

SCIENTIFIC DISCOURSE IN SOCIOHISTORICAL CONTEXT: THE PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY, 1675-1975. DWIGHT ATKINSON. MAHWAH, NJ: LAWRENCE ERLBAUM ASSOCIATES, 1999. XXXI + 208 PAGES. HARDCOVER \$49.95, SOFTCOVER \$22.50. ISBN 0-8058-2085-X (HARDCOVER), 0-8058-2086-8 (SOFTCOVER).

Based on Dwight Atkinson's 1993 doctoral dissertation in applied linguistics at the University of Southern California, *Scientific Discourse in Sociohistorical Context* is a highly technical interdisciplinary and cross-historical study of the language and rhetoric of the Royal Society of London. Much of the extensive detail about various methods used in this research and about how they correspond with or differ from previously established methods for such an undertaking will be best appreciated by rhetoricians and linguists. For more-general readers seeking to learn about the history and evolution of scientific language and publication, Atkinson's results will probably be of more interest than his methods.

In his introduction and opening chapter, "Conceptual Framework", Atkinson lays out his underlying assumptions, motivations, methods, and purpose. Simply put, he seeks "to describe the written language and rhetoric of a highly influential group of scientists, the Royal Society of London and its associates, from the 17th-century birth of modern empirical science to the present day" (p xviii). To accomplish this he uses two methods: first, rhetorical analysis, "a primarily qualitative research methodology" (p xix), which he characterizes as being eclectic, highly contextual, interpretive, bottom-up or inductive, and operating at the level of *genre*; and, second, multidimensional (MD) analysis, a "complex form of quantitative discourse analysis", which depends on the concept of *linguistic register* ("the patterns of co-occurring linguistic features" in a text [p 10]) and uses computers and statistical procedures to analyze large samples of texts. By applying both methods to all 70 sample texts (10 each from seven 50-year intervals) in the publication of the *Philosophical Transactions of the Royal Society of London (PTRS)*, Atkinson provides qualitative and quantitative ways to describe the historical changes in scientific discourse over 3 centuries.

To provide the necessary context for his rhetorical analysis, Atkinson supplies in chapter 2 a brief institutional history

of the Royal Society and its journal. Just a means to an end for Atkinson, this history might be the most interesting part of the book for many readers. Formed "by a group of gentlemen" (p 15) in 1660 as a college, the society sought and received a royal charter in 1661, thus becoming the Royal Society of London for Improving Natural Knowledge, "the first *public institution for the pursuit of scientific research*" (p 16). *PTRS* was established in 1665. Atkinson's careful research provides a fascinating perspective on the history of British science, the conflicts and struggles of the Royal Society, and the pivotal role of *PTRS* in the development of both. How best to conceive and maintain the delicate relationship between a journal's editor and its sponsoring society, what to do about conflicts of interest, how best to carry out peer review—these contemporary issues and others have their roots in the history of *PTRS*.

Chapter 3 offers detailed discussion of the two methods of textual analysis that Atkinson applies to the samples that he takes from issues of *PTRS* published in 1675, 1725, 1775, 1825, 1875, 1925, and 1975.

Chapter 4 gives the three major results of Atkinson's rhetorical analysis. First, the centrality of the author's position in these texts declined between 1675 and 1875; the decline was marked by a diminished frequency of first-person pronouns and active-voice verbs and by the rise of "the agentless passive" (p 78). Second, the epistolary form of most *PTRS* articles between 1675 and 1825 was gradually replaced in the 19th century by the experimental report and the introduction-methods-results-discussion (IMRD) format. Third, the dialogic interaction with the general scientific community that can be seen in 17th- and 18th-century *PTRS* articles gave way to a more "self-focused" approach that framed topics for smaller, more specialized groups of readers rather than for the broader scientific community. None of those results will surprise anyone familiar with contemporary scientific writing.

In chapter 5, Atkinson reports the results of his MD analysis of five dimensions of the texts he studied. By 1975 texts had become (1) more “informational” and less “involved” or “interactional”, with fewer verbs but many more nouns and noun clusters; (2) less narrative and more depersonalized, with fewer past and perfect verbs or third-person pronouns; (3) less situation-dependent in reference, with fewer adverbs of time and place, and more explicit in reference, with more relative clauses, coordinating phrases, and nouns; (4) less overtly persuasive, with fewer verbs of persuasion, prediction, or necessity and fewer conditional clauses; and (5) much more abstract, with “passivized” forms predominating. Again, the results will not surprise anyone familiar with contemporary scientific writing.

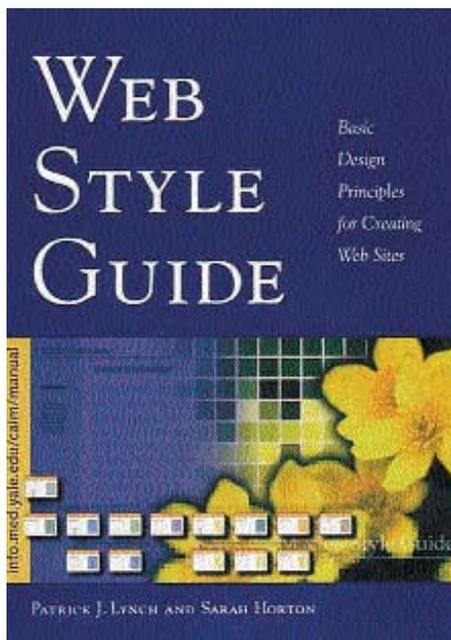
The sixth and seventh chapters, in which Atkinson synthesizes and discusses his results and their implications, completes the IMRD structure of his book. Atkinson’s purpose in this work is primarily descriptive rather than evaluative. He accepts the changes in norms of scientific rhetoric as reflections of changes in norms of scientific research—from the code of genteel conduct in the 17th and 18th centuries that produced a “discourse of proximity and trust” (p 150) to the professionalization of science in the 19th century that produced a “dis-

tance-and-distrust’ rhetoric” (p 155)—and he offers no critique.

What I found most striking about this book is that Atkinson’s complex analytic methods have unerringly highlighted the very aspects of modern scientific discourse that writing teachers and editors most deplore. For example, more than any other feature of contemporary scientific writing, the ubiquitous “agentless passive” is responsible for imprecision, grammatical errors, and turgid prose. And by 1968, 7 years before the publication of the last group of texts that Atkinson sampled, CBE’s manual *Scientific Writing for Graduate Students* was already warning against the stylistic dangers of too many abstract nouns and long clusters of nouns with stacked modifiers. Thus, Atkinson’s study confirms what we already knew about the inexorable decline in the quality of scientific style. What to do about it, however, he leaves entirely to us. ❏

**Anne Hudson Jones**

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**WEB STYLE GUIDE: BASIC DESIGN PRINCIPLES FOR CREATING WEB SITES.** PATRICK J LYNCH AND SARAH HORTON. NEW HAVEN: YALE UNIVERSITY PRESS; 1999. X + 164 PAGES. HARDCOVER \$35.00, SOFTCOVER \$14.95. ISBN 0-300-07674-6 (HARDCOVER), 0-300-07675-4 (SOFTCOVER).

Have you ever wanted to sit down and talk with someone who understands communicating via the World Wide Web? Or even better, just listen to someone explain those everyday considerations that make some Web sites so much easier to navigate than others? That is the tone of this book: no glitz, no tricks to make sure you remember, a minimum of jargon, just a narrative that is rich with knowledge and eager to convey it to committed readers.

Patrick Lynch is design director of the Center for Advanced Instructional Media at Yale University School of Medicine. Sarah Horton is multimedia applications specialist at Dartmouth College. Their book has been written “for all those who wish to publish durable content on the Web.” Furthermore, they note, “this is not an HTML manual, nor is it a book on graphic design. It is a practical guide to help you design Web sites for the long run.”

Certainly, we all have an idea about what we like: intuitive navigation with winged fingertips barely brushing the keys. Leaping from a brief encounter with a home page or search engine into the very information we seek. Completing an information search in barely more than the time that it takes to log on. Well, this book aims to help us reach for those fantasies, but the task is not easy. As we communicators have learned in our print excursions, design is elusive. Combining design with the verbal message is even more elusive. For Lynch and Horton, Web design requires understanding the process, interface design, site design, page design, typography, editorial style, Web graphics, and multimedia.

The authors approach their task with a close look at those eight elements of Web site construction. Starting with the process, they address how to define goals for a site and to plan for them. The site production checklist identifies the conceptual issues of purpose, audience, management, and technology. Then comes a chapter on interface design that addresses

the components of a page, interface with the user, and navigation. Chapter 3, on site design, addresses site architecture, organizing the information, choosing a design theme, site elements, and navigation tools, such as indexes and search capabilities.

The authors deal with fundamentals and broad guidelines, the tough concepts, rather than flashy graphics and easy reassurances. The pithy chapters deserve careful reading (not scanning) followed by rereading of more difficult sections. Their message provides a foundation that conventional Web advice more often glosses over.

Next is the page design chapter on the visual appearance of each page and its components (grid, headers, footers, tables, and images). Design tools such as frames and cross-platform issues complete the subject.

Typography is allowed a long chapter of its own with a full discussion of how type is rendered on the screen, the role of cascading style sheets, legibility, emphasis, cross-platform issues again, and graphics. The latter section is especially informative in that it bridges issues of typography on paper and on the screen.

Editorial style is covered in a few pages, but the advice is sound, especially for sites conveying science. Both authors work with science and bring this purpose to their perspective on Web construction. The final chapter deals with the aspects of Web graphics that affect what happens to organized color and grayscale when it is digitized. Perhaps in no other chapter are the authors' skills more evident than when they explain technical electronic issues in terms of the task of science communication. Sections on “browser-safe” colors, dithering, screen resolution, gamma, and bandwidth become measures that site editors can use to make informed decisions about their graphics. The section on file formats makes sense of the choices between GIF, JPEG, and PNG; the differences between photographs and vector graphics; the uneasy interface of

HTML and graphics; and the choice of multimedia strategies.

The book itself is definitely minimalist in style: one column of text with well-chosen subtitles but little in the way of so-called eye-catching graphics—occasional grayscale illustrations but no sidebars, no color, and little highlighting. Sometimes a sentence embedded in the middle of a paragraph is the most important comment in the section. For the reader, this delivery means that the book is meant to be read, not skimmed. There is continuity from beginning to end, and the reader who skips from page to page without a definable sequence will miss some important points. Gleaning the authors' wisdom is an investment, not a casual "catch as catch can". They clearly

disdain those who would prepare a quick Web site without thorough assessment of the intent, the audience, the medium, the available tools, and the message to be conveyed.

Much of the content of this book is available free on the Web at [info.med.yale.edu/caim/manual/contents.html](http://info.med.yale.edu/caim/manual/contents.html). If you like what you read, make this inexpensive investment in your Web education.

**Sally Edwards**

*Sally Edwards, ELS, is an editor with the Health Effects Institute in Cambridge, Massachusetts. Her curiosity has been captured by that newest of frontiers, the World Wide Web.*

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