the audience that they're speaking to. And for instance, I'm talking a lot to research students about talking to the media and I'm always trying to, very hard to get them to understand the world of a journalist and the reasons why journalists do what they do. That is not just because they're stupid or they want to simplify things, but it's actually just because they're following the professional norms of their world.

And the same with the policy makers. And I have a very good friend who is a policy maker in the ministry or was, and she has really told me a lot about how the world is, how it looks from policy makers' and politicians' perspectives. And I must say, I have a lot of respect for policy makers.

So, the things I would try to get the students to understand about the world of policy making is first of all the question of time. And it's not just a question of time in the sense of things having often to be very fast and to be timed right, but it's also a question of time in terms of the right fit.

And there's just a lot of things that might be a good idea to discuss, but it just doesn't fit whatever is going on in the policy world at the minute. So therefore, we have to kind of pick the right times to get things to kind of raise issues or whatever it is we want to do.

And vice versa, if you're giving advice on a particular topic, it's extremely important to understand what [are] the frames within which this advice can actually have effect. So, there's lots of advice I could give based on STS knowledge, but it just doesn't fit with what's going on.

And I am such a person who I would much rather give advice that makes the world, I mean, if I'm engaging in policy, I think it should be to make a difference. And for that reason, I would say use the opportunity to give advice that's sort of making a difference, which means that sometimes there might be things that I think if it's something I think this really ought to be said, I will say it, but I will also say it knowing that it won't possibly have any effect, but then trying to find ways in which advice could actually make whatever is going on better.

So, it's about thinking about the fit and thinking about the complexity and what parts of the complex world do we have an opportunity of influencing at the moment. So, if you're being asked about career structures, you can't give advice, well, you can say that there's a problem with competition in the research world, that's a very valid piece of advice. You can't give advice, which sort of premises that we now have to do away with all competition in the scientific world, because it's simply not going to happen.

So, you have to kind of think about how it is actually useful and what is it to be, because I think it might feel good to sit and be very critical and say things that are kind of too far away from the political, I mean, I've had that urge myself to say, hang on guys, you're completely on the wrong track here. It's just that it won't have any effect.

So, you can also say, is that a good, I mean, sometimes things need to be said, I do go with it. But on the other hand, if you want to make change things, you have to kind of see where I can make a difference.

Emily York: Yeah, so I'm hearing a lot about, of course, paying attention to context, being aware of who you're speaking to, being aware of what the needs are, being pragmatic, thinking about what you're trying to achieve.

#### Transcript 6

Emily York: So, given all of that, so the other part of training is, you know, some students may very much be wanting to go into that world, or at least they're putting their hat out there, you know, they're considering this. How might they present themselves, because it seems very different from presenting who you are if you're trying to get an academic job. How might you talk about your skills or what you might offer if you're trying to move into that world?

Maja Horst: Yeah, I think actually I think I've been thinking about that and I think it's actually quite hard to sort of say, because in some ways it's a lot of the same skills as you use when you're being an academic, because it is about an analysis and it is about seeing patterns and then rather than kind of reporting patterns in sort of analytical kind of research ways, you will use your pattern detection, so to say, to figure out, okay, what's the opportunities? What is it that I can do?

So, I think it's a lot of the same pattern, and you will need to be kind of methodical and you know, all these same things, systematic, but so it's the same basic competences and skills, but you use them in other ways.

And I would probably say, I would think one of the most useful things would be if there is any possibility of simply shadowing or coming along, finding someone somewhere who you can kind of go along with and simply observe these skilled policy makers in their daily life, it would be a really useful learning point.

And then of course, don't just observe, but then sit down and consider with yourself, okay, so how could I actually improve this? I guess you can do the same exercise if you're listening to a policy talk or you're kind of following policy processes or stuff like that, but it's about, okay, so what's a potential contribution here? So, to learn this, and I think this skill of pattern detection and then seeing what you can contribute, and the other thing is to always do that with other people.

So, to do this collectively rather than kind of find people who are interested in the same thing and then practice discussing this, finding ways, and I'm thinking, yeah, I'm just thinking now you could sort of think that you would be trained as a spin doctor type thing, but I don't mean, I think there is this tension between, because I'm talking a lot about being pragmatic and also being strategic.

And of course, I mean that at the same time as if you could get so good at it that you forget your kind of basic morals, not morals, but your basic ideas and stuff, so you have to kind of keep wandering backwards and forwards between what is it that you know and what is it that you believe from your training in STS, and then how is it that you can pragmatically, strategically use this to make the world better?

I think it's a sort of constant switch backwards and forwards in order to do this. And I see people who are good at this policy work, they really have this ability of switching between, because if you, I mean the difference between us and spin doctors, for instance, is that we do actually have a knowledge base that we kind of refer to.

It's not just about the spin and the strategy, it's also about making the world better based on sound STS knowledge about how what, and of course we can't, that's also why I say making it better, because we can't make it good, I think.

So, we need these ideals about what the best world could be at the same time as, as of course, we're always only doing stuff that kind of makes us move towards it, possibly in small steps, but then I'm a person who thinks small steps are better than no steps.

So, I'd rather make it a little bit better than not have any influence at all.

# **Author Biography**

Maja Horst is Dean of Arts at Aarhus University and former Professor of Science Communication at University of Copenhagen.

Emily York is an assistant professor in the School of Integrated Sciences at James Madison University. She has a PhD in Communication and Science Studies (University of California San Diego). Integrating STS research and teaching into STEM spaces is a key emphasis of her practice and intellectual inquiry. Her research focuses on STS pedagogy, interdisciplinary collaboration, critical participation, responsible innovation, and future–making within high tech innovation and higher education. She is a founder and codirector of the STS Futures Lab.

Noela Invernizzi is a Uruguayan anthropologist with a PhD in Science and Technology Policy (State University of Campinas, Brazil). She is a full professor at the Education Sector and the Public Policy Graduate Program of the Federal University of Parana, in Brazil. Her research interests include the effects of industrial innovation for workers' skills and employment conditions; science, technology, and innovation policies; the development of nanotechnology in Latin American countries, and the practices and politics of academic science evaluation.

## **Data Availability**

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