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COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY

Misunderstanding trust in science: a critique of the traditional discourse on science communication

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Abstract

Peter Weingart and Lars Guenther have written a short but nevertheless comprehensive stock-taking of science communication and the issue of trust. I fully agree with almost all of their theoretical and critical observations. My aim is to critically discuss the understanding of trust as expressed in the traditional discourse on science communication. From my point of view, this concept of trust in science reveals severe shortcomings. As a consequence, communication strategies following this concept could even jeopardize trust in science.

Keywords

Science and media

For a long time the dominant, more or less explicit narrative of science communication has told us that it is necessary to inform a non-scientific public (often referred to as 'lay public') in order not to endanger the well-being of the enterprise called 'science'. Thus, continuous progress and overwhelming benefits for the whole society would be guaranteed. Historically, as Weingart and Guenther mention, this argumentation goes back to the late 19^{th} century when science became more and more professionalized and finally closed its boundaries, thereby also excluding amateur scientists from the scientific discourse. We can observe the same process of professionalization in other areas of modern society, but science may constitute a special case: while other social systems still include respective lay publics, science explicitly excluded them. Professional communication is primarily directed to professionals, not to members of the lay public. Hence, while in other social areas like politics or the economy lay publics are able (to a certain extent) to directly evaluate their trust attributions and to sanction the professional actors (for instance by not voting for them or by not buying their products), they are not able to do this in the case of science.

Along this functional differentiation of society the relevance of trust becomes evident. Functional differentiation means that the responsibility of performing specific tasks (e. g., making binding decisions, building bridges, producing reliable knowledge) is delegated to professionals representing expert systems (e. g., politicians, engineers, scientists). On the one hand professionalization enhances the capabilities of modern societies enormously. It allows expert systems to operate on their specific tasks in a very complex manner (science itself may be the best

illustration). On the other hand a question arises regarding the ways that non-professionals can make sure that the experts act in ways that reflect non-experts needs and expectations. In other words: how do non-professionals handle the risk that the expert systems do not meet their expectations or could even act against their needs?

Trust can be regarded as the most important social mechanism to compensate for this risk. Trust comes into play when social actors realize that they act relating to an uncertain resp. contingent future. This perception that there is a risk and a wrong decision could be made is constitutive of trust: people do not need to trust when they do not perceive a risk. To trust means to delegate an action which is relevant for the truster to another actor (the trustee). The trustee is then responsible for meeting the truster's expectations, that is to justify the trust. (Which expectations are justified is open to negotiations; it cannot be prescribed by one party.) At the moment of his trust action the truster can neither know nor control whether the trustee will actually meet his expectation. Trust does not eliminate this underlying risk perception but it helps to compensate for it. This explains why, in contrast to faith, the truster is anxious to legitimate his trust. The crucial point that arises is that the non-professional cannot legitimate his trust in experts by evaluating or controlling their specific expertise. The complexity of expert knowledge and expert decisions is an insurmountable obstacle to understanding and cannot be proven by non-expert publics. That's just the reason why lay people have to rely on trust! Hence, three aspects of trust relations are important to consider: firstly, trust is a *mechanism of social control* — this reason of trust has to be acknowledged by expert systems. Secondly, the *perception of risk is constitutive of trust*, this must not be confused with distrust. To trust means to continue with a relationship, whereas to distrust means to discontinue a relationship. Thirdly, the *legitimation of trust in experts cannot be achieved by expert knowledge itself*. By definition, lay publics switch to trust because they do *not* dispose of this professional expertise. If they would dispose of this knowledge they would be experts themselves.

For a long time the discourse about science communication has almost completely ignored the consequences of societal differentiation and the character of trust relations. This situation has partly changed in the scientific debate on science communication, whereas the public discourse, fed by public relations practitioners, science communicators, scientists, university managers, science politicians, science federations, funding institutions, and also science journalists, has more or less kept the traditional perspective of science popularization or public understanding of science. This traditional — and still enormously influential — discourse ignores the consequences of societal differentiation by still stressing the so-called ditch or gap between science and 'the society'. Thus, the traditional discourse ascribes a deficient understanding of science to the non-professional publics. In a nutshell, the traditional discourse still establishes a hierarchy between science and non-science whereas trust relations are based on mutual expectations.

The traditional discourse on science communication ignores the character of trust relations when it conceives 'trust in science' as 'acceptance of science' which is quite simply expected from the non-professional publics. This approach turns the relationship between truster and trustee upside down. Instead of accepting trust as a mechanism of social control, non-professional expectations towards the science system — apart from Sunday speeches — are discredited, when they do not

coincide with the perspective of science. Of course, no expectation is justified by itself and it can also be rejected with good cause. But not granting that lay publics may have expectations divergent from science and not being willing to discuss the acceptability of those expectations will not lead to a resilient trust relationship between science and society. Thus, every program promising a dialogue with the public or public engagement should be seriously responsive to the public's expectations — otherwise it remains public relations.

Furthermore, the traditional discourse ignores the character of trust relations by interpreting the public's risk perception of science as distrust in science. As suggested before, risk perception is quite normal when we consider the dependency of non-experts on expert systems. For at least a century modern science and its technological applications undoubtedly benefitted society in a remarkable way which guaranteed high rates of public trust. On the whole, trust in science was no issue. But the extension of scientific and technological rationality to all areas of human existence and nature has finally led to collateral damages and interest conflicts. Now, risk perception and trust have become an issue — though not nearly as dramatically as in other societal areas. Nevertheless, the traditional discourse reacts in a very defensive way, confusing risk perception with distrust and tracing it back to the 'ditch' between science and the 'lay public'.

According to this strategy, the legitimation of negative trust attributions is doubted when it is not bolstered by scientific argument and scientific knowledge. This is another indicator for ignoring the character of trust relations. As discussed before, non-professionals cannot judge their trust in scientists on the basis of own scientific expertise. (Ironically, also positive trust attributions towards science are not based on scientific expertise.) By raising exactly this demand the traditional discourse about science communication re-establishes the hierarchy between science and non-science. However, the idea that communication campaigns, science exhibitions, science slams etc. would ever enable non-professional publics to take part in scientific reasoning, is not exactly promising.

Altogether, it seems that the traditional discourse on science communication is still not prepared to deal professionally with trust problems. When it comes to trust problems the reaction of the traditional discourse is quite knee-jerk, always referring to scientific authority. But the scientific integrity of research is not the point of the matter. The issue of trust refers to the manifold relationships between science and society and not to the rationality of science (with some exceptions, e. g. the creationism debate). Just because science and its specific knowledge production has become enormously efficient, trust problems are more likely to pop up.

Seen from such a theoretical trust perspective the strategies proposed by the traditional discourse about science communication seem to be inadequate: at its best harmless, at worst even counterproductive (especially, the permanent alienation of science from the non-scientific publics). In particular, the problem is the role which is attributed to science journalism. The above mentioned exclusion of non-professionals provides science with quite a high level of autonomy but it makes it presumably less sensible to the needs of non-experts. Against this background the function of (science) journalism is particularly important. As ideally a professional external observer, journalism primarily supplies its non-professional publics with information that enable them to build up, to control

and to modify their trust relations with expert systems. Thus, the function of journalism could actually be described as a professional mediator of trust relations. As such, its independence and explicit distance from the observed expert systems is not negotiable. In contrast, the traditional discourse on science communication conceptualizes science journalists as copartners, which follow scientific principles when covering science. Furthermore, some science journalists also subscribe to this notion. This historically strong relationship has partly changed in the last two decades with some science journalists operating in a more critical and publicly oriented framework. Nevertheless, some science journalists continue to remain more committed to science than to the non-professional publics of science they serve. In general, the implicit self-concept of science journalism still seems to be somehow influenced by the old image of a 'transmission belt' from science to society. If this is true, science journalism only partly fulfills its mediator role regarding public trust in science.

Obviously, there is no simple strategy to confront all the problems raised by Weingart and Guenther. But it would definitely help to finally discharge the traditional narrative of science communication, first and foremost as an analytical concept. A good start would be not to blur the apparent differences between self-descriptions and external descriptions of science by applying the unifying term 'science communication'. Last but not least, a scientific analysis of this topic needs to reflect on its own point of view as part of the game and to abstain from partisanship. At the end of the day this attitude will benefit science more than to stick to an outdated narrative.

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