

## Science communication and rhetorics — a review of ‘Recontextualized Knowledge. Rhetoric – Situation – Science Communication’

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**Reviewed Book**

KRAMER, O. AND GOTTSCHLING, M. EDS. (2021).  
RECONTEXTUALIZED KNOWLEDGE. RHETORIC – SITUATION – SCIENCE  
COMMUNICATION.  
BERLIN, BOSTON: DE GRUYTER

**Reviewed by**

**Annette Leßmöllmann and Monika Hanauska**

**Abstract**

In their anthology, Olaf Kramer and Markus Gottschling demonstrate that a closer look at rhetoric as both the technique and the analytical tool concerned with persuasion can open up new perspectives on science communication for communication scientists as well as for practitioners.

**Keywords**

Public engagement with science and technology; Public perception of science and technology; Representations of science and technology

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“Convincing people” seems to be a communication goal opposite to good science communication on first sight. Isn’t science the realm of “true” and “false” — and shouldn’t science communicators “let speak the facts for themselves”? As Olaf Kramer and Markus Gottschling show in their anthology, a closer look at rhetoric as both the technique and the analytical tool concerned with persuasion can be useful for communication scientists and practitioners. Science can be the matter of social and political debate, and reaching out to other scientists, politicians or publics with the goal to change attitudes and induce actions with persuasive language is pervasive. In *Recontextualised Knowledge* the editors show that rhetoric as a humanities discipline — partnered with linguistics and psychology — opens up relevant perspectives on the subject matter. Kramer and Gottschling invited both researchers and practitioners to contribute.

Starting from a current understanding of science communication as a dialogical and participatory process between experts and a diverse audience, Kramer and Gottschling emphasize the importance of taking into account features of the communication situation as well as the intended audience in science

communication research. Rhetorical theories and analysis methods can offer a helpful approach to a holistic understanding of science communication processes, taking not only *logos* (subject and content level), but also *ethos* (the character and credibility of the communicator) and *pathos* (the formal and stylistic impression on the audience) into account, following Aristotle. As the editors state in their introduction, fruitful science communication is recontextualizing science into the setting of situational, sociocultural and psychological factors concerning the actual audience addressed. The recontextualization approach thus changes the view of science communication from a communication with frictional losses to one appropriate to situation and addressee. The book focusses on how to integrate the recipients' point of view as a major challenge for science communicators. It investigates how scientific knowledge is transferred into diverse cultural contexts or communication situations and what consequences this recontextualization of knowledge has for the representation of knowledge on the one hand, and for the communication process on the other.

The anthology is divided into three parts, which shed light on different features of the relation between recontextualizing knowledge and science communication.

Part 1 (Science Communication and the Public Sphere) considers recontextualization of knowledge and perspective taking as central elements in the process of communication science.

Psychologist Sara D. Hodges and colleagues tackle the question of perspective taking as a fundamental move for (successful) rhetoric. Empirical research from psychology shows, though, that envisaging how interlocutors view the world does not always yield positive effects: e.g. in highly polarized discourses where interactants are identified with their opposed factions, perspective taking can backfire and even deepen the discourse gap. Hodges et al. enrich their chapter with useful tips for practitioners.

Using the case study of American biologist Kevin Esvelt, rhetoric researcher Markus Gottschling sets out, that the use of techniques of re- and precontextualization of scientific knowledge offers the opportunity to enter into a dialogue with the audience which has the potential to increase trust into scientific research as it takes the audience seriously.

In her critical rhetoric analysis of scientific and political discourse on sustainability, political scientist Sophia Hatzisavvidou can show how the term was co-created by science and politics over time and how it evolved from a technical term to an integrated policy goal. She also shows how sustainability science and thus a new, engaged form of scientific endeavour was argued about and rhetorically construed.

The second part (Narratives and Stories) deals with narration as a rhetorical technique. It shows that the function of a narrative composition does not only consist in entertaining the audience but it enhances the presentation as it heightens the audiences' attention and increases memorability of important issues.

This latter is elaborated by Martijn Wackers (both a practitioner and a researcher in linguistics) who examines the use of anecdotes in TED Talks and conference talks as a device to heighten the audience's memorability of scientific contents. Wacker

points out that personal stories are suitable to create proximity between the speaker and the audience and to generate a common ground as a base for the transmission of scientific content.

Although interactivity between the audience and the speaker is commonly seen as an important factor in communicating scientific topics, the usual communication situation requires a silent audience. Rhetoric researcher Thomas Susanka asks how to overcome these situational restrictions by analysing the American radio show and podcast *Radiolab*. He indicates that the use of storytelling in combination with a dialogical communication via questions and answers imitates an interactive communication, and helps to recontextualize the information. This might have positive impact on the audience's ability to absorb the content.

From a more practical view, science communicator Kristin Raabe works out how purposeful storytelling can suit the representation of scientific contents to different target groups. In doing so, she debunks the argument that storytelling causes a distortion of research processes. Instead, she emphasises that storytelling can pick up on elements of the usual research process such as challenges and setbacks. Narration can, she argues, paint a real picture of scientific work.

The final part (Education and Knowledge Transfer) examines different formats of science communication and their audiences.

This section starts with a closer look on the German Children's University Books, which aim to introduce children to multiple academic disciplines and specific research questions. Linguist Nina Janich asks which images of science the texts construct and how they recontextualize scientific knowledge. The books pursue a 'typical' strategy of science popularisation by taking everyday phenomena as a starting point to arouse the children's interest in the scientific explanations. The books address scientific ignorance or uncertainty, but they mostly refer to it as a form of 'not yet knowing' or of a state that has been overcome.

Christoph Kulgemeyer, a researcher in physics education, presents empirical findings about science communication in the classroom: He shows that the act of explaining yields better results if teachers don't conceptualize 'explaining' as a mere transmission of information. If teachers adapt to the situation, take a fruitful interaction with pupils into account, i.e. integrate *pathos* and *ethos* into their teaching, their teaching will yield better results.

Julia Siebert and Anett Richter, both Citizen Science experts, give a detailed account and overview of both policy and empirical literature on the relevance of citizen science in Europe, focusing on how interaction between science and society can generate a more trustful relationship between both.

To sum up, the anthology offers views on many aspects of the current research and practice of science communication from a rhetorical point of view, combining analyses and case studies from (critical) rhetoric with work on rhetoric aspects, like, e.g., narrativity or education. The authors provide easy reading to the contributions from various fields with good introduction and a broad literature overview for further reading. Researchers from other fields will possibly enjoy the rhetorical view, as it yields new perspectives on known domains, pointing out

some surprising phenomena. Practitioners will find evidence-based suggestions on how to enhance the dialogue between science and public, but also many caveats against ‘easy tips for persuading the public’. A critical remark: How to prevent people falling for persuasive, but false ‘science’ communication (i.e., bullshit), is not part of the book; neither does it provide for a clear separation between rhetoric as a communication tool and as an analytical method. And part III, though providing very relevant target groups for science communication, has only a loose connection with the overall topic of rhetoric. Apart from this, the book is a fine and inspiring reading experience.

## Authors

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*Disclaimer.* Both Annette Leßmöllmann and Monika Hanauska are cooperating with Olaf Kramer and Markus Gottschling in a joint research project (RHET AI Center).

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