

COMMENTARY

Instrumental Discourse Is
as Humanistic as Rhetoric

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Some technical communication teachers seem anxious about the ethical implications of their subject. Carolyn Miller, in her well-known article "A Humanistic Rationale for Technical Writing," expresses her concern that technical communication is "coercive" (611). David Dobrin believes that technical communication classes "limit the vitality of the language used, thereby limiting the creativity of the writer and forcing us to establish in the writing human relationships which are mistaken and false" ("What's Technical" 239). Russell Rutter twice cites Dobrin's concerns about the lack of "moral purpose" in technical communication and wants to set it in the more "humane" context of history and rhetoric ("History" 134, 147).

Some of these critics are concerned about technical communication because they believe that instrumental or nonrhetorical uses of language have a dubious moral value. Miller, for example, says that "to continue to teach [technical writing] as we have, to acquiesce in passing off a version as an absolute, is coercive and tyrannical; it is to wrench ideology from belief" (616). Dobrin writes that

Heidegger says that technology is imperialistic; it tries to take over more and more of experience, flattening it, quantifying it, and making it useful. Where does writing fit in? . . . Aren't we morally implicated by teaching technical writing? Aren't we helping technology along? ("Is Technical" 243)

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These and other critics try to define technical communication as rhetoric so that they can make it more palatable to themselves and to other academic audiences. Critics such as Rutter, Marilyn Samuels, and even Elizabeth Tebeaux try to emphasize the literary and creative aspects of technical communication so that they can fit it more comfortably into the humanities. Rutter, for example, says that "recent composition scholarship has shown technical writing to be an imaginative, creative, and thus poetic endeavor" ("Poetry" 700). Tebeaux believes that "technical communication cannot isolate itself from literary theory" (25). These critics believe that if technical communication is rhetorical, poetic, or creative, then it can be taught in a certain way—as creative writing, as a form of literature, as persuasion, as a technocratic-capitalistic tool that hides a destructive ideology that rhetoricians must expose.

The centerpiece of several essays that define technical communication as rhetoric is an attack on the alleged objectivity of technical communication. If scholars can cast doubt on the objectivity of technical writing, then it is easier to make a case for the creativity, subjectivity, and humanism of technical communication. Miller believes that "if we pretend for a minute that technical writing is objective, we have passed off a particular political ideology as privileged truth." She explains her humanistic rationale for technical communication as follows: "Good technical writing becomes, rather than the revelation of absolute reality, a persuasive version of experience" (616). Dobrin says, "For the most part, I conclude that objectivity is not particularly important in technical writing, but that our general concern with objectivity may be symptomatic of an attitude toward language which I deplore" ("Is Technical" 237). Dobrin says the belief that language can be objective "makes language matter less; it encourages the flattening of language which is one of the effects of technologization" (251). Miller, Dobrin ("Is Technical"), and Rutter ("Poetry") think that people who believe that technical communication is objective are positivists, a philosophy that they maintain has long since been discredited.

I agree that technical communication is not objective, but I also believe that overemphasizing the rhetorical, literary, and creative aspects of technical communication ignores what is socially useful and humane about the instrumental aims of technical communication. Although the essays by Miller, Dobrin, and Rutter are not recent,

they—as well as other scholars—have made it difficult for anyone today to discuss technical communication in any terms other than rhetorical ones. For example, in a recent article about the *Challenger* accident, Arthur Walzer and Alan Gross dismissed several approaches to analyzing the accident by claiming that they were “positivistic” and thus “inimical to rhetorical and ethical perspectives and inadequate for that reason” (420). They cite Miller and echo her attitudes about rhetorical language, saying that positivists believe that “language is ideally a transparent medium, a windowpane through which we can be brought in direct contact with the facts, which would compel rational assent without the need of persuasion” (421). Walzer and Gross even claim that the scholars whom they label as positivists are “anti-rhetorical” (426).

For scholars who do not believe in positivism or the windowpane theory of language but believe that nonrhetorical language is important in technical communication, the position that is now prevalent in technical communication theory is very difficult. If scholars bring up—or even assume—the importance of nonrhetorical language in technical communication, they are dismissed as positivists or inhumane by some academics. But if a scholar brings up the idea that technical communication is literary or creative writing to a group of professional technical writers, the scholar is regarded as out of touch with reality.

Some kind of compromise needs to be reached that demonstrates that technical communicators can believe in the existence of and even value nonrhetorical uses of language without being labeled positivists and without being damned as inhumane or as debasing language and destroying its creativity. Such a compromise, I think, must focus on three points:

1. a definition of technical communication as both rhetorical and instrumental discourse;
2. the awareness that standardization plays an important and socially constructive part in the language of instrumental discourse; and
3. the awareness that standardization and technical communication can be just as humane as rhetoric and literature.

The following sections address these three points.

INSTRUMENTAL DISCOURSE AND THE LIMITS OF RHETORIC

Stephen Toulmin, Richard Rieke, and Allan Janik say that in contrast to rhetorical uses of language, instrumental uses of language are “those utterances that are supposed to achieve their purpose directly, as they stand, without the need to produce any additional ‘reasons’ or ‘supporting arguments’ ” (5). One common instrumental use is instruction. A person wanting to install a computer program needs no persuading to do it. The person needs the information about *how* to do it. Walter Beale says that the main purpose of instrumental discourse “is the governance, guidance, control, or execution of human activities.” Beale cites “contracts, constitutions, laws, technical reports, and manuals of operation” (94). According to Beale’s definition, texts such as policy manuals, birth certificates, invoices, registration forms, and the like would be considered instrumental because they try, in one way or another, to limit the ways people interpret the texts and conduct themselves with others, with organizations, and with their environments.

Developing a theory of instrumental discourse is important because the world of discourse is fragmenting into communication situations with differing audiences, purposes, subject matters, media, genres, and social/technological environments. In the past, many scholars have used the term *rhetoric* to cover all of these areas. But now the world of discourse is so broad, varied, and diversified that trying to stretch *rhetoric* to cover it all has made the term extremely vague. For example, Andrea Lunsford and Lisa Ede say that the goal of modern rhetoric is “communication” (400), which is about as broad a goal as there can be for discourse. In classical times, rhetoric had a precise definition. Aristotle said, “Let rhetoric be [defined as] an ability, in each [particular] case, to see the available means of persuasion” (36). Thus Aristotle limited rhetoric to persuasion.

Times have changed, of course, and rhetoric has too. Charles Bazerman sums up the situation as follows.

Rhetoric is now, as it seems always to have been, a term under contention. Some groups currently wish to contain the term and its legitimacy, such as it is, within one or another tradition; others wish to transfer ownership and the legitimacy of the term to new projects that either displace the older or are off to a nonthreatening side. Still others wish

to dissociate themselves from the illegitimacy of the term and establish a border that places their own projects safely on the other side. ("Contention" 3)

Still others, Bazerman might have added, want to make rhetoric mean everything and anything with some connection to discourse. For example, Berlin says that rhetoric is "the ways discourse is generated" (489). Knoblauch says that rhetorical theory is "a field of statements pertaining to language, knowledge, and discourse" (126). Bazerman himself says, "By rhetoric I mean most broadly the study of how people use language and other symbols to realize human goals and carry out human activities" (*Shaping* 6).

For a definition to be useful, it has to be precise. If a word is defined in an all-inclusive way, then the people who embrace that definition can always influence important decisions. If rhetoric is defined in a totalizing or all-inclusive way (i.e., the way that Lunsford and Ede; Berlin; Knoblauch; and Bazerman [*Shaping*] define it), and the people who employ the term have power over their readers or listeners, then these powerful people can use their definition to control their audience. For example, medieval churchmen, who appointed themselves God's agents on earth, defined God as being present in everything. Thus God and his earthly agents, the churchmen, were able to influence all facets of human conduct (Killingsworth and Gilbertson 15). Any all-inclusive definition of a term, when it is wielded by professors who have administrative authority, legitimacy, or some other kind of power over others, can be used as a means to dominate and control; if applied inappropriately, such a manipulative use of language may not prepare students well for how technical communication is practiced in the marketplace.

Today, rhetorical theory and its sister, composition theory, significantly influence—and perhaps even control—the teaching of technical communication. Donald Cunningham and Jeanette Harris say that

growth in undergraduate writing programs is not primarily in technical and professional writing but rather in broad-based programs dominated by composition and rhetoric. . . . Increasingly, it seems that technical writing is taking a back seat not only to literature and creative writing but also to composition and rhetoric. (131-32)

The influence of rhetoric and composition (and literature and creative writing) on technical communication does not seem to have benefited technical communication students. The effectiveness of the teaching of technical communication has worried the Society for

Technical Communication (STC), the 20,000-member professional association of practicing technical communicators. In January 1993, the STC's board of directors hosted a workshop comprised of technical communication academics and industry professionals.

The industry panelists questioned whether graduates of our academic programs are as well prepared for careers in technical communication as their peers who have been trained in other disciplines. The problem, the panelists agreed, is that our graduates' backgrounds are too theoretical, and many lack expertise in such practical areas as time management, critical thinking, and interviewing techniques. Most significantly, some of them are not as proficient writers as some graduates in other fields. (Hayhoe et al. 15)

George Hayhoe and his colleagues do not specify what kind of theory is being taught in universities; however, considering the dominance of rhetoric in the academy, it seems safe to say that they are referring to rhetorical theory. Many departments that offer technical communication degrees are named rhetoric departments, and many faculty consider technical communication to be rhetoric. Current textbooks such as *Technical Communication*, by Mary Lay et al., have chapters titled, for example, "The Persuasive Nature of Technical Communication" (117-50).

Industry experts on technical communication are not the only people who have encountered students whose college educations have failed to prepare them well for writing in the marketplace. Chris Anson and Lee Forsberg discuss a student, John, who had recently moved from the academic to the professional world.

Strategies that had worked well for him in college are no longer very effective, and he is unprepared to meet the demands of multiple readers whose status, power, and professional orientations vary considerably across departments and levels of the corporate hierarchy. (201)

I can second these observations from my own experience as a student, technical writer, and college professor. The technical communication class and workshop that I took in college left me completely unprepared for my first job in 1980 as a technical writer in a computer hardware manufacturing corporation. Since then, I have heard many young working people who are a few years out of college complain about how bad their college technical writing courses were and how they had to learn to write all over again after they left college and started working. By allowing rhetorical theory to dominate writing programs, by defining rhetoric in an all-inclusive way, and by ignor-

ing or devaluing instrumental uses of language, college teachers may be making their students less effective in the marketplace; this may disfranchise students and prevent them from solving important personal, organizational, and cultural problems.

Instrumental discourse applies very well to the organizational, technological, and informational environments in which students will work. Theories of discourse, like politics, are sensitive to their environments; that is, any theory arises from a certain finite, concrete situation, and all facets of the theory are influenced to some extent by that concrete situation or locale. Classical rhetoric focused on public speaking that attempted to persuade an audience of the most prudent action to take in the future, to judge an action that happened in the past, or to praise or blame someone in the present. Classical rhetoric has been applied usefully to other areas, especially writing letters and essays, and it has been a crucial influence on the theories of composition that affect the teaching of writing in high schools and universities. Thus classical rhetoric is still an important approach in analyzing the modern communications that require persuasion.

Today, however, the environment of instrumental discourse is different from that of classical rhetoric or its modern descendent, composition theory. In the millennia since Aristotelian rhetoric, important changes have occurred: the rise of visual communication; the proliferation of mass production and distribution of goods; the increase in complex, hierarchical organizations; the development and manufacture of complex technology; the immense expansion of government regulation; and the rise of the monied class. These changes have created new global communication environments that involve complex electronic, mechanical, and chemical technologies and that require controlling the complex relationships between large organizations, volumes of data, numbers of people, and numbers of products and services. These environments use the following kinds of communication, which are not typically addressed by rhetorical and composition theory: (1) information that strictly controls the actions and interpretations of an audience (instructions); (2) graphical user interfaces, icons, on-line documentation systems, and machine/human interfaces; (3) data maps (e.g., charts, spreadsheets, graphs, blueprints, schematic diagrams, tables, scientific visualization, geographical maps), forms, schedules, specifications, invoices, bills of lading, catalogs, directories, indexes, tickets, rate lists, textbooks, and standards; and (4) huge volumes of complex data that are communi-

cated electronically over great physical distances and/or up and down power hierarchies within and between organizations.

These modern kinds of communication coexist with other kinds of communication—such as speeches, letters, and essays—that have been around, in some cases, for thousands of years. Instrumental communications do not replace speeches, letters, and essays, and thus instrumental discourse theory certainly does not replace rhetorical theory or composition theory. Instrumental discourse theory complements existing theories of discourse by addressing certain purposes, situations, and technologies that those theories were never meant to address.

Despite the proliferation of instrumental genres of communication during the late nineteenth and twentieth centuries, technical communication and instrumental uses of language did not begin during the past 150 years. As John Hagge has shown, its roots go back to Old English. Only in recent years, however, has it become possible to view technical communication as instrumental discourse in academic communities.

OBJECTIVITY AND STANDARDIZATION

The main strategy that critics such as Miller, Dobrin, Rutter, and Samuels use to turn instrumental discourse into rhetoric is to attack the claim that technical communication is objective. Beginning with Miller's 1979 essay "A Humanistic Rationale for Technical Writing," and continuing with other scholars' critiques up to the present, these attacks are very persuasive. As presented in these critiques, however, objectivity is a straw man. The language of technical communication is certainly not objective, but its language is often sharply different from the language of literature and rhetoric. Literature, of course, thrives on ambiguity. In one definition, Hartman said that literature "destabilizes, by overdetermination or indeterminacy—by what seems to be an excess (figurality) or a defect (equivocation)—the 'real character' of communication" (viii). Thus a work by Shakespeare has so many possible meanings that it keeps us off balance, whereas a poem like "A Piece," by Robert Creeley, defies attempts to isolate a meaning:

One and
one, two,
three. (352)

Whereas the language of literature is overdetermined or indeterminate, the language of instrumental discourse works hard to be unambiguous.

It is much more difficult to distinguish between rhetorical versus instrumental language in technical communication because, as I have said, technical communication may be both rhetorical and instrumental. However, when the purpose of technical communication is rigorously instrumental—to govern, guide, control, and help people execute physical actions—technical writers work hard to make their language unambiguous, unemotional, and strictly denotative. A recent e-mail message on the utest mail list illustrates this concern. Elizabeth Buie posted a query that focused on a language problem.

I'm reviewing another group's interface design for a spacecraft [controlcenter], and I need a good substitute for "kill."

I'd love to have suggestions for a nonviolent, emotionally (relatively) neutral term that indicates that execution of the currently monitored procedure is to be discontinued.

About a dozen messages were sent to Buie suggesting options such as *cancel*, *suspend*, *halt*, *discontinue*, *stop*, *end*, and *abort*. When *abort* was suggested, several people posted messages to suggest rejecting that term because of its negative connotations. Buie's example shows that when technical writers use language instrumentally (as in the design of a human/computer interface), they are more cautious about limiting the interpretations and overtones of their words. But when the purpose of a technical communication is rhetorical (as in a proposal or technical sales document), writers can use language with more connotations, emotional associations, and potential ambiguity.

In many kinds of technical communication, language is denotative because it is standardized; that is, a group of people agree—sometimes in writing—to call a certain thing by one name, execute a procedure in one way, give a certain object specific measurements, or give a system certain specific functions. This agreement does not confer objectivity on the language. Objectivity requires, among other things, a rigorous, logical system of correspondences—a system that has been shown to be impossible (Suppe 62-118). Rather, by virtue of an agreement about a standard, a certain thing or procedure is said to have one meaning unless the people agree later to change it. This

process of agreement is called standardization. In medical software, for example, writers do not use the expression *invalid field* on computer screens because *invalid* means one thing to a programmer (i.e., erroneous) and another to a doctor or nurse (i.e., a disabled person). In instrumental discourse, errors caused by ambiguous language can be very innocuous or even silly, as in the case of the prospective student who filled in the blank after "sex" in a college application form: "Once, in Charlotte, North Carolina" (Huber 80). But some ambiguities can cause more serious consequences, such as unintentionally erasing data on a computer disk or even killing someone.

Standardization is thoroughly social, and it is very important in technology, groups of all kinds (e.g., cultures, organizations, governments), and instrumental discourse. Standardization, according to Sen,

is the process by which systems and values are established in individual, group and social life by natural evolution, custom, authority or common consent which, by remaining (or being kept) invariable over a period of time in a changing environment of unlimited modality, provide the stable basis essential for the growth and attainment of:

- (a) social group identity and survival;
- (b) communication, understanding, and exchange of ideas, goods and services between individuals and groups;
- (c) knowledge and experience for further development; and
- (d) consolidation of social, economic and technological attainments at any point of time so as to release creative energy for the search of higher and better values and systems. (390)

Standardization, like anything else, has its disadvantages. As Perry has said, some people think standardization is "a threat to human individuality" (133). To an extent, of course, it is. A standardized product or process cannot be changed by one person. Usually, many people must agree to a change. One of the effects of standards, however, is to unite many people into one team that works in a coordinated way to solve the large, complex problems of organizations and nations. The team as a whole acts as an individual to solve the problems that no individual could possibly manage alone. Miller is right to say that technical writing is a process of "understanding... how to belong to a community" (617). Developing and applying standards contributes to that process of belonging to a community. Thus the process of standardization fits well into theories of the social construction of knowledge.

True but how is that achieved? Moore / INSTRUMENTAL DISCOURSE 109

Is there any truly denotative language?

To promote economy, consistency, and efficiency, technical people have gathered in company committees or in national or international professional associations to define and specify exactly their standards for nomenclatures, formats, programming languages, measurements, materials, procedures, and so on. This process of standardization can be very political and fraught with dilemmas, or it can be easy and collegial. However, the process is certainly not objective (Markel). As Lal Verman has written, "A good deal of success in standardization depends, among other things of course, upon a proper subjective approach" (18). However, once the standards are established, there is no argument or confusion about whether something is true. This certainly enables engineers, chemists, or legislators to create their computers, pharmaceuticals, and laws. These standards remain in effect as long as necessary, depending on the situation. Standardization is in part a reaction to the subjectivity and slipperiness of language, and one of the main purposes of instrumental technical communication is to satisfy the technical person's need for linguistic consistency, economy, accuracy, and the like for the profit of all parties.

Thus the critics who reject the claims that the language of technical communication is objective or a windowpane are certainly right. But some of them go too far. Samuels, for example, says that "technical writing is one special kind of creativity, different from other kinds, but neither more nor less accurate in its depiction of reality than a poem or play" (3). This statement seems ill considered. In many technological situations, a rigid, one-to-one correspondence is required between the signifier and the signified or else someone could die. Walt Bogdanich describes a case in which a pharmaceutical technician confused a glucose solution with a cardioplegia solution, which resulted in the death of a patient (77). In a similar case, a child died when he was erroneously injected with a saline solution when he should have received a dextrose solution (Rendell-Baker 28).

Samuels is not the only scholar who misstates the situation. Even Tebeaux, who is usually a very pragmatic scholar, has approvingly discussed the deconstructionist approach to analyzing language.

For knowledge, in the present sense, is not knowledge but activity. Making sense of it will be very impoverished if this involves looking for only one account of it, the so-called literal meaning, whether that perspective is rhetorical, literary, or linguistic. (26)

Hence Tebeaux believes that "technical communication cannot isolate itself from literary theory" (25). However, instrumental uses of lan-

guage must be literal if physical actions are to be controlled so that lives can be saved. As Charles Sides says about Tebeaux's argument,

While there may be some valid academic reasons for this line of study [i.e., studying technical communication from the perspective of literary theory], it seems to take writing for the audience over the edge, and one can imagine the reaction of high-tech professionals if literary scholars *cum* technical writing instructors tried to convince them that any interpretation of a Patriot missile deployment manual was possible, even valid. (3)

Literary uses of language are sharply different from instrumental uses. Gottlob Frege, for example, distinguishes between "Sinn" and "Bedeutung." "Odysseus" and "RETURN key" both have Sinn, or sense, but Odysseus has no Bedeutung, or meaning, because no such person existed. RETURN key, however, does have meaning because it designates something that actually exists, a key on a computer keyboard (627-28). Reading literature, as Coleridge said, requires a "willing suspension of disbelief" (169). But such is not the case in technical communication. The readers must believe that the objects designated by the words exist, because if those objects do not exist or if those objects are ambiguously or erroneously specified by the words, then many kinds of undesired effects could occur. Thus instrumental uses of discourse require language to be as rigorously unambiguous as possible.

HUMANIZING TECHNICAL COMMUNICATION

Several scholars have been concerned with the tendency to use technical communication to control and dominate people (e.g., Miller, Dobrin, Rutter) and, partly as a result of this concern, have questioned the ethics of technical communication. To combat these tendencies, they have suggested ways to humanize technical communication and broaden its foundation to accommodate it to philosophy, literature, history, and the liberal arts in general. In some situations, however, instrumental language must be used to control people for it to be effective, ethical, and humane. When the purposes of technical communication are instrumental, students should spend less time on literature and focus more on human factors analysis, cognitive psychology, project management, computing technologies, and economics.

Miller is the earliest of the critics who have been concerned about the humanism of technical communication. She wants to see "techni-

cal writing as a more humanistic and less coercive endeavor" (611). She has written about how technical communication "aims at being an efficient way of coercing minds to submit to reality" (610). Coercion, of course, is a strongly pejorative word. But, in an important way, Miller misstates the purpose of technical communication. Technical communication aims to allow the mind to oppose the coercions of reality, not "to submit to reality." Reality arrays many powers against people, and we must find ways to govern, guide, and control those powers. For example, the external world coerces us: The elements blow against us, freeze us, overheat us, and drown us; earthquakes destroy our homes; insects and reptiles sting and poison us; bacteria and viruses inflict pain or death on us. To resist these pressures, people have developed instrumental uses of discourse: Engineers write specifications for the designs of heating or air-conditioning units, which are manufactured according to certain procedures by factory workers and made usable to lay people through operating instructions; legislators and regulators issue laws and regulations that dictate that houses in certain zones be built to resist earthquakes; parents order their children to stay away from certain insects and reptiles; governments issue warnings not to drink contaminated water or use syringes that others have already used.

Our bodies also coerce us: They want to be fed, watered, maintained within a certain temperature range, and relieved from pain. To satisfy these needs, we have developed instrumental uses of discourse: Engineers, government health regulators, technicians, and factory workers specify, develop, and mass produce food products with precise cooking instructions for end users; and chemists, government regulators, technicians, and factory workers specify, develop, and mass produce pharmaceutical products with precise dosage instructions.

And society coerces us: Because some individuals in societies trample on the rights of others, we have instrumental communications such as laws, regulations, customs, and policies. If citizens want to benefit from the security and social cohesiveness that a nation provides, they must submit to instrumental communications: obeying the laws of the land; filling out application forms for social security, Medicaid, and food stamps; filling out Internal Revenue Service forms to pay taxes or get refunds; and writing checks to pay taxes and bills. All of these—and many other kinds of communications—are instrumental uses of language, and all of these can be said to be coercive. Yet, all are important to minimize

human pain and suffering, save lives, and help us live happier, more productive lives. Practitioners of constructive instrumental discourse acknowledge and even embrace the inevitability of controlling people—so long as the controls are used to promote higher (i.e., ethical or unselfish) values. For these reasons, technical communication and instrumental discourse can be very humane.

Dobrin is also concerned with how technical communication can limit and dominate people. He fears that some prescriptions about the use of technical language "limit the vitality of the language used, thereby limiting the creativity of the writer and forcing us to establish in the writing human relationships which are mistaken and false" ("What's Technical" 239). He fears technology and its "logic of domination" (245) and hopes that the "future will give us writing which is more responsible, more creative, more fulfilling" (248). And Dobrin fears that "a technologized language is a language that doesn't matter very much" ("Is Technical" 250). He concludes,

My objection to these sentences [that avoid mentioning I] is that writing them makes language matter less; it encourages the flattening of language which is one of the effects of technologization. My grounds for this objection are purely moral. If you accept my argument, you are against these usages because you don't think language should be taken over by technology. . . . Thus if you accept my argument, there is a moral responsibility given to you. It is to make sure that language matters. ("Is Technical" 251)

Some of the earlier discussion has tried to show that standardized language does matter. Instrumental aims of discourse can help, as Sen has said, to consolidate the "social, economic and technological attainments at any point of time so as to release creative energy for the search of higher and better values and systems" (390). To that end, standardized uses of language and instrumental aims of discourse do limit the semantic range of words and limit the creativity of writers when describing actions and functions. But they do so for humanistic reasons: to diminish pain, to increase the quality of life, and to save lives. As to Dobrin's concern about domination, technical communication that tries to govern, guide, control, and help people execute physical activities will always be open to such charges. In some situations—for example, passing laws to prevent the violation of a person's civil rights, telling someone how to operate mechanical equipment safely, ordering an abusive spouse to cease and desist violent activity, telling a user how to operate a word-processing program—being "imperialistic," to use Heidegger's derogatory word

(qtd. in Dobrin, "Is Technical" 243), is socially and personally advantageous. Language is often "flattened" in technical communication, but for highly moral reasons.

For Rutter, the solution to the problems discussed by Miller and Dobrin is a broader definition of technical communication.

To understand the dynamic nature of science and technology and to discover that the supposed gods of objectivity and pragmatism are just the illegitimate offspring of expediency and misunderstanding is to realize that technical communication is rhetorical above all else. ("History" 143)

Rutter wants to found technical communication on "a more humane, more comprehensive, and more historically oriented definition" of technical communication. That definition for Rutter is "liberal education" (149). But ignoring the many instrumental uses of language or swallowing them up in a totalizing definition of rhetoric or liberal education cuts students off from important uses of language, uses in which they will be enmeshed all the days of their lives. In their efforts to broaden the definition of technical communication to include everything under the sun—rhetoric, literature, philosophy, social science—some critics deprive students of the sharp, pragmatic tools that they will need to work with others (and sometimes control others) so that they can improve personal, organizational, and cultural conditions in the workplace.

CONCLUSION

For many centuries, academics have held technical communication in low regard when compared with literature and rhetoric. As Francis Bacon said, "It is esteemed a kind of dishonor unto learning to descend to inquiry or meditation upon matters mechanical" (33). During the late 1970s and extending into the 1980s and 1990s, many technical communication scholars have tried to rehabilitate technical communication by redefining it as rhetoric to make it seem more ethical and to make it fit better within the humanities. By defining technical communication as rhetoric or literature, these scholars have tried to elevate and dignify technical communication for literature professors, and they have tried to naturalize it for the many traditionally (i.e., classically) educated discourse analysts in English and rheto-

ric departments. Such technical communication scholars, I have argued, have wandered off in the wrong direction. They have missed the humanism embedded in the standardized language and procedures of technological artifacts and language. That humanism does not focus on using artistic or rhetorical discourse to articulate the important spiritual values that bind social groups together. Instead, that humanism tries to save lives, minimize pain, minimize the socially destructive actions of dysfunctional people, provide the laws and procedures that keep social groups working more or less harmoniously together, apply material resources economically to solve problems, and improve the quality of our physical lives.

This humanism can be best learned and put into effect by understanding the instrumental uses of discourse, that is, the nonrhetorical purposes of language that complement rhetorical and literary uses of language. Understanding instrumental uses of language is vitally important today because mechanical, electronic, and chemical technologies affect our lives daily, as do legal and regulatory applications of language. Too many institutions can be destroyed, and too many people can get hurt or die if teachers, scholars, and universities continue to ignore the instrumental aims of discourse. Too many rhetoric professors forget that people must use language to get things done—to execute physical tasks within narrow financial, temporal, and other constraints. Few people have the time, the need, or the inclination to be persuaded about many activities in their lives. In many situations, people need closure—not more interpretations, more analysis, or more discussion. In many situations, such closure is perfectly humane. If we do not pay more attention to standardization and to instrumental uses of language, especially communication in competitive technological institutions, then more people will perish in disasters such as those in Bhopal, in Chernobyl, and with the space shuttle *Challenger*; more people will die from badly applied medical, electronic, and chemical technologies; and more people will find the rapidly expanding and vitally important data processing market beyond comprehension and thus beyond use. Ignoring instrumental uses of discourse, in short, could significantly damage our society and diminish its power to cope with the difficult problems in its many physical, social, and economic environments.

For too long, instrumental uses of discourse have been generalized out of existence as rhetoric or, worse yet, as creative or imaginative

writing. Or instrumental uses have been laid on the Procrustean bed of rhetoric, and what does not fit—computer/human interfaces, tables of contents, instructions, icons, scientific visualization, schedules, forms, specifications, invoices, blueprints, schematic diagrams, tables, geographical maps, laws, contracts, regulations, birth certificates, paychecks, bills of lading, catalogs, directories, indexes, tickets, rate lists, textbooks, standards; and so on—has been cut out of the conversation in academia. During recent decades, academia has embraced the similarities and differences between the genders and between races and ethnic groups. As a result, academia has made a larger and better place for women and all races, and it has become more democratic and useful to our culture as a whole. In the same way, and for the same reasons, we should help democratize discourse analysis by giving instrumental or nonrhetorical uses of communication a larger and better place in academia.

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