Let me present one possible version of the history of teaching writing in the last century and a half. When the tradition of classical rhetoric was restricted to composition in the nineteenth century, teachers of writing found themselves teaching service courses, usually defined as skills courses. Furthermore, having lost touch with the classical tradition, they began to teach writing particularly suited to current needs and, by extension, to teach thought forms that imitate modern consciousness—a form of consciousness largely molded by forms of production, or technology. As Richard Ohmann says, much modern composition instruction reflects this technological consciousness: it casts the writing process in terms of problem solving, stresses objectivity and thereby denies a writer's social responsibilities, distances the interaction between writer and reader, deals with abstract issues, and denies politics (206). As a result, teachers of writing indoctrinate students, turning them into the sorts of people who will fill the slots available in our technological society.

If this story is a suggestive account of rhetoric's metamorphosis into composition, it is even more interesting applied to rhetoric's transformation into technical communication. Rhetoric has always aimed at teaching professional discourse—particularly the discourse of the assembly, the court, and later the pulpit—and so it is possible to see technical communication as a direct descendant of rhetoric, even more in tune with its aims than is composition. However, though technical communication shares classical rhetoric's orientation toward the professions, those of us who teach technical communication don't often think of ourselves as carrying on the rhetorical tradition. Indeed, it is rather hard to do so, since we teach thought forms and discourse forms demanded by the workplace, and we often find ourselves representing the military-industrial complex instead of the humanistic tradition. As John Mitchell puts it, we "indoctrinate our students in the forms appropriate to their employers," for "the students know they must dance with the guy that brung them, and they elect our courses to learn his dance steps" (5). In fact, the social contract that legitimizes the teaching of technical writing seems to insist that we adopt the technological mindset. For example, J.C. Mathes, Dwight Stevenson, and Peter Klaver warn engi-
neering teachers that it is dangerous to let people trained in classical rhetoric and literature teach technical writing, because in so doing they "risk having their students taught principles that are in conflict with engineering principles" (332).

Another way of looking at this situation is to say, as Michael Halloran has, that we perpetuate the "ethos" of the technological society, primarily by viewing the rhetorical art as "a set of technical skills practiced by specialists" (221). These skills are forms of technology—they are teche, to use Aristotle's term—and, as such, their products can be separated from the maker and marketed, relieving the writer of responsibility (Halloran 227). As teachers of composition or technical writing, we sometimes find this project something we can live with, but there exists a fairly long tradition of reaction against it. Nan Johnson, for instance, documents the attempts of three nineteenth-century rhetoricians—Theremin, Day, and Hope—to stand against the reduction of rhetorical education to the teaching of specialized skills; and Robert Connors describes the continuing battle over the issue of humanism versus vocationalism in technical communication, a battle that has apparently been part of the profession from its inception early in this century.

Technical Genres and Political-Ethical Stasis

In the past ten to fifteen years, several articles have contributed to this ongoing debate, but it is not my purpose to catalog them. Instead, I would like to focus on three essays by Carolyn Miller that, I think, lead to a point of political and ethical stasis for those of us who teach technical communication. In the first article, "A Humanistic Rationale for Technical Writing" (1979), Miller argues that traditional technical writing instruction is based on the "windowpane" theory of language, a theory that frames technical and scientific writing as "just a series of maneuvers for staying out of the way" (613). If we discard this antiquated view of language, Miller says, teaching technical writing can be more than teaching a set of skills; instead, it can be a "kind of enculturation" that helps students understand how to belong to a community (617). This conception of teaching technical writing has the virtue of fitting nicely with students' definitions of the course; that is, it is a course that gives them passage "in" to a certain group (Ronald 23). More to the point, it offers an important advance over the skills-based approach to teaching technical writing. Nevertheless, it leaves unanswered a crucial question: what are we enculturating our students into?

To answer this question, we must take up the issue of genre, for genres are schemas of response considered appropriate by a discourse community (Swales). Clearly, these schemas are not value neutral; when students learn them, they learn what may be said about possible subjects on particular occasions (Miller, "Genre" 165). In other words, genres change the way we think by defining rhetorical situations—what the Greeks called kairos, or the opportune moment (Poulakos 36). Thus, as Patricia Bizzell says, it is
"difficult to maintain the position that discourse conventions can be employed in a detached, instrumental way." Unfortunately, genres in technical discourse seem to preclude the opportunity for citizens to speak simply as citizens on the issues of technology in any meaningful way. So one way we enculturate students is by teaching them the genres of technical discourse, though the concept of genre is often reduced to the notion of form. As Connors has shown, teaching technical forms has been a long-standing tradition among technical writing teachers (338), a tradition still followed by many today.

At this point, Miller's "Genre as Social Action" (1984) becomes pertinent. Miller's own definition of genre as "social action" leads her to deny that certain technical forms, specifically environmental impact statements, are genres because they preclude social action (164). That is, because these forms attempt to incorporate the interests of several factions, the writer becomes mechanized and, in Burkean terms, produces motion rather than action (156). I have little doubt that careful study of other standardized technical forms, whether governmental or industrial, would suggest that Miller's observations obtain widely. My own conclusion, therefore, is that teaching standardized formats and forms means teaching the technological mindset, and, thus, enculturating students into the military-industrial complex. This conclusion further suggests that we implicitly accept present restrictions on public discourse about technology and fail to give students power to engage in social action.

The third article that bears on this issue is Miller's "What's Practical about Technical Writing?" (1989). In this paper, Miller suggests that we define technical writing as praxis rather than as techne, praxis being the Greek word for social action and techne for an art of making. This move allows her to recommend that we question present practices, ask our students to do the same, and encourage them to take socially responsible action (23). As this recommendation suggests, Miller's three articles show an evolution in her thought, always in a consistent direction, but they also lead to a point of stasis: if we enculturate students in the technical writing classroom, at least in part by teaching technical genres that reinforce the dominance of the technological system, how can we then call them to responsible social action?

Praxis, Virtue, and Social Action

I wish to suggest that this conflict is only an apparent paradox and that those of us who teach the course are really placed in a situation that allows us to be powerful agents for change. But to have a class that encourages social action requires adopting Miller's suggestion that we define technical communication as a practice rather than as an art or skill. As she points out, Aristotle makes a distinction between the ability to produce products, a technical skill that he calls techne, and the ability to take social action, or praxis (Ethics 6.4). Further, the ability to take social action involves the virtue
of practical wisdom or prudence (*phronesis*), a virtue defined as the ability to reason about ends rather than means. *Phronesis* enables a person to deliberate about the good rather than the expedient and, as such, to act in the political sphere rather than in the sphere of work (*Ethics* 6.5). As Barbara Warnick says, *techne* is “a habit of producing,” whereas *phronesis* is concerned with the uses to which products are put (304-05). Taking this distinction into account, we can define social action as action free from the economic constraints of the workplace: it is the political-ethical act of someone functioning in the citizen’s role rather than in the worker’s role. Unlike *techne*, which has an end other than itself, responsible social action constitutes *eupraxia*, Aristotle’s word for “good action,” an end in itself (*Ethics* 6.5).

When rhetoric, of whatever type, is defined as a practice, it is linked with virtue. Aristotle himself does not directly link them: he defines rhetoric as an art (*Rhetoric* 1354a.10). However, Halloran argues that eloquence was considered a virtue by many classical rhetoricians (226), and Eugene Garver, Lois Self, and Oscar Brownstein all make connections between rhetoric and *phronesis*. Implicit in all of these studies is the definition of rhetoric as a social act or practice rather than an art, and this definition brings rhetoric out of the amoral realm of technique into the world of ethics and politics. This distinction is important, for a skill can be used for good or bad ends, but a virtue automatically embodies good ends (Garver 69). That is, if rhetoric is merely a skill, someone may use it to manipulate people, but if it is a virtue, then it must be used for good.

The definition of the “good,” however, is problematic. In his *Ethics*, Aristotle defines it as happiness (*eudaimonia*), and happiness he defines as the virtuous activity of the soul. Furthermore, he says that virtuous activity is the ability to conform to the ideals of the society (1.7.7). In other words, Aristotle’s view of the good is sociological: the community defines what the good is, and the individual is good when he or she performs well the functions required by society—that is, when the person is a good citizen. Alasdair MacIntyre says much the same thing in *After Virtue*, a modernized version of Aristotelian ethics in which he approaches the subject by discussing the meaning of virtue. According to MacIntyre, the concept of virtue is embedded in at least three contexts. First, a virtue is the human quality that enables a person to engage in a practice with excellence (191). Second, such a quality is part of a person’s complete life and character, which can be seen as an “embodiment” of a socially sanctioned narrative (144). Third, such socially sanctioned narratives are really roles within a larger narrative, the narrative of the culture and its tradition (258). Thus, we see that virtue—the good—is defined socially by a society’s ideals, which, in turn, valorize roles within the society. When people fill the roles well, when they possess character traits that allow them to perform the functions of these roles with excellence, then their actions are considered virtuous.
Let us now take this depiction of ethics and apply it to our present situation. I have tentatively decided to define technical communication as a practice; therefore, I am claiming that it takes virtue to participate in technical communication. I can do this, according to Aristotelian ethics, only by agreeing that my students are developing character traits that enable them to perform their functions well. Moreover, I imply that these functions are good, that they fit in with the ideal of virtue that dominates our society.

There is no problem with this account if we are willing to accept the values embedded in the technological society, for ours is a technological society—or at least the arguments made by such social critics as Jürgen Habermas, Jaques Ellul, and William Barrett would lead us to believe that it is. But, of course, this is where we run into trouble. Many of us do not agree or identify with the values of the technological society and the military-industrial complex. Instead, we identify with a variety of alternative social groups quite diverse in their plurality but all sharing at least one value: that human beings should not be subordinated to the technological imperative. As such, we want to regain the upper hand; that is, we want to make technology serve humans instead of letting technology shape our society and its values. Therefore, we can call technical communication a virtuous practice only when it is put to the service of one of these alternative humanistic visions.

But the very thought processes embodied in most modern technical genres have grown out of the technological mindset, and they continue to support the dominance of the technological society while denying people the power to take social action as citizens when they write. In effect, if we continue to teach these genres, we indoctrinate our students into a system we don’t agree with; but if we stop preparing them for their roles in the technological world, then we are no longer really teaching technical communication according to the social contract that we all bought into when we agreed to teach the course.

It seems that we’re back to the original point of stasis. Like David Dobrin, in “What’s the Purpose of Teaching Technical Communication,” I find myself faced with a set of alternative actions I can take, though my alternatives differ from his: (1) I can get with the program, change my values, and become a representative of the technological society; (2) I can leave the profession of teaching technical writing; (3) I can become schizophrenic; or (4) I can figure out how to change my course so that it at once teaches the discourse appropriate for the technological world and makes students aware of the values embedded in such discourse and the dehumanizing effects of it. Obviously, I think number four is the best alternative, and I would like to suggest some ways to begin teaching technical communication as a truly virtuous practice, as responsible social action.
Political Discourse in Technical Writing

My suggestions—to be taken as explorations of possibilities rather than as prescriptive guidelines—involve altering what we teach when we teach technical communication and changing how we teach it. Altering what we teach requires redefining not only the function but also the scope of technical communication. Certainly, we can redefine its function simply by calling it a practice, a social act, rather than an art. But we must also look at the boundaries we have drawn for technical communication, boundaries often summed up in the phrase “writing for the world of work,” a phrase set in contrast to the rhetoric of leisure, as Miller points out (“What’s Practical” 15, 18). Classical rhetoric, though it aimed at preparing students to fill professional roles, was concerned with roles reserved for citizens, or the leisured class. We often misinterpret leisure, associating it only with elitism and forgetting that the leisured class was responsible for politics. Conversely, most of the writing done in the “world of work” was done by slaves. The ancient class distinctions implicit in classical rhetoric still carry over, even though social conditions have changed. That is, when we define technical communication as writing for the world of work, we tend to draw a boundary at the point where political discourse picks up. Within the present boundaries, technical discourse is constrained by the criteria established by industry, the division of labor within large companies, and bureaucratic procedures in government. As Susan Wells puts it, the goal of this discourse is “systematic misunderstanding and concealment.” She goes on to say that “the subjective responses of readers and writers are irrelevant, and the monologic voice conceals, not a dialogic relation, but the total fragmentation and dispersal of knowledge” (256).

I think we stop short of including political discourse within the boundaries of technical communication because of the marriage between private enterprise and government bureaucracy, a system that blocks citizens from participating in effective deliberative rhetoric about the direction that technology should take (Rossini 342). In the place of public deliberation, we have the twin motives of profit and technological advance, sacred territory in our society. There are few, if any, socially sanctioned opportunities for citizens to participate effectively in making decisions about the large issues associated with technology, or most other issues for that matter (Goodnight). Therefore, our present way of defining technical communication as the discourse appropriate for industry is equivalent to defining it as the rhetoric appropriate for slaves—those barred from making decisions about the ends, those whose decision-making authority is restricted to determining the most efficient means of obtaining predetermined ends.

If we are serious about defining technical communication as a practice, then we must expand its scope to include political discourse. To do this is to act on the ideal that all citizens, though workers, are responsible political
agents; it is to act as though slavery really was abolished and not just restructured; and it is to treat the individual as a unified whole, not as a person who must divide his or her personality between the roles of the worker and the citizen. In short, expanding the scope of technical communication to include political discourse is to fight against the alienation produced by our economic and technological systems.

I am not saying we should refuse to teach the discourse appropriate for the world of work, for I think the social contract we have with our students demands that we prepare them for their future careers. But it is possible to teach this discourse from a critical perspective and to supplement it with discourse that is appropriate for social action. For example, Wells, using Habermas' ideal of communicative action, suggests that we begin by teaching the structures of "purposive-rational action"—Habermas' term for action consistent with the technological imperative—but that we also identify authority claims and suggest ways of contesting these claims. In short, we can "identify the relations of power that block" the desire for communicative action and "offer strategies for subverting that power, for betraying it into communicative action" (264). Wells' strategy for critical instruction can be supplemented with other strategies, such as Kate Ronald's proposal that students write about professional texts, examining discipline-specific constraints (28). Or the teacher may point out how the problem-solution pattern in technical reports implies a closed system; discuss the possibility of opening up a broader definition of criteria for writing proposals and feasibility reports; or suggest using a less impersonal style to bring the human element back into technical discourse.

However, it is important to go beyond teaching traditional structures from a critical perspective. If we claim the territory of political discourse as part of the province of technical discourse, we should teach students practical reasoning, that is, the process of deliberation and judgment that Garver describes in "Teaching Writing and Teaching Virtue." Garver claims that practical reasoning goes beyond expressive and scientific writing, for the subject of practical reasoning is "contingent facts that can be other than they are, that action can do something about, that are worth worrying about" (66). While we probably already teach deliberation and judgment when we teach feasibility and investigation reports, we tend to do it within the constraints of an assumed audience—namely decision-makers within a company—and present private and governmental forums. Certainly, the power of audience over the writer is widely acknowledged, the most well known statement of this phenomenon being Perelman and Olbrechts-Tyteca's claim that the rhetor must always adapt the discourse to the audience (25). Therefore, it is important that we open up the definition of audience to include the public; that is, we should incorporate at least some deliberative or judgmental discourse appropriate for a public forum.

But to do this, we need to create an imaginary society in which a public
forum for such issues actually exists. It is at the point where we break with present reality, where we pretend that we live in an idealized society, that we begin to create a new social order. By writing for a public forum, even an imaginary one, students can begin to see the possible clash between the values of an audience in industry, heavily influenced by the profit motive, and the concerns of the public. Further, such writing works against the rhetoric of concealment by bringing issues before citizens and by calling into play value judgments that usually are not part of the decision-making process when deliberations about technology are confined to the privacy of an in-house report.

Redefining what we teach—that is, expanding the scope of technical communication to include public discourse about technology—would change programs as well as classes. Ph.D. programs in rhetoric and technical communication would begin to incorporate classes devoted to policy and to the philosophy of technology. This already happens in informal ways at places like Rensselaer Polytechnic Institute, where many students supplement their studies in rhetoric by taking classes from the Science and Technology Studies Department and by asking faculty from that department to sit on their committees. But a serious commitment to technical communication as a social act would eventually require that these sorts of studies be officially incorporated into the program, a direction presently being pursued in the new Ph.D. program in rhetoric and technical communication at Michigan Technological University.

The Apprenticeship Model of Teaching

Not only do I suggest that we expand the definition of what we teach; I also suggest that we change the way we teach technical communication. Present practices often do not take seriously Miller's claim that teaching the course means enculturating students. As a result, we often teach the course as a skills course, creating a professional distance between ourselves and students, comparable to a seller-buyer relationship. After all, if all we are doing is teaching skills, we can impart what we know and never attempt to influence students. However, if we are enculturating students, if we are introducing them to the discourse community of industry and the larger discourse community of public citizenship, then the model offered by apprenticeship is more appropriate than the model offered by the market.

I am aware that some will object to the apprenticeship model. Marilyn Cooper's criticism of the concept of discourse communities applies to apprenticeship as well, for apprenticeship assumes that something like discourse communities exists and that the teacher initiates students into that social structure (216). Indeed, apprenticeship implies that the teacher represents the culture and that students learn through imitation (Polanyi 53). Reactions against this hierarchical system are understandable, especially since cultural systems have usually excluded or marginalized certain
people. However, the alternative requires a commitment to expressive discourse, a form of discourse that excludes its practitioners simply because members of empowered communities perceive it as alien or unorthodox.

Therefore, we should make cautious use of apprenticeship as we employ it to bring students into the cultures that we represent. That is, even though we teach the discourse of the military-industrial complex, we can make clear that alternative cultures exist and that we identify with those cultures. Admittedly, such a view produces a rhetoric of conversion, but, after all, this is exactly what Ohmann calls for when he says that "we either teach politically... or we contribute to the mystification that so often in universities diverts and deadens the critical power" (335). The word of the teacher is somewhat alien to the world view of the students, but it is nevertheless an authoritative word; and as John Edlund points out in his analysis of Bakhtin, the teacher is a member of the social group that constitutes the class (62). Thus, we are in a position to help students appropriate and assimilate language practices about technology that go beyond the reductive structures of traditional technical genres.

There are many ways to apply the concept of apprenticeship to technical communication courses, but by way of example, I will briefly describe one system that I have been experimenting with. Since I identify primarily with the tradition of classical rhetoric (despite some of its social inequities, it nevertheless offers ways to subvert the technological mindset), I have adopted classical pedagogical practices that depend on imitation, a way of teaching I have discussed elsewhere (see "Attitudes"). I divide the course into two segments. During the first half of the course, I teach technical forms by asking students to do such things as copy, imitate, summarize, and transform examples of technical discourse. During class, we discuss these structures, and I link them to thought processes, pointing out how the structures exclude various considerations. This part of the class fairly closely resembles a traditional technical writing class, with two exceptions: students go through the forms rapidly by using the imitation exercises, and my discussion of the forms focuses primarily on their schematic nature and their function in social settings, rather than on details of correctness and usage.

The second segment of the course breaks with tradition. In an attempt to model the process of deliberation and judgment, I assign a single topic to the whole class, which is divided into two advocate groups and one arbitration group. Ideally, the topic is a question about a present policy decision, but because of the rhetoric of concealment that dominates our present discourse about technology, students find it difficult to get the information they need to build cases and decide issues. For instance, when I asked students to work on a local current issue—whether or not a paper mill should be built nearby—they soon ran out of information because the paper industry wanted to protect newly developed technology that they claimed could produce white paper without creating dioxins. Therefore, I choose a well-docu-
mented case from the past and ask students to take sides. My most successful assignment requires students to investigate the 1913 labor strikes in the copper-mining region where we live. The university's archives are rich in material on this subject, and students have access to information they would not be able to get about a current issue.

Part of the class is prolabor, part is procompany, and part is arbitration. Thus, the class as a whole models the deliberative process. During this time, I teach rhetorical concepts like *stasis* (how to determine the issue in a case), *kairos* (learning to take advantage of the opportune moment), and invention. I also teach students alternative genres for presenting their cases, such as the classical polemic speech and the Rogerian argument suggested by Richard Young, Alton Becker, and Kenneth Pike (283). Students go out on strike and participate in debates, and even the arbitration group writes majority and minority opinions. In this way, the total rhetorical exchange within the class functions to forge a *praktos agathon*, "a concrete act of enlightened expediency" (Brownstein 23), and the students engage in a modeled experience of performing a social act no longer constrained by present social restrictions.

Defining technical communication as a practice has major significance for technical communication teachers. It allows us to see ourselves as doing more than teaching a set of skills, but it also places ethical and political responsibility upon us. If we continue to teach the course in traditional ways, we perpetuate a form of discourse that blocks social action; if we refuse to teach the conventions appropriate for industry, we fail to give our students the power they need to enter the dominant culture. Bizzell expresses the dilemma better than I can: "Our dilemma is that we want to empower students to succeed in the dominant culture so that they can transform it from within; but we fear that if they do succeed, their thinking will be changed in such a way that they will no longer want to transform it." However, by redefining the function and scope of technical communication, we may be able to teach it in such a way that students will be able to use technical genres and yet resist their power. We can even hope that a few among our students will find ways to transform present practices and open up opportunities for public social action.

*Michigan Technological University*

*Houghton, Michigan*

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**Works Cited**


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**Professional Writing Conference**

The English Department and the School of Business at the University of Louisville will co-sponsor a professional writing conference on October 5 and 6, 1990. The conference theme is "Business Communication: Within and Across Organizations." For information about speakers, paper submissions, or costs, contact Beth Boehm or Geoffrey Cross; Department of English; University of Louisville; Louisville, KY 40292.

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