

Is silence golden? Silence in interdisciplinary collaboration between scientists

Nick W. Verouden and Maarten C. A. van der Sanden

Abstract

In considering the ethos of science, Robert Merton [1973] posited that openness and secrecy reflect opposing values in the accomplishment of science. According to Merton, scientific inquiry required that all interested parties have access to and freely share scientific information. In our current epoch, this importance of openness in science seems even more widely accepted. It is a given nowadays that scientists are expected to work as part of a team, not only within their own department, but also with other departments different disciplines. To work interdisciplinary scientists must become more communicative and critically talk about difference, which asks maximum transparency and open communication of the participants. However, against the adage that openness and participation in science is an inherent good, one easily forgets that the actual practice of collaborating may also require things are not said. Navigating everyday interactional challenges may depend on postponing issues to keep the process going, for instance because scientists still have to figure out what they find important in the collaboration with others. But also issues like, withholding sensitive problems or not critiquing each other's options viewpoints, leaving points shrewdly of the agenda, and excluding relevant actors from the meeting table. Despite the idea of open innovation, shared visions, beliefs and knowledge we must focus on silence for the good and the bad as well.

Keywords

Professionalism, professional development and training in science communication; Science communication: theory and models

What is not said

A number of scholars have pointed to the importance of silence in science. Proctor [2008] described how tobacco manufacturers aligned themselves with scientists, establishing scientific front organizations that studied and falsified the facts of tobacco-cancer hazards. Bok [1986] indicates that scientists may not talk about their work because they desire to be the first to publicize results, in order to keep other from perceiving their difficulties, or may be instructed by associated not to talk with competitors. Hilgartner [2012] describes how genome scientists in their day-to-day interactions artfully shifted between releasing some information while withholding other information about matters of data access. While these scholars challenge traditional conceptualizations that imagine science as naturally open, the significance of not saying certain things in today's interdisciplinary contexts has not received much attention. We therefore consider it important to recognize that

open and transparent communication is one way to promote constructive collaboration, but sometimes what is not said is often as important as what is said.

We base this claim on our in-depth ethnographic research on complex interdisciplinary research collaborations. The findings of our empirical research, which we discuss elsewhere [Verouden, van der Sanden and Aarts, 2016], reveals that the purported ideal of openness and knowledge sharing is often miles apart from the day-to-day realities in which scientists have to navigate all kind of interactional challenges. Depending on the context and situation, they will not always talk about differences out of convention, because they want to protect their relationships and status or because they feel they are unable to convey the intricacies or subtiles of their work. Silence also allows room for maneuver keeping things open strategically so that all parties can move in their own direction within the joint framework of the project. By not criticizing each other's perspectives, by temporarily leaving internal tensions or frictions off the meeting table, the various partners can move towards shared goals and conversations are kept positive.

Despite that scientists are sometimes tempted or forced to use silence in academic interdisciplinary teamwork, withholding information can also shape the nature and course of the collaboration in unexpected and undesired ways. If differences are not discussed, partners lose trust and start to fill in the gaps themselves leading to misunderstandings and uncertainties. Then it becomes the elephant in the room: the thing that not one is talking about that gets in the way of further conversation. Silence is thus not always golden. From a science communication perspective we therefore consider it crucial to create more awareness about the issues of silence. As Felicity Mellor, from Imperial College's science communication department has argued: "Scientists need to talk about not talking".

During a symposium recently organized on this topic 'Silence in interdisciplinary collaboration' in December 2015 at the Delft University of Technology, the Netherlands, we aimed not to question the value of developments that promote collaboration and openness within universities, but rather to explore how these processes manifest in daily practice from a silence point of view. The symposium brought together actors from within the university, such as professors and scientists, policy makers, (science) communication staff, to reflect on and discuss the meanings of silence in their everyday practice of collaborating.

A professor of atmospheric remote sensing highlighted the sheer magnitude and complexity of today's collaborations in the area of climate change. A professor of strategic communication at Wageningen University compellingly explained how people in such projects tend to reinforce their common point of view in these conversations. She argued that conversation matter and that dialogue is not something that comes natural. The first author of this letter spoke about the significance of silence in these collaborative processes. He presented a typology of silence based on how people actually collaborate. In general, the symposium created a lot of recognition, many participants emphasized the difficulty of discussing complex topics in processes of co-creation. Eventually, what started as a discussion about the significance of silence in collaboration, ended up in a discussion about how to support scientists and science communication professionals in dealing with silences on a daily basis. The latter was also induced

by an design professor asking the audience to 'shape' silence. The symposium's audience envisaged on what kind of technology might be needed in the future to support stake- and shareholders in being aware of the possibilities, probabilities and challenges of silence in achieving sustain collaboration. This emphasis might be due to Delft culture of engineering and design, but it might also indicate more generally that professionals prefer to take grip on collaboration. Below we consider how silence can be made tangible and manageable for the practice for scientific collaboration.

In the first place, it essential to develop interventions that make scientists aware of the role of silence in their everyday practice of collaborating. This may entail the use of technology. For instance, we are currently working on a 'silence instrumentarium' that can help shape the course of actual round table meetings. The tool is intended to make people around the meeting table more aware of the aesthetics of collaboration in which the ratio and rhythm of listening, speaking and silence is important. The continuously change of this ratio leads to primary feelings of these people on the spectrum between comfort and discomfort and the perceived meaning of current conversation. This comes down to very tiny, little, sensitive, tools, that are seamlessly connected to the real world process of the collaboration. At the same time by using these instruments we gain insight in the aforementioned conversational rhythm, which is important to understand conversational quality [Buur and Larsen, 2010] and conversational responsibility [Aarts, 2015].

Let's talk about science

Another important step in this regard may be to develop hands-on training courses that support scientists to become sensitized to the aesthetics of conversation in an explicit way, which is the ground layer of the development of conversational quality and eventually conversational leadership. Here we are moving to less instrumental interventions, where science communication professional take on an supporting role in everyday interaction surfacing assumptions and making undiscussables discussable. While this may not be the part of the regular expertise of science communication professionals, we think that they can play a crucial role helping to question the team or group's uncertainty at certain points and help them move through it by pushing negatively-phrased data for its underlying insight or probing vague answers for their fuller meaning.

In summary, then, we need to find better ways to get scientists talking more constructively and precise about interdisciplinary collaboration, not because they have to, but because the success of these collaborations depends on it. Therefore we need to understand silence practically and theoretically. Designing supportive tools to do so helps, as we see it. We invite you to reflect on the meaning of silence in your own area. Hereby we officially declare the discussion on silence open. Let's talk about silence!

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