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Disciplinarity, Crisis, and Opportunity in Technical Communication

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by

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TABLE OF CONTENTS

ABSTRACT

In this thesis I argue that technical communication as an academic curricular entity has struggled to define itself as either a humanities or scientific discipline. I argue that this crisis of identity is due to a larger, institutional flaw first identified by the science studies scholar Bruno Latour as the problem of the "modern constitution." Latour's argument, often referred to as Actor-Network Theory (ANT), suggests that the epistemological arguments about scientific certainty are built on a contradiction. In viewing the problem of technical communication's disciplinarity through the lens of ANT, I argue that technical communication can never be productive if it seeks to locate itself within any of the institutional camps of the modern university. Rather, I contend that technical communication is a strong example of a nonmodern discipline, and that its identity crisis can be utilized to take one step towards rewriting the institutional debate over scientific certainty.

DISCIPLINARITY, CRISIS, AND OPPORTUNITY IN TECHNICAL COMMUNICATION

Introduction

Over the past several decades, the field of technical communication has experienced an identity crisis. Scholars in the field, as well as faculty in related fields, have wondered what it means when "technical communication" invokes more than reference to the few service courses with which it has been historically associated. In this sense, technical communication's crisis is a product of continued growth within preexisting departments, most notably English (Porter & Sullivan, 2007), but also as autonomous programs at various universities. Specifically, questions have been raised regarding its disciplinary home (or homelessness), its philosophical foundations, its attunement to industry and the workplace, its merit as a distinct field, and a myriad of other issues that have coincided with the increasing number of technical and professional communication programs nationwide.[1]

As many scholars have pointed out, technical communication programs often straddle an uneasy line between competing departments and their interests. On one hand, technical communication is a field with strong, though by no means exclusive, roots in

[1] Data collected by Meloncon (2009) indicated that the number of undergraduate programs in technical and professional communication increased by 22.5% from 1997 to 2007.

English departments.[2] On the other hand, technical communication classrooms are often filled with students and subject matter from departments of Engineering, Public Health, and Computer Science. This tension certainly has a direct effect on the allocation of limited university resources and hire-lines, but it also plays a significant part in shaping the merit of technical communication among scholars. In her landmark essay on the topic, Carolyn Miller (1979) encapsulated this controversy as one between seeing technical communication as merely a "skills" course, or as having humanistic and rhetorical potential. She described the former viewpoint, held by both her colleagues in English and those working in STEM fields, as "the result of a lingering but pervasive positivist view of science" (p. 610). She instead argued for a new technical communication pedagogy that did not concede this covert acceptance of the "windowpane" theory of language, whereby knowledge about the physical world is transmuted through the conduit of unambiguous communication. Instead, Miller proposed that technical communication was an inherently rhetorical activity, and that its merit in the humanities was tied to its relationship to rhetoric theory.

Though questions of disciplinary identity did not begin with Miller (1979), the essay spurred technical communication scholars to begin exploring and amending the way they and the larger humanities community saw the field. According to Smith (2004), it was the second most cited work (book or article) in technical communication from 1988-1997 and from 1998-2002, and also triggered an article-length treatment of its influence on the field (Moore, 2006). Articles regarding the role and authority of technical communication published since Miller (1979) are often still attempts to defend

[2] It should be noted that housing technical communication in English departments is an American phenomenon (Alred, 2001; Connors, 1982).

the field from being pigeonholed as a mere "service" to STEM and subsequently marginalized within English (Smith, 2003; Tebeaux, 2004; Porter & Sullivan, 2007; Rentz, Debs, & Meloncon, 2010). While these texts draw important conclusions about the history and fate of technical communication as it is affected by outside forces (i.e. positivism, the humanities, English departments, STEM departments, university administration), they say little about technical communication's capacity to change the landscape those forces inhabit.

As Miller (1979) noted, that landscape is about more than just university resources. Rather, it is also a complex intellectual climate that responds to ongoing conflicts of epistemology and ontology. As Moore (2006) explained:

> Because they have typically been marginalized in the academy, professors of technical communication have had to compete aggressively for cultural capital and for the right to distribute the kind of cultural capital that universities produce (e.g. degrees, works of scholarship, good reputations). (pp. 167-168)

Miller highlighted this by arguing that technical communication's fate in English was tied to a covert acceptance of positivistic views of science when determining cultural capital—both in the humanities and STEM. This was further punctuated by the now infamous "Science Wars" of the 1990's, when arguments between proponents of relativistic sociology (and postmodernism in the humanities) and scientific realists reached a fevered pitch (Segerstråle, 2000). The continued entrenchment of the humanities and STEM as opposed ideological camps has dictated much of the university landscape that technical communication inhabits in the 21st century.

Recently, though, scholars dissatisfied with this rupture in the university have argued against the pervasiveness of a humanities/STEM divide. Specifically, Bruno Latour has garnered attention as a proponent of Actor Network Theory (ANT), which proposes an ontological basis that renders ideological differences between the humanities and STEM obsolete (Latour, 1993). Though controversial, many scholars in technical communication have been quick to identify ANT as an asset to their research for obvious reasons. Latour's popularity notwithstanding, how ANT, as one response to visible conflicts between the humanities and sciences, will alter the university landscape for technical communication is yet unclear.

It *has* become clear to scholars of technical communication, though, that the field faces a crisis of identity (and merit) owing to its unique positioning between two institutional camps. These concerns have led many to speculate about the future of technical communication in or out of English departments. This thesis is a response to the question of technical communication's identity, one that has always led scholars down one of two paths: towards the humanities or the sciences. While current arguments tend to accept the larger institutional and philosophical conditions of the university, and craft reactions to them based on the perceived best interests of technical communication, this thesis calls into question the institutional premises that have thus far defined technical communication. In the past, arguments have tended to center on the disciplinarity and self-preservation of technical communication programs in response to pressures from the humanities and sciences. Essentially, efforts to explore technical communication's disciplinarity have sought to couch it within the humanities, within English, and/or within STEM. In contrast, I argue that technical communication can never be adequately

positioned within the humanities or the sciences, and also that it cannot continue to straddle an uneasy line between both. Rather, I contend that Latour offers a new lens through which to see the larger problem of the modernist academy as central to the local problem of technical communication. In this way, technical communication is positioned as a new response to what Latour saw as the crisis of modernity, whereby the work of communicating about technical subjects is only conceivable through the competing lenses of the humanities or sciences. Finally, rather than looking to the humanities or sciences for cultural capital, I argue that technical communication is in a unique position to utilize ANT towards rewriting the institution that has consistently relegated it as "service."

Locating Technical Communication

One complication to locating technical communication is in its naming. Within major disciplinary journals, what is here referred to as "technical communication" is sometimes pointed to as: professional communication, professional and technical communication, business and technical communication, professional writing, and technical writing. More easily discernible but still implicated titles also include: business writing, science writing, and (occasionally) writing for/in new media. The nuances connected to each individual referent are often quite intentional and explicit within scholarship,[3] and at other times one is used as an umbrella term for the lot to implicate the field that might be said to encompass them all. In the case of this thesis, I use "technical communication" in the latter sense, as a catch-all for the above mentioned programs that seem to coalesce around related topics, goals, and research.

[3] Sullivan and Porter (1993) offer a more detailed explanation of possible differences between the terms. For instance, "technical writing" is said to express that students require specialization in a non-English, technical subject, whereas "professional writing" does not, and instead signifies a closer link to the humanities tradition.

Additionally, Sullivan and Porter (1993) have argued that technical communication can come to signify multiple identities. They offer that these identities include a "research field," a "workplace activity," and an "academic curricular entity" (p. 392). Though perhaps obvious and not unlike other academic fields, it is sometimes the case that "technical communication" (or one of its aforementioned variants) is used only to refer to one of these applications. Hereafter I use it to call on technical communication as a research field and academic curricular entity, as Sullivan and Porter have described it. Though technical communication as a workplace activity is clearly implicated in the other two, this thesis addresses the *academic* institution of technical communication and its relationship to others in the university specifically.

As previously mentioned, technical communication has most often had a home in English departments. According to Connors' (1982) historical accounting of the development of American technical communication, programs in Engineering first solicited English programs for service courses after the Morrill Acts of 1862 and 1877, though both parties lacked interest in the other's academic agenda. Additionally, Longo (2000) has shown that technical communication textbooks written by English scholars first began cropping up after WWII, shortly following the publication of Crouch and Zetler's *A Guide to Technical Writing*, which was likely the first. Longo furthermore noted that:

> because these authors sought to combine a traditionally nonscientific knowledge of English with a science-based engineering knowledge, the technical writing textbooks they produced bore traces of historical tensions between these two

> types of knowledge and contemporary efforts to reconcile liberal arts with science. (p.115)

As a product of that disciplinary tension in the years that followed, technical communication would become solidified, along with composition, as the service end to the English curriculum.

As was introduced previously, this tension persists into contemporary debates about technical communication's position in the university. Over a decade after Miller (1979) argued for technical communication's merit in the humanities, Sullivan and Porter (1993) claimed that it still suffered from a "nonliterary" identity in the eyes of English Studies scholars. Still, they argued "for a space for professional writing as a distinctive field and as a separate-but-equal component within the department of English" (p. 391). More recently, Porter and Sullivan (2007) noted that "not much has changed in 13 years. In general, professional writing still occupies the same (queasy) space it did in 1993" (p. 15). In response, they argued that, although it is not recommended for programs without sufficient resources, the ideal location for technical communication is outside of English, as a separate writing program with a major.

Contemporary debates about technical communication's merit in the humanities have also remained lively within the field, though notably absent outside it. Most scholars tend to agree that, by and large, technical communication is ignored by the larger humanities community (and, as noted, often scorned by English). In fact, according to Rentz, Debs, and Meloncon (2010) the American Academy of Arts and Sciences has institutionally snubbed technical communication outright. As they showed, the Academy's (2009) "*Humanities Indicators*, a prototype set of statistical data about the

humanities in the United States" (as cited in Rentz et al., 2010, p. 282), did not include technical communication in its results.

Though largely ignored by the community of programs that makes up the humanities, many scholars within the field have argued for the acceptance of technical communication as a humanities discipline. substantial treatment of the topic was undertaken by Dombrowski (1994), where attention was called to the importance of the "human" aspects of technology and technical communication. Like Miller (1979), Dombrowski's (1994) collection challenged positivistic conceptions of knowledge and reorganized technical communication in a rhetorical, and therefore humanistic, light. Di Renzo (2002), rather than looking specifically to rhetorical theory for evidence of technical communication's belonging in the humanities, drew on Sir Francis Bacon's educational ideas. Di Renzo believed that because Bacon synthesized a humanistic education and public policy/work, he makes a strong ally and justification for technical communication in the humanities. As he argued, "updated and revised, Bacon's proposal can be a useful model for creating and defending professional and technical writing programs within the humanities" (p. 47). Additionally, Knievel (2006) has argued that unresolved debates about technical communication's place in the humanities are actually due to the fact that "humanistic" is an ill-defined and politicized term in its current instantiation. He argued that humanism informs the institution of the humanities, but drew attention to the ways that the two are not identical, particularly in their treatment of technology. While the humanities approach technology with a humanistic paradigm that is skeptical and critical, Knievel argued that the American Humanist Association's *Humanist Manifestos* "encourage technical communications scholars and practitioners to

reconceptualize the relationship between technology and humanity by imagining a humanistic character that more authentically communicates our discipline's fundamental relationship to technology" (p. 79). In this way, Knievel believed that technical communication cannot ever reconcile with the humanistic paradigm the humanities subscribes to, but that it still holds humanistic merit by virtue of its role in the development and use of technology. Lastly, on the curricular and institutional level, Allen and Benninghoff's (2004) survey of technical communication programs argued that current programs *are* actually meeting the challenge of embracing a humanities perspective. Unlike Knievel (2006), Allen and Benningoff (2004) dichotomized the goals of the humanities and technology, and argued that programs excel with a humanities perspective when the two are kept "in balance." Their results indicated that rhetorical principles are a prominent fixture in most technical communication programs, and therefore an indication of a strong humanities perspective.

As already described, Porter and Sullivan's (2007) most recent remarks on the future of technical communication called for programs with the resources to branch out from English into autonomous writing majors. Many programs have done specifically that, and so shifted the conversation about whether technical communication *belongs* in English to whether technical communication *needs* English. Despite the fact that an overwhelming majority of technical communication programs still reside in English departments today (Yeats & Thompson, 2010)—and most scholars agree that this will continue for some time—many programs no longer do. As Maylath, Grabill, and Gurak (2010) argued in their review of four technical communication programs in the United States, the future of autonomous programs appears more stable, as autonomy allows them

to more easily respond to technology and workplace changes, as well as compete more readily with programs outside the United States. Additionally, they argued that faculty recruitment tends to be smoother, and the development of substantial research agendas is more likely. Though they noted that hybrid programs (not "owned" by one department, but shared between several) allow more naturally for interdisciplinary pursuits, they also warned that, when programs are met with the stereotypical apathy or hostility of other faculty, it can significantly weaken the program.

Locating technical communication is no small task, owing particularly to its lack of a stable definition and home. Sullivan and Porter (1993) made this point as well, and tied it to the collective experiences of the disciplinary community: "Reaching one definition usually runs counter to our collective empirical experience of technical and business writing as diverse multidisciplinary fields" (p. 392). Therefore, I am not seeking to define *the* location for technical communication, but rather to suggest a new lens through which to see its crisis of identity, and perhaps its future trajectory. However, as Sullivan and Porter continue, "Yet, to have a field, we need some sort of shared ground or identity; we need to be able to point to it and say, 'There it is'" (p. 392). Therefore, I contend that the "shared ground" of technical communication is in the theoretical and institutional disputes that have sought to locate it somewhere amidst the chaos of larger forces, either as a program in the humanities, or a program in science and technology, as a service, as a full-fledged research field, as an asset to English, a reluctant ally, or a new department and institutional identity altogether. It is this collective reaction to the "outside"—the uneasy alliance it has forged between the humanities and STEM—that has defined the "inside" of technical communication in recent history. Though thoughtful

cases have been made for technical communication's place in the humanities, many scholars in the field still attest to a stark contrast between the way the field sees itself and the way it is seen from the outside. Viewed this way, regardless of whether technical communication provides convincing claims to its humanity, the epistemological and institutional prejudices it encounters have rendered them null. Even within English, where technical communication has historically resided at the curricular level, the field has faced second-class treatment. For some programs, the answer to this problem has been to separate from English departments and form new autonomous writing majors. Although these new kinds of technical communication programs do not have to contend with English for cultural capital in the same way that their predecessors do, I argue that autonomy, or at least autonomy *alone*, is not an adequate solution to the disciplinary problem.

I argue this because it falls into the same category as previous reactionary stances that have been a barrier between technical communication and the possibility of engaging with the larger philosophical dilemmas that have thus far shaped its history. Arguing for autonomy based on institutional quarrels is perhaps a warranted reaction, but it does little to address the rift between the humanities and sciences at the heart of communicating about technical subjects. Put simply, it matters deeply to scholarship in technical communication what kinds of philosophical possibilities are invoked by uttering the phrase "technical communication," and autonomy alone does not provide an answer. Even if autonomous programs are capable of generating the kind of cultural capital that has been afforded more well recognized programs, technical communication has a history of rehearsing the current epistemological debates between the humanities and sciences

itself. Autonomy is a reaction to the problem of cultural capital, and likely a smart one, but the question of where technical communication is located requires more than an answer to where its main offices can be found on a university map. Autonomous technical communication programs still seem to be humanities programs, or at least they are mostly comprised of faculty with humanities degrees, and so autonomy alone is perhaps a start, but not an answer itself. And, as is described in the next section, technical communication's recurrent obsession with demonstrating its humanity has occasionally limited its effectiveness to understand the conventions on the other side of its uneasy alliance.

The Service Role of Technical Communication

If English departments are reticent to fold technical communication into the humanities, it is perhaps conceivable that STEM offers a solution to the disciplinary problem. Considering the history of technical communication outlined below, it is not inconceivable that it would find a home in departments of Engineering (and in fact some have). Yet, as researchers have shown, technical communication has often failed to fit into a STEM framework, sometimes at the expense of its students. Furthermore, a wholesale acceptance of a STEM perspective on technical communication does little to liberate it from its "service" orientation, and—perhaps more importantly—humanities scholars like Miller (1979) have time and again demonstrated the trouble with such an outlook. Exploring technical communication's relationship with the sciences, just as with the humanities, demonstrates why attempts to locate it in the existing epistemological milieu have not yielded much progress.

Though “technical communication” has, for many, come to signify an entire field of research, a workplace practice, and a cluster of various programs and majors, its origins as an academic entity lie in the formation of practical writing courses for engineering students in the mid-19th century. Those kinds of courses, which bear the politically charged title of “service” courses, are still a considerable part of the technical communication framework at most, if not all, university programs. They are essential to the suspicion with which the humanities approach technical communication, and also represent the field’s unique link to the STEM disciplines. In one sense, service courses compose the foundation on which technical communication’s identity crisis is built.

Though these courses, which are most often targeted to engineering students, link technical communication to the sciences, this link has often been tenuous. Though departments of Engineering were the first to approach English for service courses, Connors (1982) has shown that this was more a marriage of convenience for both parties, rather than a happily interdisciplinary endeavor. Engineering programs in the mid-19th century (and after) recognized that many of their graduates lacked what they saw as basic literacy skills, and English programs were quick to accept the boon of added courses.

In the ensuing growth of technical communication within English in the 20th century, it has already been shown that teachers and scholars in the field felt the need to justify their existence in the humanities, which was often met with apathy or worse. Owing to philosophical debates regarding the fundamental premises of the sciences, and technical communication’s complacency (or not) with such notions, technical communication scholars took strides to exhibit their—and their field’s—humanity. And to be sure, regardless of how their colleagues perceive their work, publishing scholars in

technical communication *do* usually hold English or some other humanities-based degrees.

Though many have argued for the benefit of a humanities perspective in technical communication, recent scholarship attests that perhaps this has had unintentional effects. For instance, Wolfe (2009) has argued that technical communication textbooks frequently "fail" engineering students by virtue of establishing writing practices common in the humanities as preferable to those found in the sciences. She implicates the promotion of active over passive voice, use of MLA formatting, implementation of poorly designed visual graphics, misuse of data and numbers, and ignorance of IMRaD structure as evidence to support her claims of failure. Wolfe (2011) has elsewhere argued that specific attention to grammar drills, a discarded aspect of rhetoric and composition's oft criticized "current-traditional" phase, can improve the critical argumentative skills of engineering students in technical communication courses.

Though Wolfe (2009) is particularly damning of current technical communication pedagogy, she is by no means the only technical communication scholar to explore the different expectations between writing/learning in the sciences and writing/learning in the humanities. Lutz and Fuller (2007) investigated the expectations between students in composition and technical writing for engineers courses, and found a stark contrast with regard to expected professorial ethos. As their study indicated, engineering students in technical communication courses were more likely to respect their professor if he or she had spent time in industry, rather than by virtue of their abilities as a teacher or writer. Furthermore, engineering students in the study anticipated "a hierarchy that placed [the professor] clearly at the top of the organizational chart: She should make the assignments,

stick to the schedule, hand out the grades, and evaluate their writing based on her knowledge of the boardroom environment" (p. 221). Though this is no surprise given the nature of engineering workplace environments, it does sharply contrast a good deal of student-centered pedagogies commonly enacted by humanities trained instructors.

The inconsistencies between the humanities and STEM are by no means exclusive to writing instruction either. Dannels (2003) has argued that there are contradictions between classroom and workplace experiences for engineering students with regard to oral presentations as well. Her study identified a number of inconsistencies between the public speaking expectations of engineering professionals and their classroom presentations, namely in the areas of audience, identity, and structure. Essentially, Dannels research indicated that students were expected to prepare presentations that met the needs of both their classroom *and* future workplace settings, even though they starkly contrast each other.

Taylor (2011) has also noted a disconnect between the practices of many humanities trained instructors and technical communication students. Her research on the marginal and end comments of technical communication instructors indicated that, at an alarming frequency, engineering students did not understand their instructor's feedback on their writing. She showed that a significant reason for this lack of communication between instructor and student was due to the non-directive nature of comments. She posited that humanities trained instructors often favor non-directive commenting techniques, whereas engineering faculty and professionals, and therefore students, often value directive feedback. Though this undoubtedly goes against the "best practices" typically accepted in the humanities, Taylor fell short of condemning a humanities-based

pedagogy, and rather suggested that this may be a necessary and productive part of the humanities experience for STEM students.

Taylor's hesitance in proposing a revision to technical communication pedagogy is significant for its suggestion that perhaps contradictions between the expectations of technical communication students and their teachers are not necessarily a bad thing. Though studies continue to show that the expectations and practices of the humanities differ significantly from those in STEM fields, many scholars have also argued for the benefit of a humanities perspective in those cases. For instance, Wilson (2001) has argued for the benefits of a postmodern pedagogy for technical communication. By way of self-reflection on his time as a technical communicator and academic, Wilson posited that modernist conceptions of technology often place the technical communicator in the role of industrial "cog." However, he also noted that:

> We are caught in a bind between the engineering establishment's expectations for employees who can write clear and precise text, the students' desire for job skills, and our understanding that the working world is changing (indeed, has changed) into a fast-paced realm of overwhelming complexity and insecurity that requires flexible new thinking and communicating skills. (pp. 96-97)

In this way, Wilson's proposal to reshape technical communication pedagogy based on postmodern conceptions of knowledge production ascribes an agency to students atypical of the accepted pedagogy in the field. This infusion of postmodernism articulates one perceivable benefit of a humanistic approach to technical writing instruction that likewise contradicts the arguably modernist framework of most STEM disciplines. Though Wilson recognized the pressures aspiring technical communicators felt to embrace a modernist

framework, he ultimately argued that this status quo would often lead students to the same professional dissatisfaction it had for him.

Other examples also highlight the benefits of fraternization between the seemingly disparate worlds of the humanities and STEM in technical communication service courses. A study by Cook (2002) has shown that theories of multiple literacies in humanities research can be applied to technical communication pedagogy. Her approach, well-known as the "layered literacies" pedagogy, held that "workplace writers need a repertoire of complex and interrelated skills to be successful. Instructors can no longer simply provide students with opportunities to discuss form, discourse types, or the writing process" (pp. 7-8). Her model was also applied by Brinkman and van der Geest (2003) to suggest revisions to the ABET criteria for assessing communication competencies for engineers. Additionally, Barker and Matveeva (2006) have argued for an analytical framework based on Kenneth Burke's pentad to select effective textbooks for teaching intercultural communication. This application of rhetorical theory, which has been utilized by others to demonstrate technical communication's place in the humanities, showed an increase in the effectiveness of technical communication instruction, albeit implicitly through a process of textbook selection.

It has become clear that invoking "technical communication" today conjures up a great deal more than it did in its infancy as an academic unit providing a few service courses to newly developed Engineering programs. For much of its recent history, technical communication has had to dance to two different beats, a critical, human-centered one, and a rigid, technically-oriented one. At times, scholars have attested that it does neither well, as is detailed above. This is of course complicated by arguments that to

resist the dominant ideals of the sciences is actually in the best interests of its students. However, implicit in those arguments is also an inescapable commitment to believing that the humanities simply "know better" than the sciences about the "best" education for its students. It is not difficult to see how this bleeds into the larger, theoretical contentions that once calcified into the "Science Wars," and that still permeate the conditions of the university today.

Regardless of the (dis)service of technical communication's various approaches to writing instruction, I argue that "service" has become its central metaphor. Offering service courses is how technical communication got its start as a field, but it is also how it has shaped its location in the university. Technical communication has served English departments by providing much needed justification and financial support, served the humanities by demonstrating the value of its education for non-humanities students, served Engineering et al. with the important work of improving the communication skills of its future professionals, and all the while these efforts have really (at least hopefully) been a service to the students who populate its courses. Service has provided technical communication with a number of identities. It is not difficult for educators to see the value and constructiveness of technical communication construed as "service," but at the same time it has also been a symbol of technical communications "second-class" status in English. In this way, "service" can be seen as symptomatic of a larger issue in technical communication, one of passivity. As has been shown, efforts to define the boundaries and landscape of the field have been reactionary, complicated and shaped by larger debates surrounding the nature of communicating knowledge between the physical world of the sciences and the humans that reside in/construct it.

As those debates have raged on in fields with more cultural capital, technical communication has largely been a silent observer (with the notable exception of authors like Miller)—reacting to the macro tensions between the humanities and STEM with a micro reenactment of the major themes of the conflict: is scientific knowledge codified or transient? Is good technical communication a "windowpane" or rhetorical? Is it more like STEM or the humanities? Should engineers write more often in the active (subject-focused) or passive (object-focused) voice? In one sense, the trajectory of technical communication thus far is traceable along the contours of the major epistemological and ontological debates in the academy over scientific knowledge. While other fields have entrenched themselves more cozily into one or the other side of this rupture, research and teaching in technical communication has—really (though implicitly)—located the field right in the thick of it. As Wilson (2001) put it, "We are caught in a bind" (96). Scholars bear a responsibility to their own educational backgrounds to enact a humanities perspective on theories of communication and knowledge, but also bear a responsibility to effectively administer service courses for science programs with vastly different conceptions of said communication and knowledge. Ultimately, the crisis of identity that is earlier in this thesis ascribed to technical communication bears a striking resemblance to what scholars like Bruno Latour identify as the crisis of modernism that is responsible for the dysfunction of today's academy.

Technical Communication's (Non)modern Identity

The complexity of the debate about scientific certainty in recent scholarship is a testament to the number of interested parties. Though reductive, the range of arguments can, for convenience's sake, be said to converge over the seemingly mutually exclusive

premises that the material world is either to some degree (a) real, accessible, and knowable, or (b) relative, obscured, and constructed. As a major figure in that debate, Thomas Kuhn (1962) famously challenged the science's certainty of a real, accessible, knowable world by arguing that scientific progress did not follow one linear path that inched closer and closer to a knowable *truth*, but rather that it was, as Hacking (2012) has interpreted, a series of steps "*away from* less adequate conceptions of, and interactions with, the world" (p.vii).

Kuhn's much contested and never quite fully articulated theory of incommensurability has been mobilized by various sociologists and postmodern critics to argue that no set standard exists by which to compare and communicate different theories and facts about the material world. Though he softened his stance on the repercussions of the term in his later career, there was no shortage of colleagues ready to further incommensurability's consequences in his stead. The implications of such a proposal to theories of communication—and therefore *technical* communication—ignited a flurry of debates in the philosophy of science and the rhetoric of science (to name two fields), but ultimately led many scholars to pessimistic conclusions. As Harris (2005) offered:

> The problem is that incommensurability seems to be fundamentally irremediable, ruling out agreement and evaluation in principle. The rhetorical message is, "Why bother?" If we can't agree, or even decide on criteria by which it is conceivable to agree, we might continue talking *at* each other for our own expressive needs, but there would be no point in talking *with* each other.

Such reactions to competing modern and postmodern conceptions of the world and the gloomy prospect of their incommensurability are what led proponents of ANT to question the dominant ontological basis by which they are actuated.

One of Latour's (1993), and ANT's, central claims is that modernist views regarding the agency of subjects and objects, each respectively the domain of the humanities and the sciences (and cause of essential debate between the two), are actually constructed on a contradiction. The set of principles that comprise that contradiction he deems the "modern constitution." According to Latour, in the modern constitution, human beings and nonhumans represent two distinct ontological zones, whereby the stable and unchanging objects of scientific inquiry do not impose on the agency of rational, technically communicating subjects. The conclusions drawn from this dichotomy of subjects and objects, as Latour argues, either assume one of two possibilities: First there is the belief that humans can emancipate their subjectivities and draw on natural laws for truth, as has been the contention of scientific rationalists. This is the positivistic worldview that Miller (1979) saw as responsible for the "windowpane" theory of language, where technical communication need only act as a vessel for scientific inquiry. Conversely there is the view that all of nature and science is filtered through the subjectivities of human agents, which has formed the basis of much postmodern critique of science and technology. It is this stance that has led many in the humanities to view technical communication with suspicion, as an accomplice to the dangers of scientific rationalism forwarded by STEM disciplines.

In response to this landscape that intrigued Kuhn and his contemporaries, and that has dominated academic discourse since Descartes, Latour proposed an alternative. He

contended that subjects and objects are really after all a fabrication, albeit a powerful one, of the modern constitution. Rather, no distinctly "objective" or "subjective" beings actually exist. Rather, hybrid networks of human and nonhuman actants, what he called quasi-objects, continually manifest on the same ontological plane—both testifying to their existence by exerting agency over one another in a network of relations. Modern thought, he contends, seeks to purify these hybrids into either "objects" (of a "hard" science, for instance) or subjects (as the individual referees of a fragile postmodern reality).

In modernist conceptions of science, Latour (1993; 1999) contends, the facts of science are always viewed as either wholly incontrovertible or wholly fabricated. While the former view prescribes science a too absolute grip on truth—one it can never live up to—the latter relegates it a too tenuous grasp on reality—one in which it cannot hope to be a productive enterprise. For Latour, the positivism of the sciences and the constructionism of the postmodern humanities both fail to recognize the hybrid networks that have been brewing under the surface of scientific controversy in the academy. As he (2004a) put it:

> People had always wanted, up to now, to save themselves from the inhuman by appealing to Science, and to save themselves from Science by appealing to the human. But another solution remains to be explored: to save oneself from Science and from the inhuman by appealing to the sciences and to the propositions of humans and nonhumans finally assembled according to due process. (p. 219)

Latour's distinction between "Science" and "science" is not a rehearsing of the postmodern critique of positivistic truth, though. Rather, it is a proposal that scientific

knowledge is built on very real and observable material practices, but also constructed by the networks that place them in contact with human actors.

In this way, Latour essentially lumps the humanities and STEM together as complicit actuators of a contradictory and unproductive system. Incommensurability can be viewed as the pinnacle of that unproductiveness, since in its severest iteration it finally argues that mutually exclusive theories cannot even be measured by agreed upon, rational criteria—they do not exist on the same ontological plane. Though Latour has gained popularity in the humanities for these proposals, he is certainly not supportive of postmodern critique either. For instance, he (2004b) contended that postmodern critiques of scientific positivism have been appropriated as means to support artificially maintained scientific controversies. According to Latour:

> And yet entire Ph.D. programs are still running to make sure that good American kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same argument of social construction to destroy hard-won evidence that could save our lives. (p. 227)

For Latour, theories of scientific inquiry that condemn it to pure relativism are equally as dangerous as those that ascribe it a positivistic quality. Failures to account for the hybrid networks that ontologize science and its sites of inquiry run the risk of an impoverished conception of complicated hybrid issues.

I have already argued that technical communication is susceptible to—perhaps even dependent on—the tension between the humanities on the one hand and the sciences

on the other. That complicated relationship has afforded technical communication a unique positioning within the academy, but also been the reason for its crisis of identity. The implications of Latour's proposition that modernism is a fabrication, if they are to be taken seriously, are telling for technical communication. In essence, I argue that the modern constitution, as described by Latour, is what spurred Porter and Sullivan (2007) to remark with dissatisfaction that, "not much has changed in 13 years" (p. 15).

Scholars looking for evidence of ANT's capacity to describe the world as a network of propositions between quasi-objects need look no further than technical communication. Like Latour's hybrid objects, and unlike the landscape it has tried to justify itself to, technical communication *has never been modern*. It has found little refuge in the humanities due to its ties to science and technology, and also at times poorly served its constituents in STEM owing to its humanities-based approach to pedagogy. The struggle to define the discipline of technical communication is an inherent problem, identified by Latour, with the whole system of epistemology that guides modernist thought. "Not much has changed" for technical communication because nothing could change, not without a wholesale reappraisal of the epistemological foundations that inform the humanities and the sciences, as Latour has argued. Though certainly the problems of cultural capital and material resources faced by local technical communication programs are the easiest identifiable cause of this, the root, as I argue here, and as Miller (1979) first identified, is at the epistemological level.

The implications of a nonmodern identity for technical communication are twofold. First, this argument serves as a local indication that Latour's sometimes sweeping claims have real application as a model for understanding the institutional

problem of modernism. The tension that has caused scholars in technical communication to assert their belonging on both sides is a manifestation of what Latour (1993) deemed the "Cartesian anxiety" of a modernist framework. Secondly, just as technical communication can support Latour's ontology, ANT can likewise provide technical communication with a fresh means of defining what has emerged as its central metaphor and problem—serving two masters. When Miller (1979) began peeling back the layers of epistemological influence positivism had on technical communication, she was arguing that technical communication was more than a servant to the sciences, and certainly that case has been made. In those years that followed, though, others have attested to the fact that technical communication has, far from being a service to STEM, arguably disserved their students (Dannels, 2003; Lutz & Fuller 2007; Taylor, 2011; Wolfe, 2009; Wolfe, 2011). Latour offers a new way to understand this problem, as a playing out of the anxiety that accompanies the purification of the subjective and objective aspects of all networked relations, and that includes the communication of technical information.

It is perhaps easier to see this is the case for technical communication because of its institutionalized and documented location between the humanities and sciences. As Sullivan and Porter (1993) described, one of technical communication's identities is as an "academic curricular entity" (p. 392). This uniqueness makes technical communication a viable site for applications of ANT in its own right, but technical communication's other identities also offer a unique opportunity. As a "workplace activity," the communication of technical subject matter represents a crucial node in the network of relations that ontologize the world in ANT. In this way, the activity of technical communication and the research that explores it are central to nonmodernism, and likely place it in a position

far removed from the "cog" Wilson (2001) saw in its modernist version. This is likely what drew scholars of technical communication to it in the first place (Potts, 2009).

If something *is* finally to change for technical communication, it is not likely that it will come from the same sources that have thus far defined its identity—the humanities and sciences. As Porter et al. (2000) remark in their outline for a methodology of institutional critique, "Institutions are hard to change. (No kidding) But they can be rewritten—or so we'll argue—through rhetorical action" (p. 610). Though Latour and ANT have garnered more and more attention in recent years, it is hard to imagine the prospective of a nonmodern institution, and harder to articulate what that would entail. But technical communication *can* change, and has, by rewriting its relationship to the university through, for instance, the creation of autonomous programs. This is not to say that the sciences and humanities are static, but they are bound institutionally to the modernist framework that defines the university. Arguing for new approaches to teaching and researching technical communication orients the field and helps locate it rhetorically. Additionally, the few programs that have branched out as autonomous programs, though exceptional and varying in their success, have sharply rewritten their institutional relationship to the humanities and sciences.

No matter how convincing Latour has proven, it would be foolish to suggest that ANT is capable of realigning the entire university, top down, around a convincing argument. This is a problem for technical communication, though, given that the current institutional climate deprives it of a meaningful place in the academy. Regardless of how impossible a nonmodern institution is, though, it is possible that technical communication can reshape its relationship to its objects of inquiry, its epistemological and ontological

premises, and its students. I argue that doing so will take one step, no matter how small, towards rewriting the institutional paradigm that has plagued technical communication since its inception. Communicating about technical subjects is not trivial, and the humanities and sciences both know it. I contend that if technical communication can answer its question of identity, it might start productively engaging in the debates over scientific certainty that have so often left the academy dissatisfied and fractured.

This argument describes a new lens through which to continue asking what is invoked by uttering "technical communication." It is also a testament to one local condition implicated in the more large-scale claims of Latour. In that local condition, the activity of communicating about technical subjects is no mere "cog" or "windowpane" or any other such analogy that places it at the mercy of competing notions of scientific knowledge. Rather, it is an important component in the complex web of relations that characterize contemporary debates of science and technology. This argument is finally a proposal that technical communication has the opportunity to contribute to such discussions, rather than react to them. Rather than questioning if technical communication is a good fit in the modern framework, it can attest to whether that framework has ever accurately described the conditions of communicating about technical subjects to begin with. Its development (and crisis) as an academic unit is a testament to this fact, as has been argued, and its rich history of exploring communication places it in the nexus of such discussions. In the end, technical communication hasn't been able to justify itself to the philosophical tenants of the humanities or sciences because that isn't the way technical communication happens. The failure of technical communication to find an institutional home is no real failure, just a condition of being a

material expression of ANT. As scholars, members of the academic unit of technical communication may hopefully benefit from this new lens through which to view the development and location of the discipline. As teachers, they may find an ANT framework for technical communication useful in helping to shape critical *and* well-prepared students who will eventually become science professionals and academics. Though "service" has not always garnered respect for technical communication in the past, it is here hoped that "service," in a vocational sense, might be an apt description of the role technical communication scholars and teachers can play in engaging the too-often conflicting humanities and sciences.

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