

# Introduction to a Special Issue of POROI

## *Honoring Alan Gross, Rhetorician of Science*



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This special issue of POROI recognizes the 25<sup>th</sup> anniversary of Alan Gross's groundbreaking text *The Rhetoric of Science*. *The Rhetoric of Science* has been (in large part) responsible for catalyzing, shaping, and redirecting an immense scholarly project for understanding science and persuasive strategies. This work is also the touchstone of a complex career in rhetorical criticism, analyzing as Gross does the full range of rhetorical strategies that characterize modern life. Over his forty years working in the area, he has theorized visual as well as print communication in public, technical, and professional sites. These contributions assess historical as well as contemporary documents and issues.

In this Introduction, we briefly survey Gross's work, map his career path, and list his contributions to the rhetoric of science as a field on inquiry. To this end, we divide his work, albeit a bit artificially, into four themes that serve well to inform readers about the wide variety of topics he has addressed: the rhetoric of science as an enterprise, visual rhetorics of science, the rhetoric of museum displays, and the effect of these initiatives on rhetorical theory more generally. The order in which the essays presented in his honor in this issue follows this four-field division.

As noted, Alan Gross has also been an engaged collaborator and powerful mentor, who has been in no small part responsible for creating a community of scholars who have engaged in remarkable work. Accordingly, three of the four sections of this special issue begin with personal testimonies from scholars who have collaborated with Gross in various areas. From Joe Harmon to

William Keith and Arthur Walzer, as well as Jeanne Fahrnestock in a note to her essay, Gross's co-authors speak to another extremely significant way in which his work lasts—his investment in developing an intellectual community that practices the kind of rhetorical production and analysis that it both studies and preaches.

As the guest editors of this special issue, we conclude with our personal perspective on Alan Gross's role as advisor and mentor.

## **Rhetoric of Science and Its Epistemology**

Alan Gross was not trained as a rhetorician of science or even in the discipline of rhetoric. As the bibliography below indicates, his early work treated Renaissance literature and drama. For various reasons, he retooled his scholarly focus on rhetoric. As a consequence of this turn, he invented a somewhat idiosyncratic set of rhetorical methods for investigating scientific discourse.

This enterprise appeared as a call to arms and announced a novel methodology that Gross built up in *The Rhetoric of Science*. Moving beyond while also remaining within the long tradition of rhetorical criticism, he drew deeply from the classical tradition, refining it with a methodological toolkit derived from eclectic intellectual sources, including (for example) twentieth-century philosophy of language. As a result, when *The Rhetoric of Science* appeared in 1990, it was novel and robust.

Gross's model for analyzing scientific discourse challenged the practice of rhetorical criticism and so was not without its detractors. In "The Idea of Rhetoric in the Rhetoric of Science," Dilip Gaonkar noted that Gross's hybrid toolkit is both an advance on the classical rhetorical tradition and an abandonment of it. In their co-edited volume *Rhetorical Hermeneutics*, Gross and William Keith, University of Wisconsin, Milwaukee, wove Gaonkar's provocative critique into a thoroughgoing discussion and assessment of rhetoric's power and scope (Gross and Keith, 1997). The deeply interactive, collaborative structure of *Rhetorical Hermeneutics* prefigured and to some extent provoked Gross's later work in the rhetoric of science. In subsequent collaborative monographs (the first of which was entitled *Communicating Science*), Gross would work with Joe Harmon, Michael Reidy, and others to co-create a research agenda for the rhetoric of science.

In the mid 1990s, on the strength of his reputation in the rhetoric of science, Alan joined the Program in "Rhetoric, Scientific and Technical Communication" at the University of

Minnesota. There, he continued to make substantive advances in the rhetoric of science, but also expanded his work to address issues of technical and professional communication. Notably, in collaboration with Arthur Walzer, he drafted two articles on the role of rhetoric in the *Challenger* disaster. Once again, these articles presented innovative ways of applying a refurbished classical vocabulary to documents, sparking disciplinary interest, discussion, and debate.

With this background in mind, our special issue takes advantage of the POROI's multimedia possibilities as an online journal by opening with "Alan Gross in his Own Words: An Interview in the ARST (Association for the Rhetoric of Science & Technology) Oral History Project," recorded in his home in Fall 2013. In this interview, Gross recalls the historical development of his work in the rhetoric of science. A link is provided to access the interview.

In "Thomas S. Kuhn and POROI, 1984," Edward Schiappa, MIT, locates and contextualizes the point of intersection between Kuhn's work in the philosophy of science and the development of the Project on the Rhetoric of Inquiry. In 1984, Kuhn participated in the University of Iowa's NEH-funded "Rhetoric of the Human Sciences" conference and responded to three important papers. Though he produced and delivered a manuscript for the occasion, it was never published. The essay, appearing in print for the first time in this special issue, provides insight into directions that he might have taken regarding the rhetoric of inquiry. In particular, it articulates the sources of his skepticism toward the liberating potential of what we now call the Rhetorical Turn, thereby providing a challenge to those of us who have taken this turn.

Next, the section of the issue entitled Rhetoric of Science and Its Epistemology presents five papers that taken together constitute a seminar on Gross's work in the rhetoric of science: its origins, articulation, and dissemination.

We begin with Keith's laudatory recollection of his collaboration with Gross on *Rhetorical Hermeneutics*. Then William White, Penn State University at Altoona, traces the reception of *The Rhetoric of Science* as it moved from its first to its third, renamed edition, *Starring the Text*. In doing so, he provides a valuable and multi-faceted citation analysis of these and other texts.

We are fortunate next to be able to reprint Randy Harris's, University of Waterloo, 2009 comprehensive review article on Gross's work in a significantly revised/updated version that both celebrates and challenges him and the rhetoric of science more

generally. Following this updated reprint, Nathan Crick, Texas A and M University, examines how Gross shifted his theoretical underpinning between successive versions of his texts on the rhetoric of science, moving from the classical tradition to the American analytic philosophical tradition by way of the work of the philosopher W.V.O. Quine, which influenced and stimulated his arguments.

Finally, in this section Nathan Johnson, Purdue University, extends the epistemological project in the rhetoric of science as Gross defines it by tapping into the tools of information-infrastructure theory.

## **Visual Rhetoric of Science**

Gross soon realized that working with scientific texts as written works alone gave an inauthentic, incomplete, and inaccurate account of the rhetoric of science and technology. After all, science is just as fundamentally about visual investigation, display, representation, and even explanation. Accordingly, Gross began his inquiry into scientific visuals, providing a framework—based on semiotics and gestalt theory—for discussion and debate about images and their relationship to words in scientific works.

The contributions on the Visual Rhetoric of Science in this special issue begin with Joe Harmon's reflections on his twenty-five years of collaboration with Alan Gross, a relationship longer than many marriages, as Gross himself has pointed out.

Building on and applying Gross's work in visual and historical rhetoric, Jeanne Fahnestock then addresses the visual representation of plants in early modern herbals. In doing so, she considers visual persuasion in sixteenth century botany by moving smoothly from the lessons of *Communicating Science* (published by Gross with Harmon and Reidy in 2002), in which Gross and co-authors investigate the history of the scientific article as a genre, to those of *Science from Sight to Insight* (published with Harmon in 2013), which provides a theory of visual communication and argues for the salience of visual modes of persuasion in scientific argument.

Finally, looking forward rather than backward, Heather Graves extends Gross's and Harmon's approach to visual rhetoric to nanotechnology, a developing concern in twenty-first century science and medicine, where data are predominantly visual, as represented in graphs, tables, charts, electron micrographs, and illustrations.

## **The Rhetoric of Museum Displays**

While Alan Gross has not yet fully addressed popular science--a monograph on representing science in popular discourse is in progress--he has studied museums: sites where technical professionals represent their knowledge to the public. In a series of articles, one on a failed exhibit at the Smithsonian Air and Space Museum commemorating the aircraft that dropped the atomic bomb, *Enola Gay*, Gross analyzes the visual, material, and discursive strategies used to translate disciplinary and historical materials into the kinds of museum discourse that are, or in some cases are not, convincing to a broadly constituted public audience.

Two contributors to the special issue then consider in detail and apply to new cases Gross's work on the rhetoric of museum displays. Gregory Schneider-Bateman, University Of Wisconsin, Stout, acknowledges and extends his work on museums and the rhetoric of race. Mariko Izumi, Columbus State University, Georgia, treats the role of destabilization in Gross's critique of historical exhibits, offering a notion of the museum as "epic theatre" by reference to a recent exhibit at the United States Holocaust Memorial Museums.

We believe that this strand in Gross's work will generate conversation and new insights into rhetorical theory and practice for years to come.

## **Revising the History of Rhetorical Theory as a Guide to Critical Practice**

True to form, Alan Gross's work as a rhetorical theorist of the classical tradition has also been innovative and collaborative. In their co-edited anthology, Gross, Walzer, and Michael Tiffany turned their careful eyes to Aristotle's *Rhetoric*. Another co-authored monograph on the works of Chaim Perelman, allowed Gross and Ray Dearin to contextualize Perelman's work and, once again, to transform the Aristotelian tradition by doing so. Subsequently, Gross has explored these ideas in articles on presence in Perelman, among other topics.

In the course of these reflections on the rhetorical theory, Gross confronts what he identifies as the major lacuna in the classical rhetorical tradition, its unwillingness to address the visual. In *Science from Insight to Insight*, among other publications, he crafts a fully visual rhetorical theory, one based on a blend of gestalt and

semiotic perspectives. He demonstrates its power through careful criticism and analysis of the use of visuals in science.

To begin this section, Art Walzer, University of Minnesota, Minneapolis, discusses his many years of collaborating with Alan Gross. Next, William Morris, Kent State University, reviews Gross's sophisticated way of thinking about Perelman's notion of universal and particular audiences. Finally, Chris McCracken, also of Kent State, looks to Gross's application of Victor Turner's model of "social dramas" to analyze conflicts between the sciences and their publics. In particular, he examines the emergence of American ecology as a scientifically legitimate discipline in the 1960s, when exigencies about environmental threats forced the hand of scientists who were resisting ecology's qualitative and value-laden side.

### **The Spirit of Alan Gross in the Discipline of Rhetoric: An Appreciative Coda**

As former (and continuing) students of Alan Gross, we conclude this Introduction by identifying several principles that his mentorship instilled in us, principles that took some of the mystery out of being a scholar (although they didn't make it any less difficult). We hope that these principles guided the construction of this special issue as well. In any case, they are worth passing along:

*Do not decide what you want to find before you do the work:* The essays in this special issue all represent border-crossing work in rhetorical studies -- new explorations engaged by scholars whose eyes are open and whose investigations yield new insights precisely because of this openness.

*It is not important research if it reports something that is merely true—to be important, the work must be interesting:* We are especially grateful for the willingness of authors in this special issue to push their work out of the boundaries of the "safe." Each of the pieces does more than argue for what is true and offers interesting ways to reconceive our work as rhetorical critics.

*Make sure you write well if not elegantly, that is, in the correct disciplinary voice and with concision:* No venue makes this exhortation more complex than POROI, a journal that brings scholars in English, Technical Communication, Communication Studies, and other fields into conversation. POROI is a nexus of interdisciplinary and international work that for this reason declines to entangle itself in technicalities, trying by doing so to help create a creative commons in which disciplinary adepts can speak to one another. Good writing is its ideal.

*The good mentor is simply passing on the legacy of his/her mentor:* The easy definition of mentorship is defined by the teacher-student relationship. The more difficult practice, which Alan manifests, is to treat each of his students as an individual and always to have time to engage in substantive conversation (or debate) about interesting issues. In this way, he has mentored dozens of scholars as a teacher, as a collaborator, and as a scholar who breaks ground in which others follow.

We hope this special issue continues rhetorical investigation in the spirit of the work of Alan G. Gross.

A complete bibliography of the works of Alan G. Gross will be found at the end of this issue of *POROI: A Journal of Interdisciplinary Invention and Analysis*