

Review



Science Communication Online: Engaging Experts and Publics on the Internet. By Ashley Rose Mehlenbacher. Columbus, OH: The Ohio State University Press, 2019. 200 pp. ISBN: 9780814255308.

Science Communication Online: Engaging Experts and Publics on the Internet, by Ashley Rose Mehlenbacher, examines the world of science communication and considers how the internet has produced emerging forms and new platforms that challenge, extend, modify, or re-inscribe the relationship between science and broader publics. In the introduction, Mehlenbacher lays out the scope and aims of the text, and provides definitions and broader context for some of the terms and concepts that form its theoretical basis: “trans-scientific genres,” for example, are described as forms of science communication that “exist somewhere between professional and popular discourses about science” (p. 2). One of the major strengths of *Science Communication Online* is that easy distinctions are not made but challenged; consideration is given to how earlier models of science communication—such as the deficit model—set up dichotomies between professional and public, expert and popular.

Mehlenbacher does not claim that these emerging forms or patterns of producing and communicating science are entirely new and unprecedented but, rather, provides a more nuanced argument, demonstrating that although there is a long history of institutional and cultural changes in the sphere of science communication, “there seems to be a compelling case that our landscape for science communication is becoming all the more complicated” (p. 12). The book draws on rhetorical theory and genre studies to build the main thesis that trans-scientific genres are an emerging form of scientific communication, and these genres of online science communication—facilitated by the internet—reveal the intricate assemblage of norms, practices, institutions, and communicative environments that led to their appearance and continued transformation.

Mehlenbacher’s approach here is compelling and cohesive, connecting the theoretical basis of the book to the selected case studies in a way that develops a model for understanding broader historical trajectories and the current science communication landscape. The first chapter presents the main theoretical framework, bringing together genre studies and rhetorical studies of science. For readers who are unfamiliar with the field, a concise overview and orientation is provided, followed by a brief description of how the professionalization of science influenced and molded genres of science communication.

In addition to an account of the methods and framework used in the book, the first chapter also addresses the potential challenges and issues with case-based research in rhetorical studies. The main potential shortcoming that Mehlenbacher acknowledges here is that a case-based approach is somewhat inherently biased towards claims of novelty, innovation, and transformation; through a selection of case studies that

may have a tendency towards the understudied or hitherto undervalued, an overall picture is painted that suggests these isolated examples are indicative of broader patterns or significant phenomena—even when that is perhaps not the case. However, Mehlenbacher contends that case studies can form the basis of a broader analytical approach, and each of the chapters here support this. The examples that are drawn on are situated in broader trends through extended discussions, and the overall collection of case studies does not appear to be an overly selective sample designed to indicate a broader pattern based on thin evidence but, rather, a broadly representative account of the current state of science communication.

Chapter two examines the crowdfunding of scientific research, exploring both the technologies and communities that make up the landscape of this funding method. The chapter considers how scientists negotiate this complex arrangement of experts, nonexperts, and amateur scientists, and the communication strategies used in proposals on Experiment.com (and how these proposals may differ from the more traditional equivalents). The larger context of declining federal funding—and the increasing pressure that scientists face to secure that funding—is acknowledged, and the corpus of Experiment.com proposals are provided as evidence of “broader changes to science communication and genre evolution” (p. 47).

Chapter three turns its attention towards the “complex apparatus of communication tools” (p. 82) that are used to gather, organize, store, and share scientific data, a matter of significance here considering the increasing digitization of scientific work. The 2011 Fukushima Daiichi disaster provides a launching point for this discussion of databases and the rhetorical work (and tensions) around data quality, methodology, and accessibility. Throughout the book, Mehlenbacher draws on such examples that may seem dramatic or spectacular, yet—perhaps in response to that concern about case-based research mistaking novel examples for broader patterns—there are also consistent efforts to demonstrate how these case studies are representative rather than anomalous. Indeed, Mehlenbacher illustrates how this particular negotiation of scientific knowledge has larger implications for the production and communication of scientific work, and the dynamics between publics, scientists, and policymakers.

Chapter four analyzes the Public Library of Science (PLOS) blogging network, described as a “large collection of science-focused blogs written by scientists, graduate students, science journalists, and even citizen scientists” (p. 15). The variety of functions that these kinds of sites can perform are explored, as blogs may serve as a space for scientists to weigh in on controversial subjects, or as a platform for publics and scientists to engage in discussion. Other work has focused on blogs as sites for popularizing science, a strand that Mehlenbacher considers here, but this complex ecology of media environments is not reduced to any one practice. Indeed, the fraught concept of “popularization” is itself problematized here, as necessitated by changes in the “audience” and the relationship between scientists and that increasingly heterogenous audience.

The concluding chapter describes how the emerging forms and genres of science communication examined throughout the book offer insights about some of the new ways that knowledge is produced and shared.

From one chapter to the next, there is variation in the modes and forms of communication that are being explored, which strengthens the idea that the selected cases are broadly representative of the communities and practices that are currently shaping science communication.

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