Recent scholarship in rhetoric and communication has emphasized the role that multimodality plays in all our communicative endeavors. In *Assembling Arguments*, Jonathan Buehl examines the multimodal rhetoric of scientific arguments as they have been expressed in professional journals over the course of the past century. Through a series of chronologically ordered case studies, Buehl applies and develops a syncretic model for understanding scientific argumentation, which he articulates in Part 1 of the book and which relies heavily on major concepts in rhetorical theory. By applying the model to the case studies, Buehl demonstrates how rhetoric “can provide the analytical machinery needed to grapple with the multimodal means used to create scientific arguments” (p. 8). Buehl rightfully casts his model—which prompts purveyors of multimodal arguments to consider the processes of conception, assembly, and circulation of their texts in combination with the “overlapping domains” (p. 20) of cognitive, material, and social experience—as having the potential to be pedagogically useful for those working in technical communication, but readers interested in theory and practice of rhetoric more broadly will have much to glean from this work in terms of how we think about, create, and respond to rhetorical artifacts.

Buehl signals this broader appeal at the end of Chapter 1, where he includes two sections with the headings “Why Rhetoric?” and “Why Science?” (pp. 9–12). Buehl argues in a more forceful manner for the latter question, citing four reasons, all of which are borne out in the rest of the book, why rhetoricians should be interested in the discourse of science:

1. Science offers good cases for rhetorical study and theory-building.
2. Scientific discourse is highly conventionalized.
3. Audiences are easily identifiable and qualifiable.
4. The effects and reception of scientific arguments (e.g., through grant awards, citations, etc.) are easily tracked.

For the first question, Buehl introduces the rhetorical scholarship that will undergird his model and that is expanded upon in Chapter 2. Perelman and Olbrechts-Tyteca’s *The New Rhetoric* (University of Notre Dame Press, 1969) is featured prominently throughout the book, and Buehl suggests extending their work to consider “how material components and cross-modal interaction contribute to persuasion” (p. 33). Burke’s notion of the terministic screen is another featured concept, one which Buehl uses to highlight the ways in which multimodal figures and new technologies “direct and deflect” rhetorical and scientific attention (p. 40). Finally, Buehl refers to Kress and van Leeuwen’s visual grammar throughout the book, frequently citing their taxonomic approach to visual analysis.

Alongside these key concepts, Buehl defines the three overlapping processes of his syncretic model. Buehl juxtaposes the first process, *conception*, with the canon of invention, suggesting that the utility in conception is that it is broader, allows for linking rhetorical production with performance, and “requires considering the entire rhetorical situation” (p. 24). The second process, *assembly*, is contrasted with the Deleuze–Guattari/DeLanda concept of agencement/assemblage. Buehl’s use of
assembly, he says, is less capacious and is defined as

a specific performance in which cognitive, material, and social resources are coordinated in the light of actual or imagined cognitive, material, and social constraints for the purpose of rhetorical action. (p. 27)

The final process, circulation, refers not only to the ways in which a rhetorical artifact is transmitted to and received by an audience, but also to the ways in which the artifact is subsequently applied, remediated, and recirculated over time.

Chapters 1 and 2, described above, compose Part 1 of the book. In Parts 2–5, Buehl applies his model to five case studies. Parts 2–4 each consist of three chapters examining the conception, assembly, and circulation of a specific scientific argument. Buehl does well in each case to provide a basic understanding of the science so that readers outside the field can focus on the matter at hand, which is the multimodal argument about certain phenomena. In Part 2, the focus is a groundbreaking 1912 publication in the field now known as X-ray diffraction crystallography, specifically a set of X-ray photogram images included in the article that would help scientists at the time gain a better understanding of both the nature of X-rays and the atomic structure of crystals. Buehl explains that although the images were convincing and compelling for audiences, some of the conclusions that Max von Laue, the article’s author, drew from those images were less so. Laue’s argument, however, would circulate through a subsequent paper by W. L. Bragg, whose different set of conclusions based on Laue’s images would provide a more satisfactory interpretation.

Parts 3 and 4 present the book’s more interesting (from a multimodal perspective) case studies in terms of how arguments are assembled, circulated, and reassembled over time. Part 3 describes the emergence of the Vine–Matthews–Morley hypothesis on continental drift through the creation and recreation of a series of magnetic anomaly maps of the seafloor. Subsequent monochrome and later color versions of these maps helped establish the rhetorical “truth” of the phenomenon of seafloor spreading. In Part 4, Buehl combines analysis of drafts of a published paper with interviews conducted with the authors to describe the assembly of their argument about a “twilight zone” between clouds and aerosols. Buehl demonstrates how a triptych of a photograph of the sky alongside two digitally enhanced images isolating portions of the photograph achieved a rhetorical “presence” for the audience and substantiated the relevance of the “twilight zone.”

In Part 5, Chapter 12 examines the rise of Photoshop as a material affordance for scientific arguments and the ethical dilemmas that this rise has precipitated. Chapter 13 provides description and tabular analysis of the use of videos in published scientific arguments, from an era when VHS tapes were mailed with journal issues through the YouTube era. It is in these chapters where the salience of and potential for Buehl’s model becomes clearer: As the use of multimodality rises in scientific arguments through the use of new technologies, new and better means for understanding how arguments are conceived, assembled, and circulated are needed both for authors and for teachers. Both audiences would benefit from reading Assembling Arguments.

The book does not have a specific engineering focus, but it does provide a broad framework for professional communicators, teachers, and students to consider and improve visuals and multimodality in document design.