

Landmark Essays

on
Writing Across the
Curriculum

Edited by
**Charles Bazerman and
David R. Russell**

Landmark Essays Volume Six

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Preface

Writing Across the Curriculum as a Challenge to Rhetoric and Composition

by Charles Bazerman and David Russell

Rhetoric, as a general teaching, while preaching locality of action and guidelines for handling that locality, has tended from the beginning to a universality. Rhetoric has offered a generalized *techné* with only limited categories, appropriate for all discursive situations, at least for those that were not excluded from the realm of rhetoric. Nonetheless, from its beginnings, rhetoric limited its interests to certain activity fields such as law, government, religion, and, most important, the education of leaders in these activity fields. Thus rhetoric excluded from its realm the activities and discourses not perceived to be relevant to the goals of these fields, as well as excluding those people not empowered in those fields. Rhetoric has traditionally ignored other discourses, forums, and populations, or has appropriated their knowledges/discourses only as necessary for its own circumscribed activities and goals. At the same time, rhetoric tended to view the discourse of its own powerful forums—the public legislative body, the courts, the speech of the leader to followers on ceremonial occasions—as a privileged, even a universal, discourse, worthy to be the sole focus of study and teaching.

When forums for public discourse were fewer and varieties of wisdom discourses were not far removed from each other or from rhetoric's chosen forums, such a generalization of discourse would be both descriptively and prescriptively accurate. All discourse heading toward the same or similar forum was responsive to the same communicative dynamics and needed to gain a hearing in the same communicative environment. However, beginning in the Europe of the late middle ages, philosophy retreated from the public forums of the politically powerful to become differentiated in various branches of an academic inquiry—first through natural philosophy's transformation into the physical and biological sciences, then through the transformation of social philosophy and philosophy of the mind into psychology, sociology, anthropology, economics and the other social sciences.

The discourses of learning retired behind university walls, into quiet seminar rooms, and into obscure journals. Indeed at various moments state politics was glad to be rid of philosophic controversy, handing it over to specialized practitioners who would keep dangerous and divisive questions to themselves, from the Jesuits to the Royal Society to modern experts. Although often these developments went on outside the gaze of rhetorical theory, there were sporadic attempts from the time of the ancients through the Enlightenment to provide theory and guidance to direct the development and practice

of these discourses. The history of rhetoric's attempts to cope with these differentiating discourse practices through the eighteenth century is sketched out in the Introduction.

In the last two centuries these specialized discourses dealing with matters of knowledge and power have become increasingly differentiated from each other, organizing themselves institutionally in ways that further decreased the communication among them. In the United States, particularly, numbers of disciplinary and professional workers have increased at rates far more rapid than the already rapid general population growth, so that the size of any of the current specialized networks of communication is likely to be greater than that of all the combined intellectuals of Europe in the seventeenth century. During its first forty years, the membership of the Royal Society, including lay people as well as virtuosos, averaged under 200 at any one time, and the circulation of the early *Philosophical Transactions* was about 1000 copies—figures that today would define only the smallest of professional societies and scholarly journals. Currently in the United States alone there are about 1400 scientific and technical societies, 3200 educational and cultural societies, and 15,000 professional societies in all. Membership in individual societies can be as large as the 135,000 in the American Academy for the Advancement of Science.

Certainly not all intellectuals or social leaders or ordinary citizens have been happy with this differentiation of disciplinary discourses and the removal of knowledge-forming, -reproducing, and -applying discourse from the forums of discourse accessible to all—newspapers, popular magazines, trade books, mass electronic media. Rhetorical studies have themselves specialized in the last hundred and twenty years, becoming isolated in bye corners of the academy (primarily in speech departments), maintaining allegiance to the forums of political power. But rhetorical studies have continued teaching generalized techne, decrying the decline of political speech, and calling for what they have sometimes termed a “revival of public discourse.” Specialized discourses have alternately been placed beyond the realm of rhetoric (and therefore of little rhetorical interest) or quite conventionally describable in traditional rhetorical terms (and therefore only of limited interest).

During that same period of emergent specialization, the teaching of writing was separated from rhetoric to become an adjunct of literary studies, justified by the role of belles-lettres in literacy education espoused by much enlightenment and romantic rhetorical theory. The formal teaching of writing in composition courses, which became increasingly defined as preparation of students for the intellectual life of the academy and the professions, nonetheless was largely subordinated to the specializing professional ideals of literary studies. Literary studies, as did other disciplines, defined and refined its own practices of communication and its own tastes, which came to inform composition practice and isolate writing pedagogy from the other specialized discourses residing in the university. In the primary (and often the only) site of systematic writing instruction, the language of the literati was valued above the other literacies exercised in the academy and was taught as if it ought to

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Yet, even though rhetoric and composition were isolated from the discourses surrounding them in the rest of the academy, these other language practices created an increasing challenge over the years. Despite the rejection of these surrounding discourses in increasingly shrill terms as inferior and reductionist, many of these discourses attained a social standing and epistemological status that made them powerful and appealing. Students who were attracted to the subject matters of the natural and social sciences and professions inevitably were drawn into these arcane ways of writing despite the firmest injunctions of their professors of literature, even as literary studies developed its own increasingly arcane ways of writing. Although the faith in literary language was maintained within literature and other humanities departments, literary language was often rejected by students who wandered in foreign disciplines. Even residual professions of faith to symbols of cultivation (perhaps expressed through denunciation of the barbaric writing of colleagues) could barely hide that what was taught about in literature department writing courses had only limited significance for disciplinary writing practices learned *sub rosa* in daily professional life, through apprenticeship.

The sporadic attempts in the earlier part of this century to prepare students systematically for their non-humanistic discourses—in particular the growth of the progressive education movement and development of specialties of technical and business writing—are documented in section 2. The section begins with David Russell's historical sketch of those attempts and their culmination in the Writing-across-the-Curriculum (WAC) movement. The section ends with an early call for cooperation among instructors in all disciplines. It is a 1913 article (widely reprinted at the time) by James Fleming Hosis, a Deweyan progressive who had founded the National Council of Teachers of English two years earlier. He surveys various "ways of securing co-operation of departments in the teaching of English composition" and proposes their adoption nation-wide—a proposal that was largely ignored for more than sixty years.

The WAC movement, which began in the 1970's, gave new focus and energy to the sporadic local attempts to focus attention on student writing outside composition courses. The WAC movement had its intellectual roots largely in the British classroom research and theorizing of James Britton and his colleagues at the London School of Education from 1966 to 1976, which is summarized in the selection by Martin, D'Arcy, Newton, and Parker that begins section 3. Since the Anglo-American conference at Dartmouth in 1966 on the teaching of English, there had been extensive transatlantic contact among researchers. In 1976 the findings of the first National Assessment of Education Progress in writing touched off a flurry of "Why Johnny Can't Write" articles in the U.S. popular press. And a few institutions responded by setting up writing-across-the-curriculum programs, inspired by the British research, and supported by the field of composition studies, just emerging in the U.S. in response to open admissions policies.

These early WAC programs took many forms, but the most common were

and still are (1) workshops to encourage faculty in all disciplines to use writing more effectively in their courses (courses which in many institutions are designated "writing-intensive") and (2) courses taught by faculty or teaching assistants from the English department that introduce students to the kinds of writing done in other disciplines. Faculty writing workshops are the subject of "How Well Does Writing Across the Curriculum Work?" by Toby Fulwiler. In 1977 at Michigan Technical University, he and others started one of the most influential workshop-centered programs with a faculty writing retreat held in a logging camp. WAC courses sponsored by English departments are the subject of James Kinneavy's 1983 essay, which grew out of his program proposal for the University of Texas (partially implemented) and his work on a textbook, *Writing in the Liberal Arts Tradition*, that employs his humanistic rationale for WAC. Susan McLeod's report on a 1988 national survey concludes the section, and shows how far the WAC movement had spread by the late 1980s and how multifarious its curricular forms had become.

These curricular experiments spawned a whole range of new research on the teaching and learning of writing throughout the university, which section 4 takes up. This research focused on the real writing of real students in disciplinary classrooms. It applied theories and methods from ethnographic, historical, sociological, psychological, and cultural studies to the problematics of writing and learning. In the U.S., theorizing on WAC was launched with Janet Emig's 1977 essay, "Writing as a Mode of Learning," which begins section 4. Influenced by Britton and the British, Emig draws upon a surprisingly wide range of theorists, from Vygotsky and Luria in the Soviet Union to Dewey, Bruner, and Moffett in the U.S. Her thesis—revolutionary for many at the time—is that writing in academic settings does not merely improve writing, it improves learning, through a variety of cognitive and social processes. Students should not only learn to write but write to learn. This became the central working assumption of the WAC movement and spawned a host of studies to understand how (and if) that happens.

Early survey-based studies, including those of Britton's group, tended to characterize teachers and classrooms as rather homogeneous in their use (or misuse) of writing. But in the 1980s, researchers involved in WAC programs began to employ naturalistic, qualitative research methods drawn from anthropology and sociology to examine the roles writing plays in teaching and learning within specific disciplinary and curricular settings. They found crucially important differences not only among disciplines but also, as Anne Herrington's 1985 article shows, among courses within a single discipline—or even among courses offered by a single instructor. Herrington's essay also illustrates these researchers' use of several research methods to build a more dynamic and useful representation of writing in institutional settings, "triangulating" the results of surveys, analyses of student texts, classroom observations, and interviews with students and teachers. Employing ethnographic methods drawn from anthropology, Lucille McCarthy's essay, "A Stranger in Strange Lands," follows a first-year college student struggling to negotiate the differences among disciplinary cultures through the writing

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assignments in his various courses. The insights that these close-range studies provided led, in the late 1980s, to more comprehensive cross-disciplinary classrooms research. The selections in this and the next section are among the more prominent research statements, but they also point toward extensive other work that has been carried out and continues to grow in sophistication and range (see the Supplemental Bibliography).

When researchers began to pay serious attention to the classroom discourse in the disciplines, the next task was to investigate the disciplinary discourses that lay beyond the classroom, in the day-to-day writing of academics and professionals in many activity fields. For the first time, one might say, scholars in rhetoric and composition took as the object of descriptive and interpretive (not prescriptive and normative) study the discourse of other disciplines. This discipline-oriented research has been designated Writing in the Disciplines (WID) to distinguish it from the education-oriented WAC. Charles Bazerman's 1981 essay, "What Written Knowledge Does: Three Examples of Academic Writing," begins section 5 because it launched this tradition of research into the rhetoric of disciplinary and professional discourses. Significantly, it was published not in a rhetoric or composition journal but in a social sciences theory journal, indicating how interdisciplinary this work would become. It relies on the findings, tools, and problematics of many fields, from language studies to the history, sociology, and psychology of science, as well as studies of technical writing and communication.

Greg Myers' interpretation of two biologists' grant proposals traces the evolution of the documents as the scientists negotiate, through their writing, the complex social processes of their discipline: reviewers, granting agencies, fellow scientists. As we watch the documents and the project develop over time, those social processes are revealed through their dynamic interplay within an activity field. Berkenkotter, Huckin, and Ackerman's essay extends the diachronic analysis to the rhetorical development of a graduate student, a novice being socialized into a discipline. In a sense, it brings us back to the questions that motivated the study of writing and rhetoric in the disciplines in the first place: How do students learn (or fail to learn) the specific kinds of writing they will need in their future activities, professional and otherwise? And how can pedagogical arrangements improve that learning?

Given the history of rhetoric and composition, WAC and WID cannot but present many challenges, yet to be addressed. In this collection we present some landmarks, showing where WAC and WID have gone; full integration with the traditional concerns and activities of rhetoric and composition lies in the future. What kind of rhetoric would be appropriate to a highly differentiated society? What advice can we give about writing when the forms and forums of writing are complex and many, in pursuit of widely diverging human projects?

Although the current multiplicity and specialization of written discourse does not fit the ideals of traditional rhetorical teachings, this is what is. It deserves study. The needs of individuals and groups having to write in these complexes of language ought to be addressed, because of their importance to

a world entering the information age, because mastery of those discourses is essential for entering into those powerful activities and social roles that expertise confers in modern cultures, and because these discursive activities might be made more accessible to non-experts, to allow more democratic scrutiny and dialogue. Opening professional discourses to analysis and teaching may also help open those professions to many who are excluded when those discourses are taught exclusively through apprenticeship, tacitly, *sub rosa*.

If there is a way to a more inclusive public discourse, it is through the specialized discourses engaging each other and the forums of politics and mass media. To be successful, such engagements must respect the dynamics that made these discourses distinctive, even while locating the common tasks and interests that bind them together and to the common weal. New forums and mechanisms must be created to allow a public discourse to emerge within our culture of specialization. We need to study interface discourse, where specialties meet each other and meet the forums of public decision making. Expert testimony, congressional witnesses, and media coverage of disciplinary research are but a few of the interface sites that need investigation.

WAC and WID have opened up a number of prospects that were impossible to see when rhetoric and composition confined their gaze to relatively few discursive activities. We do not know where this will lead, but can suggest that the rhetorical landscape is becoming more complex and interesting, as well as more responsive to life in the complex, differentiated societies that have emerged in the last few centuries. We hope this collection of landmarks will reveal to scholars and researchers a range of possibilities for the study of disciplinary discourse and its teaching, and suggest to them new prospects for the future and for the better.

Introduction

The Rhetorical Tradition and Specialized Discourses

by Charles Bazerman and David Russell

The problem of the specialization of discourse/knowledge/work—or what we might broadly call the differentiation of organized human activities—has been a nagging presence within Western rhetoric and formal education since their beginnings in ancient Athens and Rome. But specialization has only sporadically emerged as a crisp problem in the Western tradition of rhetorical theory. In this essay, we point to some textual loci where rhetorical theory has attended to the issue of the specialization of discourse and offer a preliminary account of why such attention has been so rare.

In the fifth century b.c.e. several specialized fields of activity began to codify their knowledge in written form, often as a means of staking out some social practice and defending it as their exclusive privilege. Rhetoric, with its handbooks of codified practice, and medicine, with the Hippocratic corpus of texts, were perhaps the first to defend their claims publicly in writing. Technical manuals or treatises on agriculture, music, mathematics, geometry, and many others followed. These fields of activity were called *technai*, a term that implied some reasoned practice, distinct from others, an acquired art or skill, expertise. The writing of each activity field (that resorted to writing), each *techné*, had its own specialized vocabulary and conventions, which were accessible to outsiders in various degrees. There were many other *technai*, of course, such as shipbuilding, that were passed along orally to children and apprentices. But significantly, it is those practices about which knowledge or social value was disputed among the upper social classes that have left written records (Führmann).

As there are professional rivalries today, so there were battles among *technai* in the fifth century b.c.e., as one group of practitioners challenged the knowledge or skill of another group to win social credit in some activity field. For example, the physicians in the Hippocratic tradition challenged the ritual healers for control of health care and eventually won, at least among the upper classes. For our purposes, the most important battle was over control of the higher education of male property owners, a battle fought most conspicuously in Athens and, later, in Rome between the rhetoricians and the philosophers. What kind of knowledge, and therefore discourse, was best for young men to learn given the institutional activities they would participate in for the maintenance of power: the Athenian assembly and the Roman political and legal system? And how could such discourse best be taught? Because the subject matter of rhetoric—and its successful practice—are not as clearly

limited and self-evident as they are in, say, architecture, the relation of rhetoric (and also philosophy) to other activity fields became an issue. What, if anything, is the subject of rhetoric?

Ancient rhetorical theorists generally coped with these differentiating discourse practices and the challenge to define their own *techne* by claiming the ability to speak on any subject for the purpose of persuading a jury or ruling body or public assembly to take some course of action *and* the ability to teach others to do so, or at least those who had sufficient talent. The other fields were to be "the handmaids of oratory," as Crassus puts it in Cicero's *De Oratore*. All knowledge is available for the orator to use to accomplish some purpose in his own activity field—not as an object of study proper or a means of furthering the goals of the specialized field itself. Given rhetoric's pragmatic, instrumental approach and its limited, though high-status, activities and goals, the discourses of other activity fields were not of specific interest to rhetorical theorists. But this response was severely tested by the Platonic philosophical tradition, which accused the rhetoricians of arrogating all knowledge without possessing any of their own.¹

The Sophists

In general, the sophists viewed rhetoric as a *techne*, a universal art of communication applicable to any subject—though apparently only in appropriate forums. Philostratus recounts that the preeminent sophist, Gorgias, coming to the theater of Athens:

had the boldness to say, "suggest a subject," and he was the first to proclaim himself willing to take this chance, showing apparently that he knew everything and would trust to the moment to speak on any subject. (DK A 82 1a)

In his few extant writings, Gorgias indeed speaks on a wide range of subjects including astronomy, metaphysics, law, literary criticism, and diplomacy, as well as the social commentary in the "Encomium of Helen."

By the same token, for Gorgias all *technai* are fundamentally rhetorical, persuasive. This is as true of scientists (astronomers, in his example) as it is of orators and philosophers:

To understand that persuasion, when added to speech, is wont also to impress the soul as it wishes, one must study: first, the words of astronomers (*meterologon*) who, substituting opinion for opinion, taking away one but creating another, make what is incredible and unclear seem necessary and true to the eyes of opinion; then second, logically necessary debates in which a single speech, written with art

¹ On the ancient and enduring battle between rhetoric and philosophy, see Barnes, "Is Rhetoric an Art?"; Vickers, *In Defense of Rhetoric*; and Roochnik, "Is Rhetoric an Art?"

but not spoken with truth, bends a great crowd and persuades; [and] third, the verbal disputes of philosophers in which the swiftness of thought is also shown making the belief in an opinion subject to easy change. (DK B 82 11, 13)

Though Gorgias argues that all *technai* rely on persuasion, and he claims to be able to speak persuasively on any subject, he apparently confined his speaking to certain forums, and in that sense did not claim all knowledge, expertise in any activity field, but only the art of using all knowledge in his specific forums. The sophists were interested in the uses of discourse for training young men to speak persuasively in legal and political forums, though that training might involve acquiring some knowledge in a number of activity fields useful to public speakers—grammar, logic, law, history, poetry. Gorgias, like the other sophists, trained young men to speak in those powerful but circumscribed forums, not to speak to groups of specialists in other activity fields. Rhetoric became the art of *civic* discourse and what came to be known as liberal education.

Isocrates, sometimes called the father of liberal education, distanced himself from the sophists in many ways. But he too insisted the students be taught knowledge of many types in his influential school. Rhetorical education became broad in its available subjects, but remained limited in the social roles for which it prepared students—leadership roles in law, public administration, higher education, religion. It is liberal not only in the sense that it is free to range over all knowledge to accomplish its goals but also in the sense that it directly serves only those with the wealth to be freed from the need to pursue some mundane specialty in order to earn their bread. Rhetorical study of an Isocratean cast, supported by knowledge of other areas, set the pattern for higher education in classical times and beyond.

Plato

Plato's dialogues repeatedly question the Sophists' claim to speak with authority on specialized areas of knowledge and work. Socrates argues these kinds of technical knowledge/discourse are the legitimate function only of those adept in these specific arts or *technai*. Rhetoric, in Socrates' view, is not an art (*technē*), much less a universal one; each art has its own kind of knowledge and its own kind of discourse, and one cannot learn them by learning rhetoric.

Socrates: Now, does the medical art, which we mentioned just now, make men able to understand and speak about the sick?

Gorgias: It must. . . .

Socrates: And moreover it is the same, Gorgias, with all the other arts; each of them is concerned with that kind of speech which deals with the subject matter of that particular art?

Gorgias: Apparently. (*Gorgias* 450a)

Rhetoric, Socrates goes on to conclude, has no particular subject and

therefore nothing of value to teach. Socrates makes a firm distinction between true knowledge and the mere appearance of knowledge. Rhetoric, in his view, is not concerned with true knowledge but only with appearances, mere *doxa* or opinion, the ways knowledge of specialists in some activity field can be used for legal or political purposes extrinsic to that activity field. Only through specialized discourse among experts who debate competing arguments among themselves (dialectic), can human beings get beyond mere opinion to truth.

Socrates: When the city holds a meeting to appoint doctors or shipbuilders or any other set of craftsmen, there is no question then, is there, of the rhetorician giving advice [on these appointments] and clearly this is because in each appointment we have to select the most skillful person. (*Gorgias* 455b)

If knowledge comes from the discourse of specialists on some clearly limited subject, and if rhetoric has no such clearly limited subject matter, then the sophists cannot be entrusted to teach the young. Rhetoric can only be a bag of tricks for deceiving non-experts. In the *Gorgias* and the *Phaedrus*, Plato suggests that the proper role of rhetoric lies in specialists correcting errors among non-experts, for the good of society. Higher education for civic leadership must not be left to rhetoricians but to philosophers, those who concern themselves with—perhaps specialize in—virtue.²

Aristotle

Aristotle attempts to overcome the problems raised by the Sophists and Plato by proposing three kinds of knowing. In the realm of rhetoric, knowledge is contingent on circumstances and persuasion is the goal, as in politics, law, and ethics. In the realm of dialectic, one seeks universal truths, as in natural philosophy or metaphysics. And in the realm of demonstration, one has already discovered these truths or first principles, as in any *technai* in which certain knowledge (first principles) have been arrived at syllogistically—mathematics being the preeminent example (Johnstone; Moss). The rhetor may use expert knowledge gleaned from dialectic or demonstration, but such knowledge comes into play only as part of attempts to find means of persuasion in civic forums. Though the rhetor cannot speak *as an expert* on all subjects, he can speak persuasively *about* all subjects as they affect the situations that arise in particular cases in the activity fields concerned with practical decision-making: law, politics, and so on.

² David Roochnik's *The Tragedy of Reason: Toward a Platonic Conception of Logos* analyzes the vexed problem of the status of philosophy as a *techné* of virtue and its relation to rhetoric in the Platonic dialogs.

Let rhetoric be [defined as] an ability, in each [particular] case, to see the available means of persuasion. This is the function of no other art; for each of the others is instructive and persuasive about its own subject: for example, medicine about health and disease and geometry about the properties of magnitudes and arithmetic about numbers and similarly in the case of the other arts and sciences. But rhetoric seems to be able to observe the persuasive about "the given," so to speak. (*Rhetoric* 1.2.1)

Although dialectic (through its characteristic form of argument, the syllogism) and rhetoric (through its characteristic form of argument, the enthymeme) allow human beings to discuss any subject or find available means of arguments on any subject, rhetoric and dialectic must both borrow from other fields for their subject matter. Although every kind of knowledge uses arguments (and thus dialectic or rhetoric), we tend to lose sight of the rhetorical strategies the closer we get to subject matter (the first principles) of a field of activity.

The more [speakers] fasten upon [the subject matter] in its proper sense, [the more] they depart from rhetoric or dialectic. [*Rhetoric* 1.2.20]

Aristotle deals with this problematic relation of rhetoric (and dialectic) to special knowledges (technai) by erecting categories of argument. He divides resources for finding arguments (*topoi*) into two kinds, common topics [*koinei topoi*] that can be applied to any field of knowledge and "specific" topics [*idia* here, later *idia topoi* and *stokheia*] that are used only in a specific field.

The former [the common *topoi*] will not make one understand any genus [kind of knowledge]; for they are not concerned with any underlying subject. As to the latter [the specifics], to the degree that someone makes better choice of the premises, he will have created knowledge different from dialectic and rhetoric without its being recognized; for if he succeeds in hitting on first principles [of a field], the knowledge will no longer be dialectic or rhetoric but the science of which [the speaker] grasps the first principles. [*Rhetoric* 1.2.1358a]

This distinction allows Aristotle to steer his usual course between two extremes: on one hand the Socratic denial that rhetoric has a subject and can be taught, on the other hand the Sophistic insistence on the central place of rhetorical persuasion in human affairs. When people confine themselves closely to a specialized field of human activity, they discover knowledge for the purposes of that field, knowledge which is not that of those whose activity is the study of discursive argument. Thus, rhetoric was separated from specialized knowledges and discourses. Subsequent rhetorical theory paid little attention to Aristotle's specific topics, perhaps because, as Carolyn Miller points out, Aristotle's theory provided no stable place for them between the common topics and the "first principles" of each field.

Cicero

Cicero renews the debate over the relationship between rhetoric and specialized knowledge in *De Oratore*. Like Gorgias and Isocrates, he argues (through the debate between Crassus and Antonius) that the orator must study all kinds of specialized knowledge, but only as they are necessary for political or judicial discourse, not as an expert speaking to experts.

Attainments in other sciences are drawn from recluse and hidden springs; but the whole art of speaking lies before us, and is concerned with common usage and the custom and language of all men; so that while in other things that is most excellent which is most remote from the knowledge and understanding of the illiterate; it is in speaking even the greatest of faults to vary from the ordinary kind of language, and the practice sanctioned by universal reason. (Bk I Ch. iii)

As need arises, an orator can consult an expert on any subject so he can speak "most eloquently on those matters of which he shall have gained a knowledge for a special purpose and occasion." But the orator seeks specialized knowledge for his own ends, not for the specialized work of a profession. For the goals of the orator are not those of any other profession. Though the orator should have wide general knowledge, drawn from the close study of great literature, arcane professional discourse is of no interest to the orator—indeed is a detriment to effective persuasion in his forums. Cicero thus affirms the importance of wide knowledge and thus of liberal education, and he particularly recommends legal training, for obvious reasons. But he ignores Aristotle's specific topics as a resource for invention and looks down on arcane discourse as mere pedantry unbecoming an orator-gentleman—a theme that would be revived in the Renaissance along with Ciceronian rhetoric and Roman rhetorical education (Leff, "Topics").

Quintilian

Quintilian summarizes the previous arguments over the scope of rhetoric and comes down firmly on the side of Cicero and the orators. To those who argue, as Socrates does, that rhetoric is limitless and therefore no *techne* at all, Quintilian replies that many arts, such as architecture, are characterized by the same multiplicity and employ "whatever is useful for the purpose of building," regardless of whether other arts also use them (II xxi 8). And to those who argue, "If an orator has to speak on every subject, he must be the master of all the arts," Quintilian quotes Cicero: "In my opinion no one can be an absolutely perfect orator unless he has acquired a knowledge of all important subjects and arts." But, as a practical teacher, Quintilian is forced to hedge, and his hedge says much about the relationship between the rhetor and other disciplines and professions:

I however regard it as sufficient that an orator should not be actually ignorant of the subject on which he has to speak. For he

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cannot have a knowledge of all causes, and yet he should be able to speak on all. On what then will he speak? On those which he has studied. Similarly as regards the arts, he will study those concerning which he has to speak, as occasion may demand, and will speak on those which he has studied.

What then?—I am asked—will not a builder speak better on the subject of building and a musician on music? Certainly, if the orator does not know what is the question at issue. Even an illiterate peasant who is a party to a suit will speak better on behalf of his case than an orator who does not know what the subject in dispute may be. But on the other hand if the orator receive instruction from the builder or the musician, he will put forward what he has thus learned better than either, just as he will plead a case better than his client, once he has been instructed in it. *The builder and the musician will, however, speak on the subject of their respective arts, if there should be an technical point which requires to be established. Neither will be an orator, but he will perform his task like an orator*, just as when an untrained person binds up a wound, he will not be a physician, but he will be acting as one. . . .

It is suggested that such topics never come up in panegyric, deliberative, or forensic oratory? When the question of the construction of the port at Ostia came up for discussion [in the Senate], had not the orator to state his views? And yet it was a subject requiring technical knowledge of the architect. Does not the orator [in murder trials] discuss the question whether livid spots and swellings on the body are symptomatic of ill-health or poison? And yet that is a question for the qualified physician. Will he not deal with measurements and figures? And yet we must admit that they form a part of mathematics. For my part I hold that practically all subjects are under certain circumstances liable to come up for treatment by the orator. *If the circumstances do not occur, the subjects will not concern him.* (II xxi 14-19, italics added)

In this passage, we are in the world of the law-court and the legislative body, where, like today, experts are called upon to give expert testimony that attorneys and legislators use in their arguments, and where those experts must "translate" their expert knowledge into discourse for the non-specialists and so function, to that extent, as orators (though without training and experience in those forums).

Even in antiquity, activity fields, with their specialized knowledges and discourses, were too various for one person to know all of them. But for those close to the seats of power, where rhetoric remained, one need only know enough of other activity fields' work and words to carry on one's administrative duties and successfully maintain or advance one's cultural and economic position. There were of course many who had received formal rhetorical education, whether those of the upper class or those associated with it

(educated slaves, freedmen, or foreigners), who entered into specialized activity fields other than rhetoric. But rhetorical theory did not take an active interest in these activities and their discourses because its realm, its goals, lay elsewhere. The value of other fields was thus only instrumental, a means of winning a judgment from those who also were not involved in the specialized activity.

The Greco-Roman rhetorical education system proved remarkably resilient and useful. The genres of formal administrative correspondence became increasingly important as the oral institutions of senate and courts lost power and a centrally-administered empire expanded, but rhetoricians did not (with one unimportant exception) theorize this written form of discourse (Murphy 195-96). Schools continued to teach the old rhetorical theory and turn out a homogeneous cadre of imperial functionaries.

Rhetoric Through the Middle Ages

Even after the breakup of the Roman empire and its legal and political institutions made the old rhetorical training for law and politics less directly relevant, the traditional educational system was adequate for the task of preparing administrators to communicate, without formal training in the specific genres that evolved (Leff, "Material" 76). Vestiges of the Greco-Roman education system continued to train clerics to carry on correspondence for the church and for illiterate rulers, often through the use of *formularies*, books of model letters (Murphy 199).

But by the twelfth century, social structures for organizing specialized knowledge had begun to evolve, and with them specialized discourses. The craft guild structure of the middle ages facilitated the growth of knowledge and specialized discourses in many activity fields. These knowledges were primarily oral and untheorized. Moreover, the guilds maintained a protective secrecy that would have deterred rhetorical theory from investigating them even if rhetoric had had a reason to do so (Goldstein 112, 124-26; Shelby). But it did not have such a reason. In the twelfth century, the first universities took shape, modeling their structure on the guilds (*universitas* is a medieval Latin term for guild; hence the granting of the *master's* degree). They developed specialized written discourses in three powerful professional specialties: law, theology (including philosophy), and medicine. Rhetoric was relegated to lower levels of teaching, but it continued to profoundly influence at least two of these activity fields: law and religion.

Rhetorical theory was important to the study and teaching of law largely through the profound influence of Cicero and the renewed study of Roman law. Rhetoric and law were taught together in the early middle ages. Later, when rhetoric was relegated to lower levels of instruction, rhetorical theory influenced law through the study of letter writing (*ars dictaminis*) and the preparation of legal documents (*ars notaria*) (Murphy 112). The growing need for legal, commercial, political, and ecclesiastical correspondence led to the creation of courses in *dictamen* (letter writing) at monastic schools and,

slightly later, at law schools (Bologna and Orleans). Competition for students among two groups, monastic or ecclesiastical schola and secular masters, led teachers of dictamen to produce theoretical texts to justify their practice and maintain their territory and status. Eventually, letter writing came to require a sophistication and precision that could only be met by professional specialists: the notaries, who organized themselves into guilds (see Murphy chap. 5).

In theology and philosophy, rhetoric also became preparatory to professional study. Though rhetoric lost status, rhetorical theory nevertheless profoundly influenced the teaching and theorizing of preaching—and hence, indirectly, the professional training and practice in theology and philosophy (see Murphy chap. 6). Codified manuals of preaching practice linked classical rhetorical concerns to theological concerns, but insisted on the unique nature of theological discourse. Thomas of Salisbury (c. 1210) wrote, “The sacred page has its own special topics (*loci*) beyond those of dialectic and rhetoric” (quoted in Murphy 323).

Renaissance Rhetoric and Specialization

The combination of social, political, and intellectual changes called the Renaissance further complicated the relationship between the formal study of rhetoric and communicative practices in specialized fields. The printing press and improved communication made it feasible to disseminate texts on increasingly specialized topics. By disseminating guild and university knowledge, the printing press made specialized discourses accessible to those outside the narrow circle of initiates (or those with access to manuscripts). Artisans and scholars of all types evolved specialized conventions of written discourse and national and international channels of communication, not only in the traditional university subjects but also in practical arts and technologies: martial arts, mining, herbal lore, shipbuilding, metalworking, cookery, alchemy, and so on (Eisenstein).

The fourteenth century humanist revival of classical learning and education—already well under way before the Gutenberg revolution—renewed and promoted the study of rhetoric. But in some ways, the humanist revival of classical rhetoric militated against the acceptance of specialized discourses as objects of rhetorical study and the broadening of rhetorical theory to include the study of those discourses that the coming of the printing press helped to create and disseminate. First, humanist education was above all literary, focusing on the development of an excellent style and with it, according to the ideal, an excellent character. Ciceronian prose was held up as the compositional ideal, zealously taught in the new humanist schools modeled on Quintilian’s. Humanists, while pursuing highly specialized philological study, disdained the specializations of late medieval scholasticism, against which they were struggling for control of education. Humanists showed little interest in building upon the advancements late medieval scholasticism had made in law, medicine, and philosophy, much less in seriously examining their discourses, which were regarded as crude by Ciceronian standards

(Bolgar 282-95).

Second, humanists preserved the Aristotelian distinction between rhetoric (the realm of civic discourse) and natural philosophy (the realm of dialectic and demonstration). A late sixteenth-century Jesuit commentator on Aristotle's *Rhetoric* described how to study a *techne*:

First one should learn the proper meanings of ambiguous words and the terminology of that art; then one should perceive the first principles on which the entire discipline depends. After that one should learn the subject matter in a general way, the several parts, causes, and properties; following that one should descend to particulars. One should do this in physics, metaphysics, and ethics, and in other arts, and in all of learning (quoted in Moss 14).

Rhetoric, in this view, is not relevant to the business of learning knowledge arrived at through dialectic and demonstration.

Third, the revival of the Ciceronian ideal of the orator-statesman the *uomo universale* or Renaissance man, as he was later to be called, was associated with the education of the ruling class of the new nation states, the courtier rather than the cleric or artisan. The courtier was expected to be versed in all knowledge—not, to be sure, as a technical specialist or pedant “too much dipped in the inkhorn,” but as an advisor to rulers or a ruler himself, who could use that broad classical knowledge for the good of the state. For humanist practitioners of rhetoric, as Brian Vickers put it, “Rhetoric is essential to governors and counselors because it can persuade men to do what you want them to do. . . . But it leads humanists, whatever their language and status, on to a further and more dangerous position: rhetoric is useful, the rival disciplines are useless” (“Practicalities” 135). Humanists often ridiculed specialized discourse (Rabalais comes first to mind) and rarely theorized it. The Ciceronian ideal, combined with its pedagogical emphasis on close reading of literary texts in the classical languages and development of literary style through imitation, set the pattern for higher education until well into the twentieth century, and left to the academic specialties that came to be called the *humanities* a legacy of isolation from the developing sciences (Grafton and Jardine).

Nonetheless, in the short run, the humanist revival of rhetoric exerted a positive and profound influence on learned disciplines and on technical knowledges. Humanism, as Paul Oskar Kristeller has consistently pointed out, was only one current of renaissance culture, though it was the one that most consciously appropriated rhetoric to its ends (*Renaissance*). And many humanists took an active interest in the knowledges, if not the discourses, of artisans, especially in fields essential to Renaissance rulers, such as commerce and military technology (navigation, engineering, ballistics, metallurgy) (Rossi). Students educated in humanist schools profoundly influenced the genres and styles of specialist treatises (Kristeller, “Impact” 18). “It is not exaggeration to say that the rules of the classical oration were applied to every kind of discourse” (Abbott 108). The Ciceronian dialogue and the

institutio of Quintilian became important genres in a wide range of disciplines, including the new science. Humanists searched out, edited, and translated classical texts on natural philosophy and many practical arts, then applied to them a sophisticated textual method that stimulated critical and, in many cases, empirical inquiry. Finally, developments in rhetorical theory itself, such as Ramus's rationalization of curriculum, paved the way for the modern academic specialization of teaching and learning (Ong 162-64). And while rhetoric did not investigate the specialized modes of discourse emerging in sciences and technology, rhetorical modes of thought instilled in students at humanist schools may well have contributed to the formation of modern scientific method itself (Slawinski). As studies of the impact of rhetoric on Renaissance science are undertaken, such as Jean Dietz Moss's recent *Novelties in the Heavens: Rhetoric and Science in the Copernican Controversy*, and Maurice Slawinski's "Rhetoric and Science/Rhetoric of Science/Rhetoric As Science," we can better understand the interplay of Renaissance rhetoric and specialization before the revolutions wrought by Bacon, Galileo, Newton, and Locke.

Bacon and the Language of Inquiry

Francis Bacon, while showing many continuities with the intellectual world of the early Renaissance, redefined the relationship of rhetoric and other discourses of the intellectual and practical worlds. He, like Aristotle, had an extensive vision and interest in the wide ranges of symbolic activity, of which rhetoric was only a part, but unlike Aristotle, Bacon saw natural philosophy enmeshed in communicative practices, and therefore needing reflection on the best means for knowledge formulation and communication. His rhetoric for popular communication stood side by side with his discussion of philosophic language, and neither were separated into isolated practices. They were elucidated in compendious works like the *Magna Instauratio* and *The Advancement of Learning* and in the comprehensive vision of an integrated society, as in the *New Atlantis*. Moreover, while each kind of discursive practice had its own needs and methods, the knowledge gained in one would influence the others. He was concerned with how practical arts might communicate secrets to the savants, how the savants might communicate knowledge to the community, how the knowledge of human nature could inform rhetorical practice, how public rhetoric could be practiced ethically and wisely in awareness of the illusions humans were heir to. And he was concerned how the needs of the polity and economy could be transmitted to the inquirers into the mysteries of nature.

Thus, while his rhetoric in *The Advancement of Learning* articulated many traditional principles, it did not espouse persuasion at any cost, nor did it accede to common belief. Rather it attempted to free daily language from what Bacon called sophistries. Moreover, Bacon advised that rhetoric be informed of what he called the four idols, even though they could not be easily eliminated from public discourse. The analysis of the four idols was to

become the cornerstone of his thinking on method for interpreting nature, or natural philosophy, as presented in the *Novum Organum*. Three of the four idols specifically entail the ways we represent knowledge to each other in language, and thus form a contrastive basis for a rhetoric for science—those kinds of representations that must to the best of our abilities be removed from language of inquiry. Nonetheless, Bacon recognized that these idols are deeply ingrained in the condition of being human, and so never to be totally eliminated except by true method—the method of induction:

XXXIX. There are four classes of Idols which beset men's minds. To these for distinction's sake I have assigned names, calling the first class Idols of the Tribe; the second, Idols of the Cave; the third, Idols of the Market-place; the fourth, Idols of the Theatre.

XL. The formation of ideas and axioms by true induction is no doubt the proper remedy to be applied for the keeping off and clearing away of idols. To point them out, however, is of great use, for the doctrine of Idols is to the Interpretation of Nature what the doctrine of the refutation of Sophisms is to common Logic.

XLI. The Idols of the Tribe have their foundation in human nature itself and in the tribe or race of men. For it is a false assertion that the sense of man is the measure of things. On the contrary, all perceptions as well of the sense as of the mind are according to the measure of the individual and not according to the measure of the universe. And the human understanding is like a false mirror, which, receiving rays irregularly, distorts and discolours the nature of things by mingling its own nature with it.

XLII. The Idols of the Cave are the idols of the individual man. For every one (besides the errors common to human nature in general) has a cave or den of his own, which refracts and discolours the light of nature, owing either to his own proper and peculiar nature, or to his education and conversation with others, or to the reading of books, and the authority of those he esteems and admires, or to the differences of impressions, accordingly as they take place in a mind preoccupied and predisposed or in a mind indifferent and settled, or the like. So that the spirit of man (according as it is meted out to different individuals) is in fact a thing variable and full of perturbation, and governed, as it were by chance. Whence it was well observed by Heraclitus that men look for sciences in their own lesser worlds and not in the greater or common world.

XLIII. There are also Idols formed by the intercourse and association of men with each other, which I call Idols of the Marketplace on account of the commerce and consort of men there. For it is by discourse that men associate, and words are imposed according to the apprehension of the vulgar. And therefore the ill and unfit choice of words wonderfully obstructs the understanding. Nor do the definitions or explanations, wherewith in some things learned men

are wont to guard and defend themselves, by any means set the manner right. But words plainly force and overrule the understanding, and throw all into confusion, and lead men away into numberless empty controversies and idle fancies.

XLIV. Lastly, there are Idols which have immigrated into men's minds from the various dogmas of philosophies and also from wrong laws of demonstration. These I call Idols of the Theatre, because in my judgment all the received systems are but so many stage-plays, representing worlds of their own creation after an unreal and scenic fashion. . . . (*Novum Organum*, 19-21)

In expanding upon each of the idols, he identifies that most directly associated with language as that which is most difficult to overcome:

LIX. But the Idols of the Market-place are the most troublesome of all, idols which have crept into the understanding through the alliances of words and names. For men believe that their reason governs words, but it is also true that words react on the understanding, and this it is that has rendered philosophy and the sciences sophistical and inactive. Now words, being commonly framed and applied according to the capacity of the vulgar, follow those lines of division which are most obvious to the vulgar understanding. And whenever an understanding of greater acuteness or more diligent observation would alter those lines to suit the true division of nature, words stand in the way and resist the change. Whence it comes to pass that the high and formal discussions of learned men end oftentimes in disputes about words and names, with which (according to the use and wisdom of the mathematicians) it would be more prudent to begin, and so by means of definitions reduce them to order. Yet even definitions cannot cure this evil in dealing with natural and material things; since the definitions themselves consist of words, and those words beget others, so that it is necessary to recur to individual instances, and those in due series and order. . . .

LX. The Idols imposed by words on the understanding are of two kinds. They are either names of things which do not exist (for as there are things left unnamed through lack of observation, so likewise are there names which result from fantastic suppositions and to which nothing in reality corresponds), or they are names of things which exist, but yet confused and ill-defined and hastily or irregularly derived from realities. . . . (*Novum Organum*, 31-32)

His positive method for inquiry included specific procedures of representation, including making lists of all possible causes and eliminating them. His procedures led him to specific recommendations for writing natural histories laid out in his *Historia Naturalis*. Further, his vision of the *New Atlantis*, the structure of Salomon's house, which produces knowledge of nature for the benefit of the community, identified specific communicative or symbolic

practices to be carried out by classes of knowledge workers who work along with those devoted to experimental practices:

For the several employments and offices of our fellows, we have twelve that sail into foreign countries, under the names of other nations (for our own we conceal), who bring us the books and abstracts and patterns of experiments of all other parts. These we call Merchants of Light.

We have three that collect the experiments which are in all books. These we call Depradators.

[three collectors of experiments and practices, called mystery-men; three that try new experiments, called "Pioneers or Miners."]

We have three that draw the experiments of the former four into titles and tables, to give the better light for the drawing of observations, and axioms out of them. These we call compilers.

[three who find practical application of experiments, called Dowry-men; three who direct new experiments of a higher light, called lamps; three who carry out these new experiments, called Inoculators]

Lastly, we have three that raise the former discoveries by experiments into greater observations, axioms, and aphorisms. These we call Interpreters of Nature. . . .

. . . And this we do also: we have consultations, which of the inventions and experiences, which we have discovered shall be published, and which not; and take all an oath of secrecy for the concealing of those which we think fit to keep secret. (*New Atlantis* 488-9).

Two of Bacon's themes continued through the eighteenth century: concern for the symbolic practices of natural philosophy, and the placement of natural philosophy within the entire range of human symbolic practices. His third concern for communication of the practical arts largely fell by the wayside in the Royal Society's failure to enlist artisans, a failure that was not remedied until the professionalization of engineering in the nineteenth century, which then gave rise to reflective concern for technical writing in this century.

The New Rhetoric of Seventeenth Century Science

The concern for philosophic language led to a rhetoric of science that denied rhetoricity while proclaiming constant vigilance to self-cleansing. The general strategy, following Bacon, was to expunge philosophic language of the features of language that were believed to mislead, leaving a pure philosophic language. Thus we get the famous strictures of the Royal Society, as expressed by Sprat in his history.

There is one more thing about which the Society has been most solicitous, and that is, the manner of their Discourse: which unless

they had been very watchful to keep in due temper, the whole spirit and vigour of their Design had soon been eaten out by the luxury and redundance of speech. . . .

[The ornaments of speaking] were at first, no doubt, an admirable Instrument in the hands of Wise Men, when they were onely employ'd to describe goodness, Honesty, Obedience in larger, fairer, and more moving Images, to represent Truth cloth'd with Bodies, and to bring Knowledg back again to our very senses, from whence it was first deriv'd to our understandings. But now they are generally chang'd to worse uses. They make the fancy disgust the best things, if they come sound and unadorn'd; they are in open defiance against Reason, professing not to hold much correspondence with that but with its Slaves, the Passions; they give the mind a motion too changeable and bewitching to consist of right practice. Who can behold without indignation how many mists and uncertainties these specious Tropes and Figures have brought on our Knowledg? How many rewards which are due to more profitable and difficult Arts have been still snatch'd away by the easie vanity of fine speaking? . . . It will suffice my present purpose to point out what has been done by the Royal Society towards correcting of its excesses in Natural Philosophy, to which it is, of all others a most profest enemy.

They have therefore been most rigorous in putting in execution the only Remedy that can be found for this extravagance: and that has been a constant Resolution to reject all the amplifications, digressions, and swellings of style, to return back to the primitive purity and shortness when men deliver'd so many things almost in an equal number of words. They have exacted from all their members a close, naked, natural way of speaking; positive expressions; clear sense; a native easiness; bringing all things as near the Mathematical plainness as they can; and preferring the language of Artizans, Countrymen, and Merchants, before that of Wits, or Scholars.

The prescriptions for style were accompanied by attempts to develop a philosophic vocabulary that referred only to objects that existed along the proper natural divisions and relations, while eliminating those words that described phantasms. The most famous of these projects was John Wilkins' *An Essay Towards a Real Character and a Philosophical Language*.

Although these attempts to develop a specialized language for natural philosophy consistently identified themselves as specifically nonrhetorical, nonetheless the actual communicative practices did not turn into Swift's parody in *Gulliver's Travels* of the Grand Academy of Lagado where savants suggested eliminating words altogether in favor of pointing to objects which we would carry about with us. Rather, the philosophic experimenters in the Royal Academy developed highly skillful ways of representing events so as to compel assent about their facticity and about the empirical grounding of generalizations constructed upon the textually represented fact. The rhetorical

problems perceived by Boyle, Newton, and the contributors to the *Philosophic Transactions of the Royal Society* laid the groundwork for the modern rhetorical practices of the sciences (see Bazerman *Shaping*; Shapin and Schaffer; Dear). Thus while explicitly distancing themselves from the rhetorical tradition, the scientists of the latter seventeenth and eighteenth centuries established new canons and procedures of argument.

While most of the founders of modern science followed a rhetorical strategy of appearing to eschew rhetoric and rise above the weakness of the language, others recognized that they necessarily had to work with the frail medium of language and other human, created representations of realities they had no unmediated access to. All empirical knowledge was seen by them as necessarily only probable, and therefore open to argument (see Shapiro; Hacking). Christian Huygens' reflection on arguing from induction from his *Treatise on Light* (1690) is a typical expression of the concern about probable argument in empirical science:

There will be seen in [this Treatise] demonstrations of those kinds which do not produce as great a certitude as those of Geometry, and even differ much therefrom, since whereas Geometers prove their propositions by fixed and incontestable Principles, here the Principles are verified by the conclusions to be drawn from them; the nature of these things not allowing of this being done otherwise. It is always possible to attain thereby to a degree of probability which very often is scarcely less than complete proof. To wit, when things have been demonstrated by the Principles that have been assumed correspond perfectly to the phenomena which experiment has brought under observation; especially when there are a great number of them, and further, principally, when one can imagine and foresee new phenomena which ought to follow from the hypotheses which one employs, and when one finds that therein the facts correspond to our prevision. But if all these proofs of probability are met with in that which I propose to discuss, as it seems to me they are, this ought to be strong confirmation of the success of my inquiry; and it must be ill if the facts are not pretty much as I represent them.

And philosophers like Hobbes, Locke, Hume and Berkeley further called into question our abilities to formulate knowledge with certainty, given the idiosyncrasy of our experiences and associations by which we turned sense impressions into articulated concepts; these inquiries opened up issues of language and knowledge that were to puzzle a number of eighteenth century rhetorical thinkers—most notably Joseph Priestley and Adam Smith.

Joseph Priestley and Adam Smith

Both Priestley and Smith saw the problem of knowledge formulation not only as a problem of individual sense experience and cognition, but also as a problem of public communication and cooperation—both in the formulation

of knowledge and its use throughout society. In this they followed on Bacon's concerns for seeing the production of natural philosophic knowledge within the framework of the entire life of society. Hobbes viewed natural philosophic discourse as continuous with society, so much so that it was heir to all the uncertainties of political rhetoric, which allowed him to treat Aristotelean rhetoric as universal (See Shapin and Schaffer). Hobbes himself wrote the first English translation of Aristotle's *Rhetoric*, modifying it only by some excisions and a very few elaborations.

Adam Smith, from his earliest *Lectures on Rhetoric and Belles Lettres* (first delivered in 1748), was concerned about the communicative practices that held society together, the way scientific production occurred within society and was transmitted throughout society, and the rhetorical means by which knowledge could be produced and could gain public credibility so as to inform policy choices. His rhetoric added to the traditional categories of rhetoric a new category of didactic rhetoric aimed at producing conviction rather than simple persuasion. This didactic discourse "proposes to put before us the arguments on both sides of the question in their true light, giving each its proper degree of influence, and has in its view to persuade us no farther than the arguments themselves appear convincing." (Lecture 12, p. 63). Thus true persuasion was a measured cooperative endeavor rather than the result of agonistic struggle. After a discussion of the various techniques and methods of didactic discourse, however, Smith commented,

The Didacticall method tho undoubtedly the best in all matters of Science, is hardly ever applicable to Rhetoricall discourses. The people, to which they are ordinarily directed, have no pleasure in these abstruse deductions; their interest, and their practicability and honourableness of the thing recommended is what alone will sway with them. . . . (Lecture 24, p. 146)

Smith continued his reflections upon the special discourses of knowledge production in his second work, *The History of Astronomy*. This essay proposes a relativist method of natural philosophic investigation, which considers knowledge production as creating chains of associations among the various experiences we have recorded—thus placing emphasis on coherence of philosophic accounts to relieve the anxieties raised among humans by the multiplicity of apparently incoherent experiences.

Philosophy is the science of the connecting principles of nature. Nature, after the largest experience that common observation can acquire, seems to abound with events which appear solitary and incoherent with all that go before them, which therefore distuys the easy movement of the imagination; which makes its ideas succeed each other, if one may say so, by irregular starts and sallies; and which thus tend, in some measure, to introduce those confusions and distractions we formerly mentioned. Philosophy, by representing the invisible chains which bind together all these disjointed objects,

endeavours to introduce order into this chaos of jarring and discordant appearances, to allay this tumult of the imagination, and to restore it, when it surveys the great revolutions of the universe, to that tone of tranquillity and composure, which is most agreeable in itself, and most suitable to its nature. Philosophy, therefore, may be regarded as one of those arts which address themselves to the imagination. (*Essays on Philosophic Subjects*, 45-46)

He admired the monumental coherence of Newton's writings, which makes the universe appear indeed harmonious in its nature, even though he knew that Newton's writing was only a coherently plausible story.

In his later work Smith attended to the personal internal discourse that produces moral knowledge, and in his most famous work, *An Inquiry into the Wealth of Nations*, he built a system of political economy based on the symbolic communication of money, justifying it in publicly persuasive terms to urge its adoption as policy, and laid the groundwork for a technical discourse of economics to support the policy he espoused.

Likewise, Priestley, despite philosophic skepticism and associationist psychology, established discourses of knowledge production and transmission as being of a special character, needing particular practices for their success—practices developed with both cognitive and social considerations in mind. In *A Course of Lectures on Oratory and Criticism*, first delivered in 1762 when he was twenty-nine, Priestley considered the particular rhetorical character of many different kinds discourses that extended beyond those traditionally considered rhetorical, including texts of philosophy, mechanics, geometry, natural philosophy, natural history, political history, geography, biography, and fiction and romance. (See especially lectures 6 through 10).

Priestley's own books in various areas of knowledge self-consciously reflected on their own rhetorical methods, which were frequently original to serve special purposes of advancing knowledge within the community. His books of natural philosophy in particular were self-consciously crafted to establish cooperative communal relationships and build the community of natural philosophy, rather than to structure public struggles as agonistic persuasion. Especially in his first scientific work, *The History and Present State of Electricity*, he gave an explicit description and rationale for the rhetorical practice of the book, which he encouraged others to follow. He was particularly concerned with the full and detailed representation of all empirical experiences, the methods and reasoning processes by which they were produced, and the synthetic summary of work. Such synthesis aimed to allow all inquirers full access to all empirical experiences, theories, apparatuses and methods side by side to make the practices and experiences of the field democratically open to novices. In addition to recommendations for histories of accounts of experiences (what we now call reviews of literature), codifications of findings, syntheses of theories, accounts of procedures and descriptions of apparatus, he offered specific reflections about how experiments should be written up as personal paths of reasoning, trial, and discovery, with the intent of demystifying the research process.

To make this account [of experiments] the more useful to such persons as may be willing to enter into philosophical investigations, I shall not fail to report the real views with which every experiment was made, false and imperfect as they often were . . . And Though an account of experiments drawn up on this plan be less calculated to do an author honour as a philosopher; it will, probably, contribute more to make other persons philosophers, which is a thing of more consequence to the public.

Many modest and ingenious persons may be engaged to attempt philosophical investigations, when they see that it requires no more sagacity to find new truths, than they themselves are masters of; and when they see that many discoveries have been made by mere accident, which may prove as favorable to them as others. Whereas it is great discouragement to young and enterprising geniuses, to see philosophers proposing that first, which they themselves attained to last; first laying down the propositions which were the result of all their experiments, and then relating the facts, as if every thing had been done to verify a true preconceived theory.

This synthetic method is, certainly, the most expeditious way of making a person understand a branch of science, but the analytic method, in which discoveries were actually made, is most favorable to the progress of knowledge. (*The History and Present State of Electricity* II, 165-166)

Priestley and Smith's broad visions of complex social worlds mediated by language thus included specialized communities of knowledge producers and transmitters, who would be aided by explicit reflections on and guidelines for their discourse. Moreover, their complex enlightenment rhetorics recognized Belles Lettres as a new vehicle of public discourse and attended to the style, taste, and personae constructed in contemporary literature. But their vision of complex differentiated discourses including specialized esoteric and popular modes of communication was not transmitted to nineteenth century America to inform education for the new country.³

Blair, Campbell, Whately and the Emergence of Nineteenth Century Rhetoric

As has been frequently told, Hugh Blair, George Campbell and Richard Whately were the vehicles for the transmission of the rhetorical tradition to North America (see, for example, Johnson). These three absorbed something of the communicative psychology of Priestley and Smith, but they reduced into a reified and uniform psychology of defined faculties a more capacious

³ For further examination of the rhetorical visions of Priestley and Smith, see Bazerman, "How Natural Philosophers Can Cooperate," and "Money Talks."

approach that tried to gain principled understanding of how the variety of human experience helped form the particulars of each person's skills, perceptions, interpersonal relations, and associative landscapes. This reduction undermined Priestley's and Smith's concerns for the historical and sociological particulars surrounding communicative acts, with the attendant concerns for the structure of communities that are the sites of various forms of rhetoric. Thus a sociologically differentiated rhetoric returned to a universal rhetoric based on a universalized psychology.

Blair's *Lectures on Rhetoric and Belles Lettres* (first delivered in 1760) and Campbell's *The Philosophy of Rhetoric* (1776) did retain strong interest in *Belles Lettres* as a new realm of public discourse and a repository of taste that informed individual development. Moreover, Blair's work showed substantial interest in history (see lectures 35 and 36) and a lesser concern for philosophical writing (the opening of Lecture 37), but Whately's *Elements of Rhetoric* (1828) fully renarrowed the domain of rhetoric to public oratory and the pulpit. Only Whately, the last of this triad and the most purely clerical, gave a principled reason for the narrowed concerns, returning to the classical position that specialized forms of knowledge can provide evidence for rhetorical arguments, but are not themselves fields of rhetoric. For Blair and Campbell, the narrowing seemed more a reflection of narrower personal interests, neither having the broad social vision or interests that motivated Enlightenment reformers like Locke, Hume, Priestley, or Smith.

The modern historian of rhetoric, Wilbur Samuel Howell, laments the loss of the eighteenth century rhetoricians' interest in a wider range of discourse and how those specialized practices ought to influence popular discourse: "Twentieth century rhetoric . . . has greatly suffered as a result." Perhaps as we enter the information age the challenge of Writing Across the Curriculum and research in Writing in the Disciplines will reopen questions first seriously addressed by eighteenth century rhetoricians confronting their entry into an age of science. But now the questions must encompass a greatly enlarged science and many other forms of specialized knowledge and professional work emerging since 1800 and institutionalized in the modern university and system of the professions. Moreover, at the end of the twentieth century, we must also confront the new media of communications that are reorganizing knowledge production, dissemination, and application. We should not again put these questions of specialized discourse aside. The exigency is great.

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