

Trust in science communication – some challenges

Peter Weingart & Lars Guenther

<p>JCOM</p> <p>COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY</p> <p>Science communication and the issue of trust</p> <p>Peter Weingart and Lars Guenther</p> <p>Abstract</p> <p>Science communication, whether internally or to the general public depends on trust, both trust in the source and trust in the medium of communication. With the new ecology of communication the trust is endangered. On the one hand the very term of science communication has been captured by many different actors (e.g. governments, PR as public relations and research institutions, science journalists, and bloggers) apart from scientists themselves to whom science communication means different things and whose communication is lashed by special interests. Some of these actors are probably more trusted by the general public than others. On the other hand, the channels that are used to communicate science are also not trusted equally. Particularly the widespread use of social media raises doubts about the credibility of the communication spread through them.</p> <p>Keywords</p> <p>Science and media, Science and policy-making, Science communication: theory and models</p> <p>Science communication</p> <p>— see many meanings for too many actors</p> <p>Science communication has its historical roots in the popularization of science: in the 19th century, when science began to become so specialized as to need “translation” in order to be understood by an interested public. This public, ranging from an upper class bourgeoisie to the shopkeeper, the craftsman, and the workers was fascinated by and truly interested in what science had to offer. Thus, popularization was, for a while, a parallel network of professionals who — most important in this context — shared the devotion to general enlightenment and to the production of (true) knowledge for the common good (Bessauke-Vonort 2001). Although we lack any polls from that time, it can be assumed that the popularizers were treated the same way as was science. However, this idyllic state of affairs no longer exists.</p> <p>Over the last two or three decades science communication has developed into an industry. It is no longer just the well-meaning activity of a few prolific scientists and science journalists, but these professional popularizers, who engage in informing an interested public about the latest advances in research and their broader implications for society. Instead, science communication has become an arena in which many different stakeholders battle for attention and the power of</p> <p>Comment • Journal of Science Communication 15(2)(2014)101</p>	<p>JCOM</p> <p>COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY</p> <p>Mediated trust in science: concept, measurement and perspectives for the ‘science of science communication’</p> <p>Mike S. Sabel</p> <p>Abstract</p> <p>Trust in science is, to a considerable extent, the outcome of science communication. There are entire media in particular new digital mediators of trust in science. So far, however, conceptual work on mediated trust in science has been limited. This article introduces a conceptual framework for mediated trust in science and for its measurement, and shows where it could be used in the field of science communication.</p> <p>Keywords</p> <p>Science and media, Science communication: theory and models</p> <p>Introduction</p> <p>I wholeheartedly agree with the premise of Weingart and Guenther’s article which of science communication should discuss the ecology of trust itself. There has been a central category for the analysis of trust in science as an institutional practice, however, and a social scientist (Barnes, 1981; Lakoff, 1985). This article not only provides a conceptual framework for the analysis of mediated trust in science, but also offers a methodological approach to its measurement. It is important to note that the concept of mediated trust in science is not a new one, but rather a re-orientation of an existing concept (Barnes and Sabel, 2011, p. 1483) and also for science, which will always be made of trust in science and its communication, and its communication will always depend on their support and attention (cf. Weingart, 2010).</p> <p>And trust in science is, to a considerable extent, the outcome of science communication. Most people do not have direct contact with scientists, scientists, organizations, and do not regularly visit public lectures, where trust in science can be directly shaped. They derive their knowledge about and trust in science from communication, in those journalistic media such as newspapers or magazines, TV or radio, or from their own experience and social media (e.g. Barnes, 2010; Lakoff, 1985; Sabel, 2011). This is where public opinion is formed, and where trust in science is shaped. This is where public opinion is formed, and where trust in science is shaped. This is where public opinion is formed, and where trust in science is shaped.</p> <p>Comment • Journal of Science Communication 15(2)(2014)102</p>	<p>JCOM</p> <p>COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY</p> <p>Trust in technology? Science after de-professionalization</p> <p>Seadha Doherty</p> <p>Abstract</p> <p>Peter Weingart and Lars Guenther suggest that the public’s trust in science has become endangered due to a new ecology of science communication. An explicit theoretical basis of their argument is that the ecology of science, as an institution depends on the integrity of science as a profession. My counter-argument is grounded in arguing that the scientific professionalization of science is a sign of its maturity and a sign of its maturity. The professionalization of science is a sign of its maturity and a sign of its maturity. The professionalization of science is a sign of its maturity and a sign of its maturity.</p> <p>Keywords</p> <p>Popularization of science and technology; De-professionalization; Institutional development and change in science communication; Science and media</p> <p>What this issue is all about</p> <p>Weingart and Guenther raise an important issue. It is one of the many strengths of their paper that they address the topic of trust in science as an institutional practice, however, and a social scientist (Barnes, 1981; Lakoff, 1985). This article not only provides a conceptual framework for the analysis of mediated trust in science, but also offers a methodological approach to its measurement. It is important to note that the concept of mediated trust in science is not a new one, but rather a re-orientation of an existing concept (Barnes and Sabel, 2011, p. 1483) and also for science, which will always be made of trust in science and its communication, and its communication will always depend on their support and attention (cf. Weingart, 2010).</p> <p>Comment • Journal of Science Communication 15(2)(2014)103</p>	<p>JCOM</p> <p>COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY</p> <p>Misunderstanding trust in science: a critique of the traditional discourse on science communication</p> <p>Matthew Kohring</p> <p>Abstract</p> <p>Peter Weingart and Lars Guenther have written a short but well-written and thought-provoking article. The authors argue that the public’s trust in science is endangered due to a new ecology of science communication. An explicit theoretical basis of their argument is that the ecology of science, as an institution depends on the integrity of science as a profession. My counter-argument is grounded in arguing that the scientific professionalization of science is a sign of its maturity and a sign of its maturity. The professionalization of science is a sign of its maturity and a sign of its maturity.</p> <p>Keywords</p> <p>Science and media</p> <p>For a long time the dominant, more or less implicit narrative of science communication has held that it is necessary to restore a non-scientific public (often referred to as ‘the public’) in order to understand the world beyond the scientific and technical. This has, of course, been a central theme of the science communication profession since the late 19th century when science communication was first established as a profession. However, this narrative has been challenged in recent years by a number of scholars who have argued that the public is not a monolithic entity, but rather a collection of different groups with different interests and needs. This article argues that the traditional discourse on science communication is based on a number of assumptions that are no longer valid. It is time to re-examine the concept of trust in science and to develop a new narrative that is more reflective of the current state of science communication.</p> <p>Comment • Journal of Science Communication 15(2)(2014)104</p>	<p>JCOM</p> <p>COMMUNICATING SCIENCE: TRUST AND THE NEW MEDIA ECOLOGY</p> <p>Communicating trust and trusting science communication — some critical remarks</p> <p>Alan Irwin and Miep Horst</p> <p>Abstract</p> <p>Written in response to a previous article by Weingart and Guenther (2014) in JCOM, this letter aims to open some critical issues concerning the new ecology of communication. It is argued that the new ecology of communication leads to a specific erosion of trust in science and that this erosion is not inevitable. It is argued that the new ecology of communication leads to a specific erosion of trust in science and that this erosion is not inevitable.</p> <p>Keywords</p> <p>Science communication: theory and models</p> <p>We are very grateful to Peter Weingart and Lars Guenther for addressing the relationship between science communication and public trust — and especially for writing this letter that they call the ‘new ecology of communication’. As they rightly suggest, science communication is a diverse business encompassing many different actors. It is indeed true that we cannot hope to understand the dynamics of trust without taking full account of science communication as a developing structure. As we write in the wider of Barnes and Sabel’s work on the 2012 presidential election in the United States, it is clear that trust in science is a dynamic and complex phenomenon that is shaped by a number of different actors and processes. We are grateful to Weingart and Guenther for their article which ‘opens’ the trust in science and communication research to a wider audience. We are grateful to Weingart and Guenther for their article which ‘opens’ the trust in science and communication research to a wider audience. We are grateful to Weingart and Guenther for their article which ‘opens’ the trust in science and communication research to a wider audience.</p> <p>Comment • Journal of Science Communication 15(2)(2014)105</p>
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Content

1. Trust
2. Science communication and trust (Weingart & Guenther, 2016)
3. Critical responses



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1. Trust
2. Science communication and trust (Weingart & Guenther, 2016)
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1. Trust

- **Trust** = a heuristic/ information shortcut used by people when they have to form opinions/ attitudes, or when they need to decide whether to accept a message or not (Brewer & Ley, 2013; Nisbet & Scheufele, 2009)
- Situational context: cases where people have limited knowledge (Critchley, 2008; Kohring & Matthes, 2007)
- Social context: trust is not assessed in a vacuum (Lang & Hallman, 2005)
- *Why do we need trust?*
 - Evolution of societies (late 18th century): trust (in scientific knowledge) shifted from people to institutions (Lang & Hallman, 2005; Shapin, 1995)
 - Part of differentiated societies (Luhmann, 1973), forms modern societies
- Trust varies from one source to another, and from one channel to another



1. Trust

- Professions that serve the common good are trusted the most, across time and nationalities (Ipsos MORI, 2016; Lang & Hallman, 2005; Nisbet & Scheufele, 2009)
 - Top of the scale: medical doctors, judges, teachers, **scientists**
 - Middle position: **journalists**
 - Bottom of the scale: **politicians**, industrialists, **PR professionals**
- *Two trends with reference to science communication*
 - Differentiation: scientists working for industry are trusted less than proper scientists (Critchley, 2008)
 - Deference to science and trust in scientists has been decreasing (Peters, 2015)
 - What is the reason for this?



1. Trust

Assumption

Science communication originating from governments, PR, and science organizations, as well as other interested actors is and will be perceived as **less credible** than science communication originating from academic scientists in universities and science journalists.



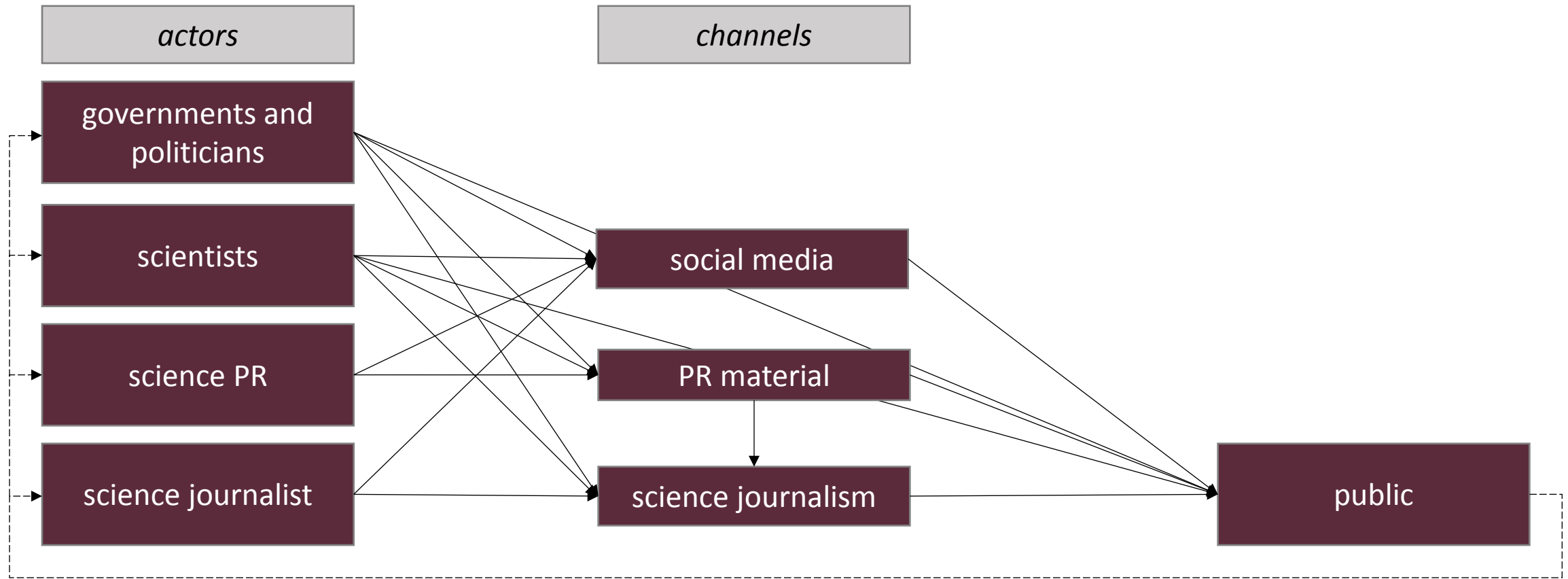
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2. **Science communication and trust** (Weingart & Guenther, 2016)
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2. Science communication and trust

Public science communication as an arena with different actors and channels



2. Science communication and trust

Governments and politicians

- *Traditional motives*
 - interested in public support for (costly) scientific programs
 - getting young students into choosing scientific careers
- *New motives*
 - acceptance of controversial projects
 - securing legitimacy for expenditures
 - popularization of science with the help of event management firms (educational and political goals)
- Legitimization of science funding is directed to universities and scientists – outreach of any kind is perceived as useful and desirable



2. Science communication and trust

Scientists

- *Science communication in the original meaning*
 - report on research that is either pertinent to practical problems and/or of educational interest
 - scientists as the best communicators of their own research
- *New trends*
 - increase in scientists' science engagement activities (plus increase of incentives)
 - science communication and outreach as part of research proposals
 - difficulty: genuine communication vs. self-promotion
 - performance indicators (e.g., impact, citation counts)
 - science PR



2. Science communication and trust

Science PR (PR materials)

- PR takes over the communication to the public (individual + institutional level)
 - because some scientists do not want to communicate to the public
 - because image building, branding and marketing become more important
- Fixation of attention and reaching as many people as possible (undifferentiated public) (Kohring et al., 2013)
- Communication to the outside gets controlled (Peters, 2013)
- *At least two implications*
 - scientists are not the best to communicate to the public; hence, this should be left to communication professionals
 - PR, then, becomes the best form of science communication



2. Science communication and trust

Science journalists (science journalism)

- Disinterested professionals with a long tradition, that have undergone various changes (e.g., their role) (Fahy & Nisbet, 2011)
- Fourth estate in any democratic society
- *New trends*
 - digitization: turbulence of the classic business models of print mass media
 - raise of the Internet/ social media has deprived journalists of their gatekeeping role
 - shrinking job market (Brumfield, 2009), lack of resources, churnalism: uncritical use of PR material (Rosen, Guenther & Froehlich, 2016)
- How long will they be perceived as reliable and trustworthy source if their increasing reliance on institutional communication content becomes widely known?



2. Science communication and trust

Social media

- Powerful and easy available technology
- Potential to reach as much people as possible in direct, two-way communication (without gatekeepers), potential for participation and democratization (Brossard, 2013)
- But: Is an undifferentiated public the appropriate audience? And has this communication the same quality as communication via traditional media?
- *Downsides of the technology*
 - no neutral platforms: social media base on income by the advertisement industry
 - algorithms 'optimize' (i.e. personalize) and select communication according to the logic of consumer preferences
 - 20% of all twitter users are social bots
 - lack of quality control: general public does not have clues whom to trust



Content

1. Trust
2. Science communication and trust (Weingart & Guenther, 2016)
3. Critical responses



3. Critical responses

Mike Schäfer

- The detachment of science to the society is greater than that of economy, religion, art and politics
- That is why media (and other channels) influence public trust in science more than public trust in economy, religion, art and politics
- *Double configuration of trust*: trust in the media (or other channels) + trust in science
- For social media, further indicators come into play: likes, shares and comments
- Trust is measured in three dimensions: expertise, integrity and benevolence (of scientists, scientific institutions and science, respectively)
- Concept of *distrust*



3. Critical responses

Alan Irwin and Maja Horst

- Critically ask if science is really always oriented to the common good and transcendent political and economical interests
- Highlight that we should learn from science PR and how they address “publics” – and study it more
- Regarding scientists: no differentiation should be made between genuine communication vs. self-promotion (and there is no problem with that either)
- Prognosis that the amount of scientists funded by industries will increase – how to deal with this?



3. Critical responses

Matthias Kohring

- Trust in science as a special case: publics can evaluate trust attributions to politics and economy and sanction professional actors – but not in the case of science
- People do not need to trust when they do not perceive there is a risk (e.g., an uncertain future scenario)
- Trusters have expectations on trustees – but it is not guaranteed that they meet them, and for laypeople it is hard to evaluate expert knowledge
- Trust relations should be equal – we cannot demand that publics simply trust or accept
- We have to accept that expectations of publics can widely differ from the scientific perspective



3. Critical responses

Matthias Kohring

“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” (p. 3).

- Negative trust attributions held by publics are doubted when not bolstered by scientific argument
- Ironically, the public’s positive trust attributions are also not grounded on scientific arguments and knowledge





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Thank you for your attention.

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