

From Logocentrism to Ethocentrism: Historicizing Critiques of Writing Research

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Since the 1960s, attitudes toward empirical research on writing, including research on technical/professional writing, have shifted from encouragement to resistance. This essay traces these shifts in light of changes in writing research, psychology, and the rhetoric of science. In composition studies, an initial mild uneasiness about "scientism" intensified with the rise of process models, suggesting a Romanticist defense of the mystique of creativity. More recent post-modernist denunciations of scientific methods as immoral have other Romanticist overtones. In technical communication, a long-standing interest in workplace writing practices allowed a smoother integration of empirical analysis with descriptive studies of writing contexts. However, as in composition, recent critiques in technical communication suggest that empirical methods should not be employed. These critiques too tightly circumscribe the values that may be considered humanist and cut off important avenues of inquiry and critique that historically have advanced both the sciences and humanities.

"Today's research in composition, taken as a whole, may be compared to chemical research as it emerged from the period of alchemy: some terms are being defined usefully, a number of procedures are being refined, but the field as a whole is laced with dreams, prejudices, and makeshift operations."
Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer, 1963

"[W]e should stop fooling ourselves about the nature of our field. We are not a science and will not be one in the foreseeable future, and we must beware lest our understandable desire to share in the cachet of science leads us to a barren enactment of imitation science."
Robert Connors, 1983

"[B]eliefs in the objectivity of the scientist and the neutrality of scientific investigation serve the interests of those in positions of authority and power, usually white males, and serve to exclude those in marginalized positions. Identification by women or by feminized fields with the sciences and social

sciences therefore may necessitate association with discourses that ignore issues of concern to those in marginalized positions and that arise out of epistemologies antithetical to their needs and interests.”
Elizabeth Flynn, 1995

Profound changes seem to have occurred in the study of writing in the thirty-some years that elapsed between the publication of the first and third works quoted above. Richard Braddock and his co-authors clearly intended to foster a more scientific approach to writing research—and are largely credited with having done so. Just as clearly, Elizabeth Flynn seeks to discourage today’s researchers from using scientific methods by disparaging the morality, as well as the political and intellectual value, of such approaches. Flynn is hardly alone in her antagonism to science. In fact, it has long been commonplace to assert that writing researchers adopt objective methods for venal reasons—for the sake of reflected glory from powerful scientific disciplines. This view has been expressed both by composition generalists and by specialists in technical and professional writing.

Recent critiques go further to disparage science and “objective” methods altogether, whether practiced by scientists and engineers or by writing researchers. The critics seem to believe that empirical research cannot be conducted without reinforcing oppressive dominant ideologies and practices (like sexism or racism) in the academy and in the workplace. Some critics (such as Nancy Blyler and Carl Herndl) suggest that those studying workplace communication may be easily co-opted or “colonized” by the managers and administrators who provide sponsorship or access to the site. For these critics, the goal of workplace research should not be to foster workplace goals, but to mobilize employees against entrenched power structures. Such attitudes are coloring attitudes in the technical writing classroom as well. Teachers who are committed to radical cultural critique cannot be sanguine about helping future scientists, engineers, and managers succeed in their careers, when they see these careers as likely to perpetuate political oppression (Dombrowski; Herndl).

Elsewhere, in more detail than is possible here, I review the assumptions about science underlying recent critiques and contrast them against other accounts of the motives for using various research methods (Charney, “Empiricism” and “Paradigm”). I argue that many critics mischaracterize science as inherently bound to absolutism, positivism, or naive realism, when in fact, sociological and rhetorical studies of science reveal it to be a thoroughly rhetorical enterprise conducted by people of highly divergent epistemologies. I also challenge the critics’ assumptions about the consequences of scientific methods for disciplinary practice and for society at large. I reject the implication that researchers who use more objective methods forfeit any claim to either the goal or the means of fostering social justice. Instead, I argue that the very qualities of objectivist methods that draw

the most criticism (i.e., a focus on appeals to logos, or claims about the data), may afford the most productive communal critique, while the qualities most lauded in subjectivist methods (i.e., predominant attention to the *ethos* or character of the researcher) may intensify the autonomy and authority of individual researchers, isolating them from disciplinary consensus-building and collective social action.

If objective methods are not inherently corrupting and dehumanizing, what is the basis for the critiques? Why have attitudes toward empirical methods in writing research changed so starkly since the 1960s? Are the recent critiques a new development, or are they related to traditional antagonisms between the sciences and the humanities? In this essay, I extend the arguments of my earlier essay by sketching an account of the critiques of empirical research over the past thirty years. Rather than attempting a comprehensive historical review, I will highlight how critics characterize the potentialities of various methods and the goals and epistemologies of researchers who employ them. In the earlier essay, I claimed that antagonism toward science was new for scholars of technical and scientific writing. Considering that scholars in technical writing have had closer experience of scientific research and discourse practices than those in composition generally, it is interesting to consider whether attitudes toward empirical methods have been different in technical writing than in composition as a whole. This essay permits some comparison of developments in both fields. However, considering that many prominent scholars of technical and scientific communication (for example, Jeanne Fahnestock, Michael Halloran, Carolyn Miller, Lee Odell, Jack Selzer, and Dorothy Winsor) have published in composition journals and have played major roles in rhetoric and composition associations, it seems clear that the fields of composition and technical communication overlap to some extent, and that the course of technical communication is not wholly independent of developments in rhetoric and composition.

My goal is not to promote or discourage the use of any particular research method, but rather to examine the virtues and vices that some people have attributed to them. Both qualitative and quantitative research can be “scientific” or “empirical” research. I take empirical research to be an effort to formulate questions and methods of analysis in such a way that various answers (or hypotheses or explanations) can be evaluated systematically through some form of observation of the world. Rationalist disciplines, such as mathematics and formal logic, are not empirical but may be used to support empirical research in the sciences, just as they are in humanities disciplines like linguistics or philosophy. The framework of empirical research includes a wide variety of methodologies, though some considered scientific in one field might not seem so to researchers in other disciplines. This is because researchers cannot evaluate rival hypoth-

eses or explanations without some consensus on rules of evidence and methods of analysis. Such consensus requires shared experience with the methods and how they have been challenged and refined over time. As the following analysis will show, these socially constructed aspects of science play little role in some critics' conceptions of science. But assumptions about the nature of science are only one factor in whether "scientific" becomes a complimentary or pejorative epithet.

The Quest for Scientific Methods: The 1960s and 1970s

The 1960s and early 1970s were a time of expanded exploration and refinement of empirical methods in writing research as a whole. Reviews of research in this period were quite critical of how empirical work was being conducted, notably the landmark monograph by Braddock, Lloyd-Jones, and Schoer in 1963 and a retrospective by Dwight Burton in 1973. Rather than attacking the enterprise as a whole, however, these critiques were explicitly intended to encourage more and better empirical research. In her review of the first twenty years of *Research in the Teaching of English*, Anne Herrington found evidence in this period of the community "questioning itself and being questioned by those being trained for it" (123). This kind of internal critique is not at all unusual—continual critique of questions, methods, and conclusions is typical of empirical research. Herrington also observed moves toward greater diversity of research questions and methods as scholars began raising questions about students' and teachers' beliefs about writing and called for more case studies, longitudinal studies, studies of the flow of writing, and ethnographic methods borrowed from anthropology. Studies employing these methods were slow to appear in print, but it is significant that these methods were included in the numerous calls for expanded research during this period.

The expansion of research was stimulated by the breadth of the agenda set in Braddock, Lloyd-Jones, and Schoer's 1963 report. But it also coincided with a watershed in other related disciplines, notably linguistics, psychology, communication theory, rhetorical theory, and computer science. Historians, such as Howard Gardner, relate these interdisciplinary advances to intensified work on communication theories and technologies coming out of World War II. A particularly important development in relation to writing research was the weakening of behaviorism's forty-year domination of psychology and the rise of cognitive psychology (discussed below).

Of course, the developing changes in psychology were not immediately reflected in research on writing. This research, during the 1960s and 1970s, exhibited some behaviorist tendencies, with numer-

ous analyses of stimulus situations (like writing assignments), responses (analyses of written products), and feedback (teachers' comments and assessments). Interestingly enough, despite these tendencies, few critics seemed to attack the empirical enterprise itself. Certainly, when Robert Zoellner proposed an explicitly Skinnerian writing pedagogy in 1969, it met with widespread critique. But, as Robert Connors noted, Zoellner's respondents (collected in a special section of *College English* titled "On Zoellnerism") did not extend their distaste for analogies between students and rats to a wider critique of behavioristic research of writing. Zoellner did not appeal to such research to support his pedagogy. In fact, several objections to Zoellner's advocacy of "operant conditioning" cited a lack of convincing evidence that it would work.

In contrast to compositionists generally, technical writing scholars and consultants drew more readily on recent psychological and educational research—particularly research on how to design texts for easiest comprehension (see review by Daniel Felker). At this point, it is not clear to what extent technical writing scholars and teachers saw themselves as researchers of writing practices or pedagogies, as evidenced by the small number of formal studies in Mitsuo Nakamura's review of the first eighteen volumes of the *Journal of Technical Writing and Communication*. By 1980, Paul Anderson issued a call for better technical writing research that reached beyond professional concerns.

Overall, Dwight Burton seems to have captured the mood of this period best when he described an "abiding uneasiness" with quantitative and empirical methods that he hoped would be outweighed by the increased commitment of the profession to research, by signs of growing diversity of topics and methods, and by gradual improvements in research skill. It is possible that stronger critiques of empirical writing research did not emerge at this period, either in composition generally or in technical communication, because relatively little research was being conducted. Or perhaps the type of research being conducted was not considered threatening to humanism. More trenchant critiques emerged with the advent of writing process research in the late 1970s. To set the context for a discussion of the epistemologies that might underlie writing process research, a brief review of behavioral and cognitive psychology will be useful.

Concurrent Developments in Psychology

In the context of the full history of psychological research, behaviorism was in many ways a temporary aberration (for more complete histories, see Gardner; Robinson; Sperry). However, behaviorists did exhibit some of the features of positivism that some later critics of writing process research mistakenly attribute to psychology, or to science as a whole.

Behaviorists, from John B. Watson to B. F. Skinner, believed that the behavior of humans and other animals could be described, predicted, and even controlled through repeated associations of a stimulus with a response, signaled by appropriate feedback. They rejected the traditional psychological agenda of describing or explaining subjective mental experiences. Whatever happened within an organism after experiencing a stimulus and before producing a response was out of the bounds of direct observation and therefore relegated to a black box that was assumed to contain only physiological reflexes. Behaviorists not only rejected introspection and subjective reports as valid forms of evidence about mental activity, but also forswore the attempt to theorize about or model thinking. As historian Daniel Robinson notes, in their utter rejection of “mentalist metaphysics,” behaviorists went well beyond the position of such empiricists as John Locke, George Berkeley, David Hume, John Stuart Mill, or William James. This “physicalism” and “operationalism” underscores the association of behaviorism with the tenets of logical positivism (for example, Berkenkotter).

Behaviorism was a very powerful school in American psychology, particularly from the 1930s through the 1950s, though it did not have exclusive reign—other approaches such as Gestalt psychology were also influential. The limitations and self-contradictions of behaviorism were not effectively challenged until the 1960s with the emergence of cognitive psychology (Gardner; Palermo).

An accessible, if somewhat epic, account of the rise of cognitive studies can be found in Gardner’s popular history, *The Mind’s New Science*, which describes contemporaneous developments in linguistics, psychology, computer science, and communication. Cognitive approaches in these fields each advanced somewhat different theories of mind or intelligence, and they adopted strikingly different empirical methodologies. But, as psychologist Roger Sperry argues, in advancing theories of mind at all, they represented a clear break with the behaviorist epistemology. A major change from behaviorism was in the ways cognitive researchers formulate models of thinking and learning, and draw hypothesis to test and refine them. Like pre-behaviorist schools of psychology, cognitive psychologists seek evidence and construct theories about the inner workings of the human mind and the sources of our commonalities and differences as human beings: our organization and use of knowledge, our limitations and creative capacities, and our abilities to learn, develop, accept, resist, and reflect on new ideas. This change was epistemological. By reintroducing a focus on mental activity, cognitivists also reconceive people as agentive beings who (individually and socially) use knowledge and strategies to cope with biological capacities and constraints in an ambiguous environment full of challenges and opportunities.

The Growth of Process Research: The 1970s and 1980s

It is well known that the late 1970s and early 1980s were the heyday of studies of the psychological processes used by individual writers. It is important to note that these studies did not precede, but rather followed on, the popularity of process pedagogies advocated by Ken Macrorie, Peter Elbow, James Moffett, and others. Process pedagogies may have been inspired by Janet Emig's ground-breaking study of twelfth grade writers (*Composing*) but they were not based on, and did not look for, validation in formal research. So few formal studies had been conducted on writing processes by 1978 that Charles Cooper and Lee Odell felt the need to issue an explicit call for such research:

what we have needed for decades and what we must have soon is a period of vigorous research on written discourse and the composing process. For too long a time, many researchers assumed that the most important kind of inquiry was pedagogical research . . . rather than finding out exactly what information and skills teachers and researchers ought to be concerned with. (xi)

In the same year, an interdisciplinary symposium at Carnegie Mellon University sketched out various theoretical approaches for studying cognitive writing processes (Gregg and Steinberg).

In the late 1970s and early 1980s, important studies of students' writing processes appeared by such researchers as Sondra Perl, Nancy Sommers, Linda Flower and John R. Hayes, and Carl Bereiter and Marlene Scardamalia. Useful critiques of empirical research topics and methods continued with book-length collections of new perspectives edited by Cooper and Odell (1978), Lee Gregg and Erwin Steinberg (1980), and Richard Beach and Lillian Bridwell (1984), and with an important meta-review of previous research by George Hilllocks (1986). The editors and authors of these volumes continued the earlier practice of applauding signs of progress and pointing to badly needed improvements in the focus and methods of research. The "Process Movement" growing out of the work of these and other scholars can arguably be credited with shifting writing research away from an exclusive focus on products, changing approaches to traditional topics like error analyses, and widening the scope of investigation both to processes and to contexts for writing.

At about the same time, Odell and Dixie Goswami extended this approach to non-academic settings in their 1982 study of workplace writing. In 1986, Lester Faigley called for broadening the scope of empirical research in the workplace to include more ethnographic methods ("Competing"). As a result, researchers of technical, scientific, and professional communication in this period also employed a wide variety of methods, including textual analysis and rhetorical

criticism, think-aloud protocols, ethnography, and quasi-experiments (for examples, see Doheny-Farina; Duffy and Waller; Rymer). Studies of writing processes of scientists and professionals in the workplace, studies of document production processes, as well as studies of text design and comprehension processes, supported calls for strategies like user-testing or including writers on product design teams. Similarly, studies of workplace practices and how they affect the creation, dissemination, and reception of written texts led to analyses of how such interactions can lead to disaster (as in the explosion of the shuttle *Challenger*) and to calls for changes in strategies both in the workplace and in technical writing classrooms.

The growth of interest in writing processes during this period reflected a concomitant dissemination of the growing interest in rhetorical theory, as many researchers recognized. Rhetorical theory draws attention both to communicative contexts and to processes by which arguments are formed. The traditional rhetorical canons (invention, arrangement, style, memory, and delivery) are themselves a model of oratorical process. Of these, invention seemed particularly consonant with studies of planning processes. Interest in writing processes also reflected the spirit of efforts to describe learning and problem-solving processes that were already well underway in cognitive psychology. The most clear statements of potential relationships among rhetorical theory, writing process research, and cognitive psychology came from Richard Young (“Arts” and “Paradigms”). The relationship was indirect—few writing researchers were formally trained in psychology and some saw no direct connection to their work.

For empirical researchers of writing, Herrington characterizes this period as one of growing maturity and confidence. But she notes that it is also at this point that criticism of the legitimacy of empirical study intensifies among compositionists. The earlier sense of humanistic uneasiness with scientism that Burton had described is now expressed in sharper and more explicit terms. Ellen Barton also observes a turning point in the mid-1980s in her review of CCCC Chairs’ Addresses. She notes that in his inaugural Chair’s address in 1977, Richard Lloyd-Jones celebrated the growth of scholarship on writing, but included a “gesture of suspicion” toward empirical work. His concern that empiricism was opposed to the values of humanism was not repeated by subsequent chairs—some of whom explicitly advocated empirical research—until Maxine Hairston explicitly denounced such methods in her 1984 Chair’s address. After this address, critique of empirical work remained overt and few chairs made inclusive gestures toward empirical work.

Critics of positivism and scientism at this time include some of the pioneers of process research, like Emig (“Inquiry”) and Perl, who were most critical of pre-test/post-test studies of writing pedagogies. Some

of Emig's concerns are expressed in Table 1, along with other quotes from this period. Emig clearly does not see her own "phenomenological" case-study method (or presumably other writing process work) as positivistic or scientific, as long as its gaze includes sufficient context. But increasingly other critics at this time (such as Patricia Bizzell) lump process studies together with more strictly experimental methods as sharing scientific vices or as falsely assuming scientific virtues. They reject the notion that human mental processes can be described, predicted, and explained in the same ways that science aims to describe, predict, and explain nature.

As illustrated by the criticisms quoted in Table 1, the prevailing sentiment at this time is not anti-scientific. Science may be well and good in its own domain, the critics say, but its methods simply are not applicable to human cognitive behavior. Unlike the natural world, we humans don't yield orderly generalizations. Research in the social sciences, and particularly research on writing, is deemed completely lacking in the qualities that hard, empirical natural sciences are assumed to require.

Connors' account touches on all these themes. He does not denounce the aims of science; he merely believes that they are unattainable for the social sciences. He argues that psychological research cannot be scientific because it has not been so far—because it has not shown the necessary signs of cumulation and because human behavior is too complex to be studied in the isolation that the scientific method seems to dictate. If the psychological theory on which writing research is based is not and cannot become scientific, then neither can composition, and efforts to make it so are foolish. One problem for Connors is that he bases his case on a critique of behaviorism, which he calls positivist, unexplanatory and theoretically sterile. To apply this critique to writing process research, he must tie it as closely as possible to behaviorism. However, Connors, unlike Berkenkotter, explicitly acknowledges that the true alignment of writing process research is with cognitive psychology, not behaviorism. This concession forces him to prognosticate that cognitive theories will not prevail against behaviorism and to hedge his bets by asserting that all empirical study of behavior is behaviorist or positivist in ideology.

A similar perspective is provided by Ralph Voss, who is perfectly willing to grant that "science enjoys a cachet unmatched by any other type of study in our society, a cachet deservedly earned in the laboratory sciences, but not in the social sciences" (6). Social sciences lack qualities that Voss considers essential to science, including complete direct access to natural phenomena, strict objectivity, and guarantees of reliability and precision. Studies of writing processes by researchers like Emig (*Composing*), Perl, and Flower employ unnatural tasks, unnatural settings, and intrusive procedures; provide only incomplete data; and lack objectivity. Like others taking this perspective (includ-

Table 1**Critiques of Empirical Research in the Late 1970s and Early 1980s**

Year	Author	Criticism
1982	Emig	<p>"[F]or the positivist, there is no field, only focus, only the phenomenon to be examined a-contextually, with no consideration or acknowledgment of setting. Such focus is understandable in light of the positivists' ambition to claim universality or at least generalizability for the statements they make about phenomena; that x is true for all times, in all, places, under all circumstances" ("Inquiry" 66).</p>
1983	Connors	<p>"[W]e should stop fooling ourselves about the nature of our field. We are not a science and will not be one in the foreseeable future, and we must beware lest our understandable desire to share in the cachet of science leads us to a barren enactment of imitation science" (19).</p> <p>"At the heart of the physical-science experiment is the assumption that certain elements of the subject can be chosen, disembedded from their naturally-occurring context, and manipulated, and that the resultant changes can be ordered to a formal system of measurement. This classic experimental model has not, however, resulted in much genuinely cumulative knowledge when applied to human processes. This lack of cumulation is due primarily to the complexity and interdependence of mental processes, which make disembedding of discrete phenomena difficult and tend to make experimental conclusions in psychology isolated and sterile" (12).</p>
1983	Voss	<p>"[R]esearch methodology in the social sciences is not empirical in any strict sense and therefore not capable of generating the kind of objective and precise resultant knowledge possible in the laboratory sciences" (6).</p> <p>"Emig and her many successors have tried to avoid any sort of prompting or other intervention, in order to be able to record evidence that derives as much as possible solely from the students as they deal with the writing task at hand. Trying not to intervene, however, is not the same as avoiding actual intervention. The case study situation itself, the tape recorder, and the unnatural business of 'composing aloud' create</p>

Table 1 (cont.)

Critiques of Empirical Research in the Late 1970s and Early 1980s

Year	Author	Criticism
1983	Voss (cont.)	<p>contextual variables that make empirical objectivity in any 'pure science' sense impossible" (6).</p> <p>"There is that about writing which is essentially vitalistic, having to do with aesthetics, creativity, talent, memory, or genius. . . . These matters are functions of the writer's intellect interacting with experience and they come into play at both conscious and unconscious levels. Such matters are extremely difficult, if not impossible, to bring under the kind of scrutiny which will give us <i>reliable</i> information in the best scientific tradition" (10, emphasis in original).</p>
1988	North	<p>"Most of us have some knowledge of the experimental method from the hard sciences, where we'll even grant that it makes some sense. But we'll have also have seen it, in a form that we may well regard as repugnant, in the social and behavioral sciences, particularly in education. Composition's experimentalists . . . operate from an essentially positivist position. They believe that the world is an orderly place. . . . An experimental community aims to sort out the principled cause-and-effect relations—in this case those that account for human behavior concerning writing—from the apparent chaos of human experience" ("Research" 16).</p> <p>"Anyone who reads [Emig's] study comes away remembering not hypotheses tested or generalizations applicable to some class of human beings definable as 'twelfth graders' but her sensitive compassionate portrait of one writer, Lynn, presented against a backdrop of seven other student writers" ("Research" 17).</p> <p>"[W]hen Emig met with her eight subjects, she did so at times and places of her choosing. When they wrote, they did so on her assignments. And while they did some of this writing, she was willing, with some reservations, to use deliberately intrusive techniques, asking her subjects to think aloud for a tape recorder with her present as a prompter. To some extent of course, such measures are a function of the research problem. . . . At the same time, though, they belie the</p>

Table 1 (cont.)**Critiques of Empirical Research in the Late 1970s and Early 1980s**

Year	Author	Criticism
1988	North (cont.)	mode's positivist roots, suggesting not only that there may be a significant order in the writer's composing apart from the writer's experience of it but that the order will remain constant even when the writer is removed from the situation in which that writing ordinarily takes place" ("Research" 17-18).
1990	Foster	"I do believe that the inherent sense of ambiguity and complexity which marks the humanist attitude to knowledge influences those who study individual writers, making them wary of the very kind of [scientific] claim Hillocks wants them to be able to make. What we think we know about writing ultimately escapes positivistic or scientific ways of speaking: it is neither falsifiable nor cumulative, but subject always to occasion, place, and the infinite variability of human thought and utterance" (152).

ing David Foster), Voss denies that writing researchers employ scientific methods and asserts that they cannot—that by its very nature, writing eludes the scientific grasp.

Stephen North's position ("Making" and "Research") is largely the same: "hard" sciences make sense, but writing research is not scientific and cannot become scientific. Attempts to make it more so are futile because of the nature of writing and the human experience. North goes to great lengths to assign researchers to specific methodological camps, separating out those he calls experimentalists (sentence combiners and assessors) from formalists (Flower) and clinicians (Emig). These categories allow North to express more sympathy for Emig's work than for the others on the grounds that her portrayals of her study participants are so holistic and "compassionate." But North questions Emig's ideological integrity because of the intrusiveness of her methods and her assumption that writing processes are orderly enough to be described.

These critics are consistent in imagining science as an efficient, bloodless, and even antiseptic apparatus to which they will accord a measure of respect, as long as it stays away from the human mind. In this caricature, science proceeds perfectly deductively from complete and explicit theories and methods. The methods are clean and precise, apply in straightforward fashion to the data, and produce definitive and universally applicable results. In contrast, humanistic

methods are imagined to be messy and complex, as well as compassionate, natural, and sensitive. As I argue elsewhere, these critiques reflect not simply a mischaracterization of how empirical research proceeds, but also an unwarranted essentializing of a researcher's ethos or character on methodological grounds (Charney, "Empiricism"). Methodological choices are taken as reliable indicators of morality, personality, and epistemology. Quantitative researchers who reduce people to statistics cannot possibly appreciate the richness and complexity of an individual human life, while qualitative researchers who write insightful and vivid descriptions of people must be sensitive and caring and therefore more trustworthy as observers. I argue that the methodology of the study and the discourse conventions of research articles provide too little information to warrant this kind of judgment for any researcher, using qualitative or quantitative analyses.

By the late 1980s, enough doubts had been raised by these and other critics about the propriety of humanists conducting empirical studies that even some empirical researchers in composition felt obliged to broadcast their true allegiance to humanism. For example, Connors and Andrea Lunsford can only bring themselves to publish their quantitative study of errors in college student writing by taking refuge in the down-home personae of "Ma and Pa Kettle," and by replacing the conventional headings for experimental reports (methods, results, discussion) with Latin oratorical divisions. As they worked on the project, they began "to feel less and less like the white-coated Researchers of our dreams and more and more like characters we called Ma and Pa Kettle—good-hearted bumblerstriving to understand a world whose complexity was more than a little daunting" (395). Their own idealized image of science was so at odds with their experience of struggling to create plausible analytic categories and interpret their results that they assumed that what they were doing couldn't really be considered scientific.

It is interesting that these critiques emerged, not while writing research was most positivist and behaviorist, but rather when it began reflecting a more cognitive approach, which arguably draws on a more humanistic epistemology. What then accounts for the critics' squeamishness at the prospect of using scientific methods to understand human behavior? Perhaps it is that, in rejecting the physicalist tenets of behaviorism, cognitive psychology advances on mental processes and dips its profane fingers into the deep well of unconscious cerebration.

The expression (via Henry James) is Romanticist. And indeed, the terms of the critiques of this period are quite consistent with adherence to Romanticist values. The Romanticist prefers the natural to the artificial, the essential to the apparent, the tacit to the explicit, the unique to the universal, the anarchic to the orderly, the fleeting to the enduring, the intuitive to the rational, and the subjective to the objective (Perelman and Olbrechts-Tyteca). The critics of process research appeal explicitly to the values associated with Romanticism

as if their superiority were self-evident. Emig (“Inquiry”) and North (“Making” and “Research”) are critical of efforts at generalization. Connors, Voss, and North each go beyond Emig’s call for contextualization to criticize any form of artificiality or intrusion in students’ activities—as if natural writing only occurs unprompted under conditions of the writer’s choosing. Connors, North, and Foster each say that writing is too complex a subject for science—which can only cope with orderly physical phenomena. Foster and Voss see writing processes as too chaotic, too occasion-bound, too intuitive, too vitalistic, too infinitely variable to be captured and dissected. Voss even invokes the ultimate Romantic notion, genius.

If a certain amount of Romanticism underlies the critiques, it is understandable why earlier empirical writing research, work that made few claims about the mind, did not evoke such an impassioned response. Some early advocates of process-oriented research understood that it would not be welcomed by those with a Romanticist outlook. For example, Young recognized that the “neo-Classicist” perspective allied with process research had a countervailing emphasis in composition, namely a neo-Romanticism that was reflected not only in current-traditional pedagogies, but also in expressivist pedagogies (“Arts”). This is not to say that the critics I have been discussing associated themselves with expressivism but rather that, like some expressivists, their *topoi* are Romanticist. I speculate that what motivated this criticism was a desire to preserve the mystery and creative genius underlying writing processes—on the debatable assumption that explicit description of such processes is inevitably oppressive and deadening. Some expressivists make a similar case that writing cannot be taught effectively or humanistically using explicit guidelines or heuristics.

This Romanticist form of critique did not extend to studies of technical and professional writing. As Miller described the situation in 1979, technical writing was closely identified with the imagined goals and epistemologies of science; it was perceived as positivistic and functional, rather than as creative and humanistic. For researchers of technical writing to use scientific methods, then, would not be considered a problem in the province of humanists. But Miller’s call for a humanistic, rather than a positivistic, rationale for technical writing signaled a growing impetus to reexamine whether any form of discourse can be isolated from humanist concerns. Challenges to the long-held notion that technical communication amounted to simple information transfer opened the door to studies of the rhetorical character of scientific and technical discourse (see Halloran for a summary of rhetorical analyses during this period). At this point, the move toward humanism in technical communication did not seem antagonistic to scientific approaches *per se*. In fact, as I argue below, the resulting close studies of scientific discourse and the processes by which it is produced and shared contradict some of the idealizations of science that underlie the Romanticist critique.

The Demonization of Science: The 1980s and 1990s

In the late 1980s and 1990s, it is hard to find compositionists arguing that writing process research cannot be scientific. Instead, post-modernist radical critics generally take a different tack—that science itself is bogus or morally flawed and ought to be abandoned or changed even as applied to the natural world. That is, the conclusion that science must be rejected remains, but the warrants change. The claim is not that writing research cannot become scientific, but that if it does, it will become as corrupt and oppressive as science. This form of critique is illustrated by the quotes in Table 2.

Table 2
Critiques of Empirical Research in the Late 1980s and 1990s

Year	Author	Criticism
1988	Berlin	"[T]he rhetoric of cognitive psychology refuses the ideological question, resting secure instead in its scientific examination of the composing process. It is possible, however, to see this rhetoric as being eminently suited to appropriation by the proponents of a particular ideological stance consistent with the modern college's commitment to preparing students for the world of corporate capitalism" (482).
1991	Lay	"[Feminist critiques have] expose[d] the scientific positivist and androcentric bases for scientific objectivity" (349), but "feminist traits are inherent in contemporary ethnographic methodology" (360).
1995	Dombrowski	"[T]he privileging of scientific knowledge in our society is not neutral or innocent because it disprivileges other sorts of 'knowledge' such as intuitions, traditions, and personal experience" (172). "[T]reating people as objects of study rather than as people implicitly elevates the investigator over the people studied, who are tacitly debased" (172).
1995	Flynn	"[B]eliefs in the objectivity of the scientist and the neutrality of scientific investigation serve the interests of those in positions of authority and power, usually white males, and serve to exclude those in marginalized positions. Identification by women or by feminized fields with the sciences and social sciences, therefore, may necessitate

Table 2 (cont.)**Critiques of Empirical Research in the Late 1980s and 1990s**

Year	Author	Criticism
1995	Flynn (cont.)	association with discourses that ignore issues of concern to those in marginalized positions and that arise out of epistemologies antithetical to their needs and interests" (358).
1996	Duin and Hansen	"[F]or those conducting writing research in a variety of nonacademic settings, [empirical] research designs may not be desirable. A focus on scientific methodology is based on positivist assumptions that value truth and taxonomy: These may be inappropriate means to explore constructive meaning making. Ethnomethodological models from anthropology and sociology . . . are better suited to gain insight, not truth, about complex social behavior. Further to adhere to experimental methodological standards entails control of the many variables present in the sites of nonacademic writing research, ignoring the social complexity and dynamism of these sites. The variables are too many, too fluid" (4).

The change in tack was signaled by James Berlin, who directly linked empirical work from the cognitive perspective to "the technocratic science characteristic of late capitalism" (484). Berlin did not address the question of whether or not such research produces valid or useful information about students' writing behaviors—he was more concerned with how research is corrupted when it is fed into the maw of institutionalized education. Berlin also stopped short of accusing process researchers of intentionally promulgating injustice, but rather claimed that the supposed ideological neutrality of their theories either ignores or condones the political and social injustices in which it is inevitably implicated. However, Berlin's charge certainly implies that continued use of supposedly neutral language or methods in empirical research is tantamount to an admission of guilt. This critique of science and the tactic of ascribing guilt by association is not confined to compositionists—the critiques of compositionists and scholars of technical and professional communication are now difficult to distinguish. For example, Flynn, Mary Lay, Blyler, and Paul Dombrowski all attack the presumed neutrality of empirical researchers—or go further to characterize science as inherently sexist, asserting that only the impressionistic, narrative accounts produced by certain forms of ethnography can express feminist insights.

My goal here is not primarily to challenge these claims (which I do in “Empiricism”), but to speculate on why this more radical form of critique supplanted the earlier position that writing process research cannot be scientific. In fact, the shift may not be as dramatic as it appears; at its root this radical critique also grows out of a Romanticist value hierarchy.

The notion that radical critics have Romanticist values may seem surprising at first because these critics are likely to deplore the Romanticist flavor of the earlier attacks on writing process research. Today’s critics align themselves with a broader movement to change the focus of research from individual subjectivities and behaviors to the social and cultural forces (such as class or gender) that help to shape perceptions and actions. Because of a growing interest in social factors in the late 1980s, attacks on both cognitive research and expressivist pedagogy intensified. In the same article in which he denounced cognitive rhetoric, Berlin also criticized the ideological commitments of expressivism, which he saw as merely democratizing an elitist Romantic focus on the individual. For Berlin, expressivism, like cognitive rhetoric, is liable to be co-opted by the capitalist state that valorizes individualism. This theme is echoed in the recent critiques of functionalist or instrumentalist workplace research by Blyler and Herndl. Interestingly enough, one literary critical theorist, David Shumway, allows for the possibility that writing research can be dissociated from its potential misuse. In a review of Berlin’s critiques and Linda Flower’s responses, Shumway absolves Flower of naive empiricism and extends provisional dispensation to cognitive rhetoric as long as it renounces instrumentalism. Of course, many of those who called for the empirical study of the social contexts of writing (including Faigley, “Competing” and “Nonacademic”; and scholars cited by Herrington) did not aim to disparage cognitivist and expressivist approaches on moral or political grounds—but simply deplored the relative neglect of social factors. Many treated the social and cognitive aspects of writing as interrelated.

But rejecting the study of individuals, even rejecting the notion of an autonomous rational self, is not necessarily a rejection of Romanticist values. As Chaïm Perelman and Lucie Olbrechts-Tyteca observe, Romanticist values can apply to collective as well as individual self-definition:

When the Romanticist contrasts the will of the multitude and the individual will, the former may be conceived as a manifestation of a superior will, that of the group, which will be described as a unique being, with its own history, originality, and genius. (99)

Some critics adopt this kind of essentialism, declaring that cultural, ethnic, economic, and gender identifications have characteristic or authentic natures that override any commonalities across humanity. This form of essentialism is reflected in the assumption that research

methods directly reflect personality, morality, and ideology. For example, in the comments in Table 2 by Lay, Dombrowski, and Flynn, only subjectivist forms of ethnography are allowed to be consistent with feminism because narrative descriptions and subjective interpretations are women's ways of knowing while quantitative analysis and rational argumentation are masculine. Similarly, some critics grant the qualities of intuition and compassion only to humanists or feminists, while scientists and corporate managers are assumed to be bent on subjugating the powerless.

But individualism and collective essentialism are not the only forms in which Romanticism can express itself. A Romantic anti-essentialist would declare that the characteristics of individuals or groups are chaotic or in flux and cannot be represented adequately by any form of generalization. This perspective draws on Romantic values of anarchy, fleetingness, spontaneity, irrationality. The comment from Ann Hill Duin and Craig Hansen (Table 2) taps several of these Romanticist values. They describe workplace writing in terms that previously had been applied to the individual psyche: it is too complex, dynamic, and fluid to be captured through the methods of scientific research. As Karl Popper observes, conflating values of anarchy and spontaneity with facts about existing conditions can lead to uncritical valorization of whatever now lacks stability and power and to sweeping denunciations of all institutional structures or disciplinary methods as hegemonic and oppressive. In writing research, the rejection of the possibility of generalization may underlie the rejection of experimental and quantitative methods and of efforts to systematize qualitative methods. For example, Herndl and Blyler resist "objectivist" efforts toward triangulation of data sources in ethnographic studies. Finally, this valorization of the particular over the general may explain the recent attractiveness for some writing instructors of the "situated learning" movement that, in its extreme form, promotes hands-on learning of particulars to the exclusion of explicit abstract generalizations (for example, Freedman). (For a recent critique of situated learning pedagogies, see Anderson, Reder, and Simon.)

A related factor underlying the radical critique of science is a certain form of social constructionism. In the 1980s, inquiry into the nature of scientific practices burgeoned under the influence of social constructionism and a renewal of interest in sophisticated rhetoric. Textual analysis and observations of scientists at work revealed science to be a thoroughly argumentative and interpretive enterprise. (For a more detailed review of this work, see Charney, "Empiricism.") While writing, scientists attend to rhetorical issues of selecting evidence and adapting to audience (Rymer); while reading, they weigh the reputation of the author against the quality of evidence provided and their own experience and interests (Charney, "Study"). Rather than assuming that natural phenomena can be easily identified and extracted, scientists spend much of their time making arguments of

existence and definition (Fahnestock and Secor). The sciences employ communicative strategies that subject methods and results to intensive critique through shared use. It is just this social-epistemic character of science—not the alleged neutrality or disinterestedness or positivism of individual scientists—that Karl Popper defines as scientific objectivity.

Given that many critics of science invoke Thomas Kuhn, it is worth emphasizing that he and Karl Popper both deny that science is inherently positivist, though they disagree in other respects. Kuhn sums up their agreement on this point as follows:

Sir Karl and I are united in opposition to a number of classical positivism's most characteristic theses. We both emphasize, for example, the intimate and inevitable entanglement of scientific observation with scientific theory; we are correspondingly sceptical of efforts to produce any neutral observation language; and we both insist that scientists may properly aim to invent theories that *explain* observed phenomena and that do so in terms of *real* objects, whatever the latter phrase may mean. (2, emphasis in original)

The growing body of scholarship in the rhetoric of science clearly suggested that the *logocentrism* (the privileging of rational claims about data) that was assumed to determine scientific practice was only part of the story. But giving up the assumption that scientists are neutral does not entail a new assumption that they all share some particular suspect dogma. Scientists might have been portrayed as people (like the rest of us) who represent a whole panoply of value systems, but who attempt to coordinate their efforts by using shared “objective” methods. (For an accessible and even-handed account of the motives and consequences of efforts to develop objective methods in academics and the professions, see Porter.) Why then do radical critics succumb to the prejudice that impersonal scientific language necessarily reflects a reckless disregard for social justice?

As I argue more fully elsewhere, some critics adopt such a strong form of social constructionism and anti-realism that it might be called hyper-constructivism. They interpret the probabilistic and rhetorical character of scientific discourse as the failure of science to be scientific. They insist that, to call itself a rational and progressive endeavor, science must always proceed in a strictly orderly and rule-governed fashion. But the course of science cannot be completely accounted for by an explicit set of logical standards. So hyper-constructivists conclude that empirical data and rational argument are irrelevant to what really happens in science. They see science as an extravagant and expensive fantasy, a mere construction of the scientists themselves that is intrinsically no more valid or reliable than any other account of the world. They then explain the power and prestige of science by implicating it directly in political oppression: scientific arguments carry weight only because scientists are in league with other power-holders.

I have not seen hyper-constructivism stated this baldly in the writing literature—and I am not suggesting that any of the scholars I have examined holds such an extreme position. But such positions have been advanced by radical critics in philosophy, sociology, and anthropology, fields to which writing researchers have increasingly looked for methods and ideologies. (For an extended response to radical hyper-constructivism in anthropology, see Watson.)

Hyper-constructivism leads to sweeping generalizations about the character or ethos of researchers in general—the overly negative characterizations of experimentalists as well as the overly glowing depictions of ethnographers. It seems that the stronger the relativism one adopts with respect to claims about the world (i.e., the more one rejects logocentrism), the more one may be inclined to essentialism about the character of people making claims about the world. In other words, the more one flees logocentrism, the more one may be compelled towards an equally unsatisfactory ethocentrism.

Implications

This analysis suggests some troubling consequences of the successive changes in attitude toward empirical research on writing over the past thirty years. While scholars in technical communication bypassed earlier efforts in composition to discourage empirical research in the workplace or in the classroom, radical critics in technical communication like those in composition now explicitly call such research into question. In rejecting logocentrism, the privileging of claims appealing to logic and empirical evidence, radical critics may be swinging too far towards ethocentrism—a fixation on claims to rightful authority as defined by identity and ideology. The trouble arises when ethocentrism is combined with assumptions that only particular value systems are moral—whether Romanticist or Classicist or whatever. Radical critics who appeal only to Romanticist values may be setting up such powerful oppositions between the humanities and the sciences and between Classicist humanists and Romanticist humanists, that they may dissipate our ability to conduct useful research or effect progressive social action.

Perelman and Olbrechts-Tyteca represent Romanticist and Classicist loci as interdependent systems of values, a shared intellectual heritage for any form of inquiry. It is no more feasible for today's critics to suppress "classicist" loci than it was for logical positivists to stop scientists from drawing on intuitions and values. Neither Romanticism nor Classicism is fundamentally true or false, moral or immoral. Both outlooks are legitimate humanist perspectives—and both play a role in scientific discovery. Both may be and have been used to foster political and social justice. Both are capable of misappropriation by

ideological tyrants. It is time to stop conflating methods and values. It is time to admit that while facts and methods may never be represented neutrally, the values associated with them are not preordained.

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