

Book Review Editor

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Science and the Internet: Communicating Knowledge in a Digital Age

Editors: Alan G. Gross and Jonathan Buehl

Afterword by Charles Bazerman

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In *Science and the Internet: Communicating Knowledge in a Digital Age*, Alan G. Gross and Jonathan Buehl (2016) collect twelve essays and an afterword that explore the relationship between digital technology and scientific argument. The collection avoids the easy hyperbole that sometimes characterizes internet-centered discourse, such as hailing digital spaces as sites of revolutionary democratization or condemning them as an unconditional threat to reasoned discourse. Instead, *Science and the Internet* offers a careful, even-handed critique of a seemingly simple (but, in fact, rather complex) question: "How is the internet changing how science is communicated?" (p. 7). The collection's social and epistemological explorations should prove useful to any faculty member, administrator, or director looking to enhance or refresh digital literacies toward developing curriculum or programmatic outcomes.

Some common questions weave throughout *Science and the Internet*, particularly about building consensus, questioning credibility, and handling risk and controversy. However, what makes *Science and the Internet* productive reading is its dual focus. The first half of the book focuses primarily on how scientists communicate with other scientists. Authors in this section consider a range of publication issues, including how the Internet has shaped digital notetaking and sharing, characteristics

of the scientific article itself, and the process of peer review and dispute. In contrast, the second half of the book focuses more on how scientists communicate with non-scientists or citizen scientists. Authors in this section evaluate genres and spaces such as podcasts, digital visualizations, blogs, wikis, and discussion forums. Together, the two halves offer insight into not only the rhetorical construction of science as a process but the broader public and social milieus in which science takes place.

The final chapter, an afterword by Charles Bazerman, synthesizes the preceding chapters and forecasts increasingly visible social changes in scientific argument online. Bazerman points to changes in how communities evaluate published works and who controls the review process, but his most significant lesson may be about the shift toward greater collaboration. Bazerman suggests that an “engaged, educated, informed citizenry” has begun to form a new marketplace for science, contributing to the production of scholarly scientific discourse for its own needs (p. 281). If Bazerman’s suggestion proves accurate, these changing relations will require renewed scholarly sensitivity to the sites and dynamics of science rhetoric online.

Read in isolation, *Science and the Internet* has much to recommend it. Anyone interested or involved in shaping department agendas or curriculum design can find in this collection a kind of ‘state of the scientific argument online.’ These collective essays draw attention to a key few digital spaces in which substantial, if sometimes subtle, shifts in discourse are taking place. Those readers new to theorizing the internet, or uncertain what social media ought to be included in scientific and technical communication programming, can find ideas here—such as blogs and wikis—that are robust staples of the literature.

However, this collection will be most useful to those administrators and program directors who have read at least some prior literature about digital spaces and are interested in updating their knowledge. This updating is necessary given the juggernaut speeds at which technological innovation and adoption occur online. While no book can entirely compensate for the rate at which Internet scholarship sometimes becomes outdated, *Science and the Internet* does a generally skillful job using contemporary and near-contemporary subject matter to signal where compelling changes to digital scientific argument may be happening. As examples, both Gross and Sidler provide cases that, although a few years old, suggest larger patterns of change in our near-future digital landscape. Observing the speed and scrutiny with which two blogs (one now defunct) fact-check published science, Gross argues compellingly that “science is far

from self-correcting and that it can no longer insulate its lapses from wider public opinion operating in virtual space” (pp. 72-73). Similarly, Sidler analyzes another defunct blogging community and argues that we are witnessing a slow destabilization of conventional publication processes (p. 114). In general, the collection pairs this kind of extrapolation with recurring references to Owen’s (2002; 2007) work about publishing and the scientific article. By addressing the internet past and future, *Science and the Internet* makes a needed step toward a cumulative, long-term view of digital spaces and their changing relationship with scientific argument.

Consequently, this book serves as a historical snapshot of a dynamic system, which can help program directors identify current topics that matter for technical communication agendas. For readers positioned to advise students about digital research, this collection showcases areas in which they and their students must develop critical literacies to attune themselves to the work that scientists do in professional and public work. This book would also make an excellent addition to a graduate-level seminar in technical communication or rhetorical studies—particularly in a course with a strong methodological emphasis, as the collection assumes that the reader is already broadly familiar with the process of research, publication, and peer review. Many of the essays end in subtly provocative and speculative ways that would lend themselves to group discussion. While Buehl’s introduction suggests a framework through which to understand these essays, readers looking for further direction or who are unfamiliar with Owen’s (2002; 2007) work may benefit from reading Bazerman’s afterword first.

As noted above, many essays in this book update scholarly knowledge about familiar areas of technical communication and rhetoric scholarship. That this book picks up these threads is sensible and useful—after all, blogs, wikis, open-access publication, and digital visualization have been reified into the literature. However, there is an opportunity here for future diversification. Many vibrant digital spaces have emerged in the last decade but received less attention in the literature. For instance, the ways that digital spaces are changing the speed and process of postpublication peer review, as explored by Gross, Sidler, and Fahnstock, might be further developed by studying scientific communication on websites like Reddit, which use an upvote/downvote system to establish consensus within niche communities. Such communities seem to extend and expedite the process through which argumentation gains attention and visibility or inattention and invisibility, as described by Bazerman (p. 274). Meanwhile, recent visual innovations—like film that allows users to move 360 degrees

within prerecorded footage—serve as both scientific record and public learning tool, perhaps contributing to the portraits offered by Wynn as well as Kostelnick and Kostelnick. Such developments should not be left behind as scholars do the important work of updating collective knowledge about familiar genres and technologies.

No scholarship can present a complete survey of the digital landscape, nor should it. Rather, the point is simply that there is a need for intense, wide-ranging scrutiny and awareness of the diverse ways that the internet shapes scientific communication. Even though *Science and the Internet* mostly updates existing knowledge areas, this is itself vital, useful, and necessary. In general, the collection should be required reading for anyone wishing to keep abreast of developments in science online. More specifically, this book can assist program directors by attuning them to relevant digital literacies and the places where technical communication must focus its work to keep pace with innovations in how science is published, reviewed, and constructed increasingly through public and non-expert participation. Overall, the book promotes a kind of vigilance, a bracing alertness for even subtle changes to seemingly staid and stable genres. As Bazerman notes in his afterword, many of the essays in this book use “what is visible in the text” to reveal “indications of less visible underlying social changes that in the long run may lead to bigger changes than anything now noticeable” (p. 269). By looking to the near past, this collection can help program leaders in technical communication navigate the near future.

References

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