

Introduction: Rhetoricians on the Rhetoric of Science

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Readers of this journal need no reminder that the rhetoric of scientific writing has become an important research site in the sociology of science, largely motivated by constructivist, strong program, and ethnomethodological concerns. Although the use of the term *rhetoric* relies on a residual communal memory of an ancient branch of knowledge, in the sociological literature, *rhetoric* as a term and as an analytic method has been treated as a late-twentieth-century invention, conceptually born of French theorists and methodologically realized by British sociologists. But other well-developed bodies of rhetorical knowledge are alive in the academy and have developed both theory and analytical methods of use to sociologists interested in the rhetoric of science.

Rhetoric as a discipline had its origins in the political and juridical activity of Athens; the sophists, Plato, Aristotle, and others considered how one ought to talk and present one's case in public and in what linguistic manner one could or ought to enquire after knowledge. The consideration of the most effective means of persuasion was taken up by the Romans, and then by medieval churchmen, Renaissance courtiers, and eighteenth-century reformers. Sir Francis Bacon, Thomas Hobbes, Joseph Priestley, Adam Smith, and Alexander Bain are among those who wrote influential works on rhetoric in the early modern period; each of these considered both persuasion and the relationship between language and knowledge. As the social circumstances and social projects of the rhetoricians changed, so did the theory and practical guidelines. Together the historically deep literature of rhetoric provides many insights into the use of language and offers many analytical concepts to help expose how individual speeches and texts work. Useful introductions, surveys, and bibliographies of the history of rhetoric are James J. Murphy, *A Synoptic History of Classical Rhetoric* (1983), and Winifred B. Horner, *The Present State of Scholarship in Historical and Contemporary Rhetoric* (1983).

Currently rhetorical knowledge is located within three separate departments in the modern American academy: philosophy, speech, and English

(which usually houses the teaching of writing). Rhetoric in each of these departments has evolved along its own path, reflecting the interests, methods, and dynamics of each discipline. Journals that would give a sense of the range of current work include *Philosophy and Rhetoric*, *Quarterly Journal of Speech*, *Rhetorica*, *Rhetoric Society Quarterly*, *Pre/Text*, *Written Communication*, and *Rhetoric Review*.

Rhetoric, as it exists in writing programs within English departments (the home base of the authors of the following papers and myself), is varied. Some writing program rhetoricians hold closely to the highly developed technology of the classical authors, while others attempt to place current practices within cultural developments within the last few centuries. Still others reach into cognitive psychology, sociological theory, linguistics, philosophy, and literary theory to establish new groundings for rhetorical practice. What all the varieties of rhetoric hold in common is a practical concern for improving our mastery of language, so that we can see what others are doing to us through language and can use language to greater effect ourselves. For this reason, supported by the strong tradition of textual explication within English departments, writing program rhetoricians tend to look very closely at language to observe its subtle workings.

Such a detailed look at the language of science characterizes all three of the following articles, drawn from a panel "Rhetoricians on the Rhetoric of Science" at the 1987 4S Annual Meeting in Worcester, Massachusetts. All three papers, each employing a different analytical technique, reveal how language creates social realities and helps define what we consider knowledge to be. The comment afterward by Steve Woolgar gives one sociologist's reactions.

Craig Waddell examines the rhetorical situation developing around a science policy decision and the rhetorical procedures adopted by the relevant policymakers. His findings should be of interest outside rhetoric not only because he finds, behind a public facade of rational argument, non-rational arguments driving the decisions of the Cambridge Environmental Review Board, but also because the two categories of nonrational argument he finds, the Aristotelian *ethos* and *pathos*, are deeply social and cultural, raising issues of roles, personality evaluation, values, and feelings.

Jeanne Fahnestock examines the rhetorical behavior of scientists engaged in a controversy, where the argument spills over from a professional forum into a popular journal. In addition to exploring one more way in which the internal is continuous, homologous, and interactive with the external, Fahnestock looks at the dark side of consensus formation: how do the proponents of a position lose the attention of their colleagues and where do they then go with their arguments?

Finally, Carolyn Miller, in finding Herbert Simon's decision science a weak form of rhetoric, exposes some of the sleight of hand by which the complexities of the social negotiation of decisions are made invisible behind diminished rational procedures, with the consequence that the most important issues are squeezed out of the discussion. It is not surprising, therefore, that Waddell found the persuasiveness of ethos and pathos let in only through the back door of the case he examined. We print only an extended abstract of Miller's paper here to preserve a sense of the original set; for detailed arguments, evidence, and references, please consult her full essay in Simons (1988).

By reasserting rhetoric as essential to all deliberation, all three authors answer the calumny that rhetoric is only an unprincipled manipulation of language. This criticism was first argued by Plato, who favored dialectic as the true method of truth-seeking, and was carried forward by those adherents of the scientific revolution who felt that science could cleanse language of rhetoric to make it an objective, transparent window on reality. In effect, though, these language reformers only cleansed scientific language of some then-popular rhetorical devices to create space for science to develop new persuasive rhetorical devices, more appropriate to the activity of science; a number of the more linguistically astute scientists of the eighteenth and nineteenth century were aware of this change. Miller, by pointing out that the claimed transparency and objectivity of decision science has its roots in the fact-value distinction, raises fundamental questions about the rhetoric of all the sciences that rest on that distinction, leading us to question how much the language of deliberation may have been diminished by the attempt to rule values off-limits to serious discussion. Miller's argument points to the most essential policy question of language for society: How shall we talk to each other in carrying forward our lives in society? This is the real nitty-gritty of social constructivism.

References

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