



RESEARCH AND SCHOLARSHIP
IN COMPOSITION

Writing,
Teaching, and
Learning in the
Disciplines



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likely to arise from new disciplinary theories. A predisciplinary theory of education seems, in contrast to a disciplinary approach, a very different kettle of fish. It has no function as the substance to be taught—whether teaching means that it should be transmitted or paraphrased or somehow induced. It is, rather, a method by which a teacher comes to an understanding of what will result in an understanding on someone else's part. It is clearly, and perhaps totally, a matter of language.

I have been talking about "predisciplinary theory," and I have tried to make clear what I take the term "predisciplinary" to mean. I will conclude by saying as best I can what I mean by the term *theory*. Kelly has put it this way:

In essence a theory is simply a way of highlighting events so they may be viewed in some kind of perspective. And yet, regardless of how well events are illuminated, it is quite unreasonable to hope they ever can be so completely revealed there will be nothing left to look for. The best one can ever expect of a theory is that it will enable [one] to see what [one] has never seen before, and that it will be succeeded in time by another theory which will disclose some of what still remains hidden. ("Behaviour" 260)

And taking the other end of the spectrum—but not, I think, in the final analysis contradictory—here is George Miller's "What's in a Theory?" from his book *Spontaneous Apprentices*. Note how close, to Miller, the theory must be to the data:

Different lexical fields can be organized very differently. For example, the best way to organise colour terms is in a circle; the best way to organise kin terms is at the corners of a three or four dimensional solid; names for times can be mapped onto a line; verbs of motion seem to require some complex lattice of shared concepts that is difficult to visualize spatially. . . . (22)

Here I leave my topic, poised somewhere within the scope of these two views of a theory: the general claim set out in philosophical terms by Kelly and the intriguing particulars displayed in Miller's analysis of theoretical method. My concern has been a view of what goes on in school classrooms, and that seems to demand a catch-as-catch-can mode of attack, rich in the effects it can bring about, concerning not so much *what is known*—as the disciplines are—as *who knows what*.

From Cultural Criticism to Disciplinary Participation: Living with Powerful Words

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When I started teaching writing, twenty years ago, I soon became aware of the ways in which college students needed to write about the materials they were reading in their courses. (See my textbook The Informed Writer.) In investigating the social organization of disciplinary writing, I became drawn to the sociology of science, which has influenced all my work since then. (See Shaping Written Knowledge.) I continue to be interested in questions of how knowledge is constructed, reproduced, and used through the material, social, and textual practices of different disciplines. How literate practices are inextricably bound with the entire matrix of disciplinary and professional activity is the organizing theme of the volume Textual Dynamics of the Professions, which I coedited with James Paradis.

Critical commonplace now has it that disciplines are socially and rhetorically constructed and that academic knowledge is the product of sociolinguistic activities advancing individual and group interests. Literary theorists readily assert that knowledge (at least of the academic kind) is made up out of words and other symbols, that words are made up by people, and that people have their own concerns to look out for—or, even worse, that people are so imprisoned by the words they use that words use people to reproduce themselves. Words almost seem a form of linguistic DNA that ineluctably re-creates itself through the appliance of human beings. In simplest terms, you can't trust words to tell you the truth. Such a conclusion, logically unexceptionable within its assumptions, is a great disappointment to foundational hopes about the enduring verity and universal authority of the results

of our academic labors, but it is a great encouragement both to the humanist case against the perceived hegemony of sciences (natural and social) and to the radical case against all forms of institutionalized authority that may be perceived as sources of oppression.

This commonplace is precisely critical: rhetorical perception used as a means to distance ourselves from the everyday practice of the world's business in order to reveal and evaluate the hidden mechanisms of life. Indeed, such criticism can challenge us to remake our world according to our own best lights instead of according to the masked advantage of the few or the imperatives of autonomous symbols beyond the interest of anyone. A much more ancient commonplace dear to the academy suggests that we live meaningfully only when we have examined our lives. The more precisely we learn how the symbols by which we live have come into place, how they function, whose interests they serve, and how we may exert leverage on them to reform the world, the more we may act on our social desires. Exposing the choice making that lies behind the apparently solid and taken-for-granted world forces us to address the ethical question of our responsibility for our world.

Criticism, however, is only the beginning of action. Action is a participation, not a disengagement. Participation is the other side of rhetoric: the art of influencing others through language in the great social undertakings that shape the way we live. In contemporary America, the academy has become one of the chief institutions of society: in creating concepts and practices that pervade culture and political economy, in advising and educating social leaders, and in influencing the education of all. Participation in the academy is a significant means to individual and group influence in the constant reproduction and reshaping of our society. Because the academy is one of the great levers for social change, critical disengagement from its active projects, unless in the realistic hope of forming some other equally influential and better means of realizing social desires, is withdrawal from a great social power. Retreat into critical purity leaves that power in the hands of the very people theorists criticize for parochialism, narrow interest, and lack of social imagination: the epigoni of the disciplines.

Indeed, the cultural rhetorical critique of disciplinary writing tends to bring into prominence the epigonistic formulas that may make the disciplines seem static things. Critiques that expose how outdated beliefs, power, and interests are entrenched in disciplinary discourse draw a conservative picture of disciplines as they have come to be but not as they are now becoming. To highlight the residuum of the past, rhetorical critiques delineate the current synchronic system of base-

line expectations, the seemingly taken-for-granted disciplinary assumptions that have emerged from the prior negotiations of language. These assumptions necessarily reflect the way things were for those who had influence and power in that negotiation, not the way things are now. Discourse is always in dialectical tension between what came before and what is now: contenders jockeying for position, as they do in any vital, communal endeavor. The notion that the rhetoric of a discipline is a uniform, synchronic system hides both the historical struggle of heterogeneous forces that lies behind the apparent regularity and the contemporary contention and complexity of discourse that is played out against the school-taught formulas of current convention. Rhetorical criticism, especially if it is carried out with broad sweeps of condemnation, may make disciplines seem purveyors of hegemonic univocality rather than the locales of heteroglossic contention they are.

In bluntest terms, cultural criticism of disciplines may fall far short of its mark because it believes too readily, and is thus too readily disappointed in, the textbook accounts of disciplinary work—that the disciplines are simply what they represent themselves to be to neophyte students. When we, standing outside a particular discipline, discover that a discipline is not all it says it is, does not achieve the irresistible harmony of irrefutable knowledge without serious contention, is not purely separable from its social consequences, and must depend on social forces for its support, we then may too readily believe that the discipline is unredeemably suspect. Yet people who push beyond the 101 textbook in a given field begin to learn its complexities: its history, its culture, its production and use of knowledge, its relation to other institutions in society, and its border skirmishes. They also feel, and must consciously contend with, the constraints and focuses put on their work through the habits, standards, and practices of the discipline. They come to recognize, too, the strains among contending elements in the field and recognize poachers from neighboring fields. As they advance in their participation within their discipline, they learn to locate themselves and their work on an ever-changing, complex field where communal projects, goals, and knowledge are constantly negotiated from the individual perspectives and interests of participants within and without the field. These acts of participation are all necessarily responsive to those powerful but nonetheless fluidly interpreted and reconstituted social facts of disciplinary institutionalization and control.

The overt teachings of a discipline, beginning with textbooks for schoolchildren and continuing through all forms of professional communication, may ignore or even suppress knowledge of the contexts

and forces in which the field operates and that shape the knowledge of the discipline (Latour). The overt teachings may pretend that the work of the field is methodologically pure and intellectually isolatable from the messy, rhetorical complexity described above. Instruction in methodological standards may in fact represent only the rhetorical move of one group, which, having gained the upper hand, attempts to reinforce its position. Even when that position of epistemic hegemony is well institutionalized and entrenched, however, methodological issues and apparently closed borders can be renegotiated as difficult cases and new focuses of concern evolve. Nonetheless, institutionally enforced standards may lead practitioners to relegate the impure facts of daily life to such backstage forms as jokes, late-night beer talk, or "political strategy" sessions (Gilbert and Mulkey).

Rhetorical analysis of the actual communications of the disciplines (whether undertaken by those trained in the arts of language who turn their attention to the disciplines or by disciplinary practitioners who develop self-conscious sophistication about language) opens up these suppressed issues of the dynamics and evolving knowledge production of the disciplines. Rhetorical analysis can make visible the complexity of participation by many people to maintain the large projects of the disciplines. It can recognize the linguistic practices developed in consonance with the goals of such projects, the constant struggle between competing formulations, and the innovation that keeps the discourse alive. Rhetorical analysis can also reveal exclusions and enclosures of discourse to see how and why they are deployed and to question their necessity in any particular case. But even more, it can provide the means for more informed and thoughtful participation. Through this activity we can help the disciplines do the best work they were created for, rather than be the self-protecting domains of vested interest and social power we fear. Such analysis allows insiders to move the discipline effectively and enables outsiders to negotiate with the discipline and regain territory that may have been inappropriately enclosed within the expert discourse.

Teaching students the rhetoric of the disciplines, understood in these terms, does not necessarily indoctrinate them unreflectively into forms that will oppress them and others, although such oppressions do happen often enough, as power and system become their own ends, and practice becomes habit and then rule. Such oppression of the self and others is more likely to occur when individuals learn communication patterns implicitly as a matter of getting along. Explicit teaching of discourse holds what is taught up for inspection. It provides the stu-

dents with means to rethink the ends of the discourse and offers a wide array of means to carry the discourse in new directions.

Rhetorical self-examination in anthropology provides a striking illustration of the way in which critical exploration of discourse can lead to deeper insight into the projects and knowledge of a discipline and to disciplinary vitality—even when such examination shows that previous discourse was implicated in social, political, and economic relations that we now disown. Historical work on the discourse has demonstrated that the early accounts of anthropologists were part of late-nineteenth-century imperialism, as the United States attempted to subordinate and domesticate the Native American populations through the Bureau of Indian Affairs, and as European nations spread their control over the other "primitive" peoples of the world who were being drawn under their political and economic "protection." The genre of ethnography, with its representation of the primitive other through the suppression of the native informant in representing the way of life and the elevation of the anthropologist as the objective authority, became the chief textual means for Western societies to objectify the dominated peoples.

Recent critical work (J. Clifford; Clifford and Marcus; Fabian; Geertz, *Works*; Marcus; Marcus and Cushman; Mascia-Lees, Sharpe, and Ballerino-Cohen; Rosaldo; Tyler) has not only pointed out these intrinsic dynamics but has also indicated how ethnography has changed in response to evolving understandings of the relations between "exotic" cultures and the "scientific" nations of the West, as well as the decreasing distance between self and other. However, these revelations, along with the rejection of the socioeconomic relations of dominance, have not meant an end of the genre of ethnography. People still need, both individually and institutionally, to represent their own and each other's lives to each other and for themselves. Questions of who speaks, who owns the discourse, who receives, how the self becomes changed in the interaction between self and other, and for what ends the discourse is carried on have opened up new experimental varieties of ethnography (for example, Abu-Lughod; Crapanzano; Dumont; Rabinow) and more sensitive use of all varieties (see, for example, van Maanen). Thus, rather than go out of fashion discredited, ethnography has gained vitality and spread across the social sciences and even the humanities.

Detailed attention to disciplinary writing does not enslave users of disciplinary languages to the entrapments of the past. Instead, it provides choices for reevaluation and facilitates exploration of the flexible and manifold resources available within traditional disciplinary

genres, reconceived more deeply. I have found this to be true in the response to my study of one of the most restrictive of disciplinary forms, a writing "style," imposed by leaders of one discipline attempting to advance a dominant epistemology, theory, and research program. The format of the experimental article in psychology, as set forth in the *Publication Manual* of the American Psychological Association, is the result of a self-conscious program of discipline building by behaviorist psychologists over the middle of this century. In the manual's prescriptions behaviorists have indeed found an appropriate rhetoric based on their assumptions and goals and growing out of the dynamics of the professional discourse during this period (Bazerman, *Shaping*, ch. 9). In becoming the official style of the most "scientific" of the social sciences, the APA style has been highly influential throughout the social sciences.

By analyzing the processes, dynamics, and assumptions of this institutionalization of style, I have not at all fostered the enclosed dominance of this discourse. Rather, professionals and students have largely responded that understanding the implied baggage of the discourse has freed them to make rhetorical choices with greater clarity: whether to continue in the traditional forms, to modify them, or to abandon them altogether for discourse conducive to other kinds of projects. The only resistance I have met is from those who do not wish to think of their discourse as "discourse" and claim that their words and arguments carry no freight and are only epiphenomena of their "science." According to such individuals, they are writing the only way they could in consonance with "good science." It is not the serious attention to disciplinary discourse that restricts our intellectual options but the refusal to attend that fosters the hegemony of narrow discourses.

When we do attend to the history of disciplinary discourses, we see complex heteroglossia, even in the most restricted genres, such as the experimental report in science. Each newcomer to a field must come to understand, cope with, and place himself or herself within the evolving conversation. In studying the development of Isaac Newton's way of discussing his optical findings, a way that would have profound implications for all scientific discourse to follow, I saw Newton working to make sense of the discourses around him, find appropriate means of addressing his audiences, respond to the conceptions and objections of his readers, and forge a style that would carry overwhelming force on the discourse field that he only gradually came to understand. His final solutions in the compelling "Newtonian style" seemed to suppress all other voices but actually encompassed them in a way that they could not escape to make alternate claims for a century. In examining

Newton's rhetoric, we move behind the massive social appearance of the supranatural genius Newton, "sailing through silent seas of thought alone," and we come to understand an individual locating himself among others and finding powerful means to advance his own vision and claims (*Shaping*, ch. 4). The history of all scientific discourse is built on such individual stories of people learning to use language effectively and thereby advancing the resources of language.

Once a rhetorical field is highly developed, individuals find themselves in the middle of intertextual webs within which they can act only by modifying the intertextuality through new statements. Our goals and activities influence our idiosyncratic placement in and interpretation of that intertextual field. When physicists read professional articles, they do so with an eye toward promoting their own research projects within a competitively structured argument over what claims are to be considered correct and important and how the literature should be synthesized and advanced (*Shaping*, ch. 8). There is constant negotiation among prior statements, new statements, responses, and further work over what constitutes credibility and creditability (Myers; Latour and Woolgar). By reconstructing the literature around their ongoing work and then representing their new work within that reconstructed matrix of the literature, individuals make the field over fresh and construct a new place for the self.

Discourse studies of the disciplines, which aim to understand the dynamics of each field and the state of play into which each new participant enters, can help build the intellectual foundations for courses that enable students to enter into disciplines as empowered speakers rather than as conventional followers of accepted practice, running as hard as they can just to keep up appearances. Even more, discourse studies can provide an enlightened perspective through which students can view the professional and disciplinary fields with which they will have to deal as outsiders. It is as important, for instance, for an ecologist or a community planner to recognize the complexity of the discourse of biologists, geologists, and petrochemical engineers as it is for those professionals to have command of their own discourses.

Taking the discourse of professions and disciplines seriously provides the understanding students and professionals need to develop as active, reactive, and proactive members of their communities. With a sense of individual power, students can press at the bit of the disciplinary practices they are trained into or run up against. Seeing through the appearances of the discourse allows them to keep the fundamental goals of the fields in front of them. They can ask what kind of communi-

cation structures, patterns, and rhetorics will enable the fields to achieve those goals, how they can contribute to those ends as individuals, and in what way the goals achieved through a single disciplinary discourse coordinate (if at all) with social goals from other forms of social discourse. By understanding how knowledge is constructed, they can judge what knowledge it is they wish to construct.

This adventure into the power of language in the modern world should not be a far digression for scholars of literary studies, who have long been examining the power of language to shape the imagination in the religious struggles of the Reformation, the political struggles of the eighteenth century, and the industrial struggles of the nineteenth. Studying discourse might mean looking into disciplines and professions that literary specialists rejected as undergraduates on choosing the life of literary studies, but studies of disciplinary discourse wander no further into arcania than studies of Puritan pamphlet wars. Indeed, to the contrary, the disciplines and professions are always near at hand, as they increasingly encompass every aspect of our daily life.

Nor is the study of disciplinary discourse such a far digression for practitioners of disciplines, for they all, as part of their training, are taught to think reflectively about the tools and methods of their fields. Once they become aware that language is one of their most fundamental, and most sensitive, tools of knowledge construction, they cannot escape the conclusion that rhetorical studies are an inevitable part of methodological training, as much as education in statistics, analytical techniques, or laboratory experimentation. All professionals must have some knowledge of field-appropriate methods of knowledge construction and their implications, and some specialize in understanding various techniques. If certain sociologists, economists, and educational researchers specialize in field-appropriate statistics, why should there not be scholars of field-appropriate rhetoric?

No doubt the development of substantial research and education into disciplinary language will require significant reallocation of resources and priorities both within departments of literary and language studies and within the many other disciplines of the academy. Resistances to this change are likely to be many. However, if we are to create a humane society for the next century, it is precisely the disciplinary and professional words we will have to keep from getting away from us. Insofar as we understand the powerful words of our society, we can live with and through them.

Speaking of Knowing: Conceptions of Understanding in Academic Disciplines

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For the past decade I've been studying the structure of literate knowledge, how people become skilled readers and writers, how they use reading and writing to learn academic subjects, and what this means for instruction. I look at disciplinary writing from a sociocognitive perspective, at the knowledge students use to make "sense" and the ways in which their thinking is affected by it and interactions in the classroom. Most recently, I've been studying the role of literary understanding and its contribution to intellectual development.

Are there essential similarities and differences in the ways various disciplines regard "knowing"? We need to answer this question if we can talk intelligently about using writing to learn in the disciplines. Yet in the literature there are no clear answers. I was led to this question by way of my earlier studies of academic coursework, particularly *Writing Shapes Thinking*, coauthored with Arthur N. Applebee, which indicated that the overwhelming focus of instruction in English, as well as history and science, was on course content, on the object of study—the facts, to the neglect of ways to think about them. But what of this separation? Does the focus on content have a root in the nature of the various disciplines, or is there a dichotomy between the ways the fields regard knowledge and the ways schools regard knowledge?

Problems of Knowing and Schooling

I have explored the relationship between academic writing and learning in a series of studies examining students' writing across a