Robert R. Johnson

Craft Knowledge: Of Disciplinarity in Writing Studies

This article argues that craft knowledge can provide a disciplinary rationale for writing studies. It draws from the ancient concepts of teche, phronesis, and the four causes of making and makes the case for a definition of disciplinary knowledge fitting for writing studies. The article concludes with a conceptual framework that can serve as a heuristic to explore craft knowledge.

Know-how takes on the appearance of an "intuitive" or "reflex" ability, which is almost invisible and whose status remains unrecognized. The technical optimization of the nineteenth century, by drawing from the reservoir of the "arts" and "crafts" the models, pretexts or limits of its mechanical inventions, left to everyday practices only a space without means or products of its own; the optimization constitutes that space as a folkloric region or rather as an overly silent land.

—Michel de Certeau, The Practice of Everyday Life

Wind that grips this country like a craftsman who, from the start, has known his material; finding it hot, he knows what must be done and grows enthusiastic with his work.

No one could stop this magnificent momentum; no one could oppose this fiery defiance—and he is still the one who takes a long step back to offer his work the bright mirror of space.

—Rainer Maria Rilke

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Craft knowledge is seemingly an oxymoron, at least in the context of the present age. Over the past two millennia, craft has become a notion allied with “lower forms” of knowledge usually associated with mere practice and the making of mundane artifacts. While we may not wish to always agree with this conception of craft, as we may at times laud the work of the fine craftsperson (at least in moments of defensiveness for the artisan), the notion itself does not hold a strong status, particularly in the disciplinary spheres of the academy (with the significant exception of the “creative” fields such as music and creative writing, where craft is often put forward without apology). But even in the greater public sphere (at least of Western culture), the notion of craft is not held up as highly as the notion of art—fine art, that is (see Risatti). Craft is, in a word, unspeakable in the sense that it has little theoretical knowledge of its own in the present day, as de Certeau has so eloquently demonstrated. Unfortunately, due to our historical prejudices, a craftsperson is just simply not an artist, let alone a thinker.

Oxymorons are by definition amusing. They can make us cast a wry smile and even bring outright laughter when used in the appropriate context (“jumbo shrimp”; “military intelligence”). Beyond the amusement, oxymorons serve as wonderful starting points because they are inherently dissonant; that is, oxymorons are ripe with the fruits of invention. Beginning with this lovely dissonance, I then meditate upon the field of writing studies as a craft domain, a domain of knowledge that should not only be “lifted” into the higher forms of knowledge, but should also be explained in terms of its alignment with craft and the multiple knowledges of craft that can provide the field with a rich soil. I make the case that craft knowledge is a strong and deep description of knowledge that is both relevant to the writing studies context and a source of knowledge that literally has value far beyond the historical and cultural biases placed upon it.

Beyond the description and elaboration of craft and its relevance to writing studies, my further end is to put the notion of craft to use by bringing the concept to bear upon the problem of disciplinarity in writing studies. Whether writing studies is or should be striving to be a discipline has been a topic bandied about for well over two decades. Does defining writing studies as a discipline
provide us with status and power? Does it make writing studies commensurate with other disciplines that have been established as professions over the years? Or is being termed a discipline limiting in that it closets writing studies in a space where it might suffocate? I will not be delusional and think that I will solve this problem. But I do hope to show that writing studies, wrought as an intellectual sphere based upon craft knowledge, might aid us in the process of thinking through this dilemma. Thus, in line with the paradoxical nature of the oxymoron, not only do I see an exploration of craft knowledge for writing studies as “a way out,” but, ironically, it may hold some promise for finding “ways in.”

Finally, I want to make clear that by conducting a meditation of craft knowledge, I intend to explore the concept in a particular way; that is, instead of this essay being a meditation “on” craft knowledge, I conduct an investigation “of” craft knowledge. The intention of meditating “on” is to look onto the subject matter in an empirical sense more aligned with scientific observation. Instead, I speak “of” craft knowledge. The difference for me is quite significant. As opposed to merely observing and then describing craft knowledge, I aim to draw, in the sense of a salve, the underlying elements of craft knowledge to the surface and investigate the essences of craft knowledge as Heidegger does in many of his essays—especially in “The Age of the World Picture” and “The Memorial Address”—concerning the essence of being human and the role that meditative thought plays in such a mode of thinking. Craft, after all, is one of the most central human essences.

Ancient Notions of Craft
Craft in ancient Western culture was explained, at least in the traditions of philosophy, through the concept of techne: the arts and theories of making. The “problem” of techne was in fact so large that one commenter claims that the understanding of craft knowledge as techne was one of Plato’s greatest projects:

The notion of techne, art or craft, plays a peculiarly important role in the thought of Plato. . . . Kant asked the question, “How is science possible?” Instead of this, Plato asks, “How is technical procedure possible?” For him art, not science, is the primary, concrete mode of understanding. Hence art, not science, is the natural point of departure for any theory of knowledge. Without the arts man cannot exist. (Wild 1)

From a rhetorician’s point of view, Plato clearly did not see techne as the highest form of knowledge (see, for example, Roochnik; Atwill). His disdain for rhetoric
as techne is some of the most commonly cited criticism of Plato’s views on rhetoric, and even craft in general (Gorgias; Phaedrus). Episteme (theory) and phronesis (practical wisdom) obviously hold much higher roles in the Platonic hierarchy of knowledge (and the Aristotelian, too), especially as they apply to the work of the philosopher. Nevertheless, the problem of understanding the knowledge of craft was pervasive in the ancient corpus. To understand the nature of the human, the Western ancients believed, was in large part understanding the nature of making.

Techne in and of itself is a problematic enough concept that much ink has been spilled over the millennia probing its nature, its relationship to theory, its devolution in the modern age to “technique,” and even its loss as a part of our lexicon in the modern age (see Mitcham; Dunne). While an excursion into these issues surrounding techne would indeed be interesting, its range of topics is beyond the scope of this essay, and it would provide only an overview of the problems associated with techne that align with the present problem of defining craft knowledge. To the end of providing a rationale for craft knowledge in writing studies, I focus on one aspect of the arts of making—Aristotle’s four causes—that will bring key aspects of techne into relief for my present purposes.

The Arts of Making and the Four Causes: How, What, When, and Why

The concept of the “four causes” is found throughout the Platonic and Aristotelian corpuses as a way to describe theories of human procedures and the making of things. In brief, the causes (aitiai) are the efficient (arche), the material (hule), the formal (eidos), and the end or final (telos). As Aristotle explains in his Metaphysics:

[The] causes are spoken of in four senses. In one of these we mean the substance, i.e., the essence (for the “why” is reducible finally to the definition, and the ultimate “why” is a cause and principle); in another the matter or substratum, in a third the source of change, and in a fourth the cause opposed to this, the purpose and the good (for this is the end of all generation and change). (I.3.27–33)

For Aristotle, the four causes represent the whole of techne. Put differently, it is only when the human maker can bring all of these causes together that the craftsman possesses the appropriate techne (knowledge of the particular art) to create useful products, and not only material artifacts, but discursive products, too, as in the case of rhetoric.
There are five aspects of the four causes that are critical in making the case for craft knowledge, aspects that I view briefly here and then return to throughout the remainder of the essay. First and foremost is that techne is a type of knowledge and is the formation of knowledge. In the centuries subsequent to the ancients, techne has been implicated with such base knowledge associated with merely the replication of things already in existence, as the use of uncreative strategies for rote learning (Carruthers), as only within the province of style in rhetoric (Ong), or as being the precursor to standardization and mechanical reproduction in modern technology (Winner). In the ancient mind and culture, however, techne was seen as the source of creative tendencies, the formation of new ideas, the place of invention. Thus, techne, in part because it involved the whole of the four causes, had power and authority in a variety of ways.

Second, techne begins within the maker. This means that the knowledge of making is in the human domain. For the ancients, this was of supreme importance as it called forth the beginning of human control over and intervention in making. No longer were the gods the sole source of production (see Vernant; Rojewicz). As Aristotle says in Book VI of the Nicomachean Ethics, techne (and phronesis) was concerned with bringing things into being that did not exist by necessity, thus separating these two human domains of knowledge from the knowledge of that which already exists apart from human endeavor (episteme).

Third, techne and the arts of making have two ends (telos). The initial end is the thing being produced, the product. Beyond the product, however, is the use (or uses) for the product. Janice Lauer and Janet Atwill offer a lucid explanation of this dual telos:

The end of an art is not a product, but the use made of an artistic construct. The end of the art of housebuilding, for example, is neither the builder’s use of the art nor the house itself, but rather the use made of the house by those for whom it was constructed. (27)

Thus, products of human making are essentially inert until they are placed into use (also see Johnson, User-Centered). Use complicates the whole of the four causes in many ways, some of which are intended, others not. Consequently, the two ends of the four causes invoke ethics and action and our ongoing knowledge building related to the consequences of the things we craft and use.

Returning to Plato’s conception of techne, the telos has a further explanation and import. Plato also recognized the dual nature of the ends in product
and use; however, he describes it somewhat differently as being the “work” that arises in the ends. As Wild explains:

A man may know all the rules of a certain art, but if he does not know when and where to apply them, the ‘effects’ will be of no real use. He will then be a technician rather than a true artist, for he knows only the conditions of the art, not the art itself. The specific end of the art is its work, and this is always something good or useful for some further end. (259)

In line with Aristotle, Plato emphasizes not only the need for understanding the causes, but also the need for knowing, as best we can, the potential impacts of the products and the ethical ramifications of their potential uses.

Fourth, the four causes are sometimes rendered as a linear process of production. Where this may sometimes be the case, the four causes are not as useful themselves if conceived of as only moving from efficient to material to formal to final cause. For instance, the causes suggest that the maker must know the end before beginning a technical procedure. In addition, the end will change if the matter and form are altered. As Joseph Dunne explains,

Techne is not itself a useful thing but rather a generative source (arche) of useful things . . . [t]echne is, then, the source of the maker’s mastery of his trade and of his ability therefore not only to accomplish a successful result (which any handyman might be capable of) but in doing so give a rational account (logos) of his procedures. (250)

Through the four causes and through the conscious knowledge and theory of making, the craftsperson both creates and transfers knowledge; the craftsperson can be a teacher.

Fifth, and finally, the four causes are most closely associated with techne and the arts of making. However, in the ancient mind the making of things was not disassociated from the culture within which they arose. This is a critical point in that the telos of making also involves action, the human activities that render things useful (or not) and, by virtue of action, invoke the concept of phronesis: practical wisdom and ethical action. Certainly, for Aristotle, techne and phronesis are demarcated: the end of techne is in the thing made, the end of phronesis is in action itself. When this demarcation is brought through our modern lens, techne becomes mere technique and invokes the development of technical artifacts through standardized processes and mechanical replication (as de Certeau’s quote in the epigraph to this essay suggests). Phronesis, represented as separate from the modern industrial notions of technology and
standardization, is thus “set free” from the potential ethical problems associated with technological control. In other words, the division of these two types of knowledge makes techne potentially “bad” and phronesis “good” in that there is no such notion as being an unethical phronomoi as there is with being an unethical technite. That is, a person can be an unethical maker of things (consciously or not), but one cannot be an unethical phronomoi. An unethical phronomoi is, simply, not phronetic.

For the ancients, it would not have been thinkable for the technite to be removed from their cultural context and the ethical implications of making things within that social environment. The maker (technite) who is disassociated from the greater culture would not have been a master craftsman, but only a “copyist,” performing blind acts without knowing why” (Wild 257). Further, because the greater scheme of things would be absent in the entire “work” (ergon) of the technite, the further end (telos) of use within a cultural context will not have been achieved, thus rendering the product (and the technite) bereft of cultural value and meaning. For it is only “[w]hen the whole of life, in each of its distinct aspects, has thus been taken account of [by the craftsman], each act rendering what is due to each situation, the aim of techne will have been achieved” (263; emphasis added).9 As Mitcham also explains, “before the rise of engineering and its abstract conception of modern making action, types of making [were] distinguished primarily according to material, cultural, and ritualized formations. Not only are making as bricolage and making as craft oriented toward cultivation of nature, but in themselves these activities become cultures” (214).

Further, the dual dimension of telos in both product and use complicates the techne/phronesis dimension even more strikingly for purposes of craft knowledge. Because use is the final cause, the activity of the final product is made visible. Consequently, the knowledge of craft is more than the theory of the art (techne); it is also the activity (poesis) of the productive moment. As Mitcham puts it, “Aristotle does not think of it [techne] solely as a kind of knowledge, but reaches back to pick up the commonsense notion of techne as activity. Techne is not strictly activity, but it is a capacity for action, founded in a special kind of knowledge” (120). In my view, this brings techne and phronesis together within the frame of craft knowledge: the knowledge of the why, the what, the how-to, and the role of the maker and the thing made within its resident culture.10

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Interlude: Craft Knowledge and “The Disciplinary Problem”

Discipline is a word as heavily investigated and contested as techne. When discussed in terms of a “disciplinary field,” however, a common word often used is knowledge (Mailloux; Downing; Lyotard). Thus, disciplines can be defined by the forms of knowledge claimed by the discipline for its work. The idea of defining the knowledge of a discipline, however, raises concerns about the limiting nature of disciplinarity. For instance, if a field of study described as a discipline defines itself through a measured and bounded set of conditions, then it potentially cannot expand easily. One fear in writing studies has been that such an endeavor, to define ourselves as a discipline, will shortchange the profession. At the same time, it can be argued that limitations—boundaries—are necessary in order to develop identities that will allow us to say, “See! This is what we look like; this is what we do as a field.”11

One way around this dilemma has been to put forth the banner of interdisciplinarity and thus portray writing studies as a multimodal, multidimensional force in the disciplinary milieu of the academy and industry. Many have approached writing studies as an interdisciplinary phenomenon. I, for one, have argued that this is indeed what we are: a field and profession that looks like an interdisciplinary duck and walks like one, too.

One of writing studies’ great strengths is that it is certainly involved in interdisciplinary action. The wending of various methods, theories, and practices has been an emblem of writing studies’ various identities and its subsequent successes. Similar to the notion of ancient techne, however, interdisciplinarity is a two-sided sword. We can cut across boundaries of different disciplines and forge new paths. On the back swing of the swipe, however, we risk the potential of covering over paths that have come before. That is, we can progress forward into the interdisciplinary forest, but we have a weakness in our forging: namely, that writing studies is not a discipline in the traditional sense. Writing studies has no established history of being a discipline in the same manner as the sciences, the arts, or the engineering and business professions.

Interdisciplinarity, simply, implies disciplinarity. When the traditional disciplines—the so-called established fields of inquiry and production—work in an interdisciplinary manner, they in most cases still hold onto their disciplinary identity. This is painfully evident for those in writing studies when applying...
for external grant funding. On the application forms from such agencies as the National Science Foundation (NSF), National Institutes of Health (NIH), and even the National Endowment for the Humanities (NEH), for example, applicants must identify their resident discipline in order to be eligible. The calls for proposals often limit applications to the accepted disciplines, even though the call may pointedly mention the requirement for interdisciplinary research. Further, the status of grants is seen through the position of the PI: the principal investigator, who is in charge of the proposed research. Commonly, those in writing studies cannot, by regulation, be a PI. A consequence for writing studies is that we cannot attain the status requisite with being a PI, and also that we cannot claim many of the material rewards (and institutional recognition) that accompany PI status.

Beyond this one example, there is another pitfall in the long term: the problem of reciprocity. Reciprocity means that when one field of study works with another, the hope is that there will be some balance of knowledge moving among the different players. New knowledge will not, in other words, be a one-way activity but will be brought to all involved. This “act of reciprocity,” however, is not very well accomplished in regard to writing studies. Writing studies scholars often use the knowledge and methods of other disciplines in their work, but rarely do the established disciplines integrate our knowledge into their work on a permanent basis. For instance, even though some writing studies scholars have presented papers and published in the forums associated with the history and sociology of science and technology, I see little evidence that writing studies voices are heard, let alone cited, by the scholars in those arenas. One most telling example is a recent edited collection titled How Users Matter: The Co-construction of Users and Technology, a collection in the sociology of science. Virtually no one in writing studies, rhetoric, or usability studies is cited.

I do not want to appear to be crying in the collective writing studies soup, and, in fact, I see this lack of disciplinary status sometimes as a strength. Yet writing studies should come to terms with this dilemma to not only find a way out of it (as I mentioned earlier), but also to find new ways into the arenas where our voices should have more impact.

**Writing Studies as an Interdiscipline**

One potential avenue is to rethink what writing studies means by “being interdisciplinary.” In the sciences, going well back into the 1960s, there has been talk of being an “interdiscipline.” Reviewing the literature on this concept is
illuminating in at least two ways. First, the term *interdiscipline* is often used as a synonym for *interdisciplinary*. This conflation of the two terms is of limited use in defining what is meant by interdisciplinary, but it is curious that the terms are used with little definition and reflection. Thus, it can appear that the concept of an interdiscipline only wends its way back into the problems associated with “being interdisciplinary.” Nevertheless, it is telling in that the ubiquity of the term *interdisciplinary* appears to be so powerful that it immediately subsumes other definitions of the concept of interdisciplinarity itself.

A second and more concrete definition of interdiscipline is where two or more disciplines combine to create new disciplinary formations in the pursuit of solving problems associated with the fields involved, as an intellectual working space where various forms of knowledge are brought forward in a mutually respected manner for the purpose of creating new knowledge. Further, an interdiscipline strives to bring new knowledge to the world where it can be applied in such arenas as decision making, policy creation, methodological formation, design processes, and other venues. Some examples are ecology, astro-geophysics, cognitive science, molecular biology, and a host of other combinations that have emerged in the last fifty years.

A most specific explanation of this ilk of interdiscipline is provided by the late Frederick H. Buttel, a professor of rural sociology and environmental sciences, who termed the field in which he worked as *agroecology*. The mission of agroecology, according to Buttel, is to bring methods and theories from sociology to the study of agronomy that help environmentalists involved with sustainable agriculture. He defines agroecology in this way: “Agroecology is by any definition a kind of interdiscipline that involves reshaping scientific and social boundaries in ways that represent major intellectual challenges to agricultural scientists and agricultural research institutions” (1). He goes on to say that agroecology has been “a controversial and elusive interdiscipline” that is situated between the humanistic/social sciences and the hard/life sciences involved with agricultural research and development, fields that are somewhat “uncomfortable with one another” (1). He characterizes this discomfort as coming from (1) the desire for the scientists to retain a certain degree of autonomy in their research that allows for the objectivity they value, and (2) the desire of the social scientists and humanists—who have “much to contribute to fields such as agroecology”—to play a central role in agricultural research and development (2). The tension that exists in this discomfort is not negative for Buttel, however, and in fact is potentially productive, if the scholars on both
sides can work within the interdisciplinary to develop understandings on crucial topics concerning long-term solutions in sustainable agriculture.

In terms of rethinking writing studies as an interdisciplinary, the conflation of the term as rendered in the first definition posed (interdiscipline as simply being interdisciplinary) seems to offer writing studies little if anything new. Writing studies already accomplishes this all the time. Consequently, it does not offer writing studies “a way out” of our disciplinarity dilemma if it is unable to be recognized on an equal footing with the disciplines it works with and within. Put differently, writing studies, in this first notion of interdiscipline, still holds no clear, recognizable knowledge base most of the time.

To approach writing studies in the second sense—as an interdisciplinary through the lens of researchers such as Buttel in agroecology—holds more promise for writing studies. However, even here writing studies should have a recognizable disciplinary knowledge base before writing studies would likely be at the table. Once again, writing studies would need to be defined as a discipline before it would be eligible to enter the dining hall as “a way in.” To accomplish this act of being an active interdisciplinary, we would be wise to have a recognizable knowledge base. Thus, I propose a more concrete sense of what one potential knowledge base might be through the concept of craft knowledge.

An Economy and Heuristic of Craft Knowledge in Writing Studies

The act of constructing (or should I say “crafting”?) a knowledge base is in itself problematic. For one thing, the foundationalist ring of the term *base* conjures up formalist senses of categorizing that imbue the act as one of placing positivist notions of unchanging and settled definitions—definitions that convey a “truth” about what this knowledge base might be. One the one hand, creating such a taxonomic structure can limit the essence of the knowledge that is allowed to live and breathe in the construct. On the other hand, crafting a visible construct is a beginning that can be played with, literally, as we seek some sense of the knowledges that comprise the craft of writing studies. As Bowker and Star say in simple, straightforward language, “to classify is human” (1). To classify is thus dynamic, and constructs that attempt to order understanding can be a fulcrum to lever more complicated notions of a given order of things (see Foucault). In this way taxonomic constructs can be described as an *economy.*
The construct does not remain stagnant, nor does it resist being used to alter things, and even turn upon itself, to more adequately account for the human activities within which the taxonomy operates. Consequently, what I now present is an *economy of knowledge* relevant to writing studies that can serve at once as a snapshot and also as a heuristic that invites invention and “play.”

**An Economy and Heuristic of Craft Knowledge**

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Figure 1. The aims of writing studies: To make, to craft.

Conceptions of making/crafting are often limited to two types—*the making of products; the making of processes*. These two categories are indeed important and provide a way of thinking about the direct activities and products that writing studies professionals make. These two pieces, however, are only part of the craft knowledge puzzle. More fully describing the puzzle entails adding the *making of selves* and the *making of cultures* to our charge. Such an expansion brings the “whole of techne” into the description and invokes the full gamut of the four causes. This enrichment of a conception of craft also inevitably invokes a stronger commitment to and understanding of ethics: what we are and what we value as writing studies scholars and practitioners.

The products, processes, selves, and cultures can additionally be extended to particular examples of the many products and activities that involve those who practice, teach, and administer in the various contexts of writing studies. An elongation of the economy reflecting some of the particulars of products, processes, selves, and cultures might look like Figure 2.

The components listed under the four categories are admittedly incomplete, but they do provide a sense of the breadth and depth of the aims of craft. For example, we do make communication products in writing studies, and we do play important roles in the inventing and altering of communication products, but we can in some cases affect the physical artifacts being made, such as in the development of everything from grant proposals to software to
automobile dashboards to office furnishings, among innumerable other technological artifacts, broadly construed. The processes of crafting artifacts, of course, vary from context to context. Here writing studies professionals can (if given the chance) become involved in early development processes and then continue into the design and construction phases. In these activities we are often participants in meetings, interviews, and focus groups where the arts of oral discourse come into play. Finally, we are always situated in cultural situations that encourage reflective senses of our selves against the backdrop of history and the sensitivity to listen to other views and representations of what we are making.

In so doing, writing studies specialists act through the four causes of making. They are makers who know the materials of the trade (material, discursive, or otherwise). Further, they understand the forms of various genres and media through which the products are disseminated and communicated. Finally, they are aware of the dual ends of the production process and then, as user/audience advocates and artisans interested in the ethical dimensions of their craft, they work with knowledge of the greater and complicated ends of use.

Beyond all of the types of knowledge and particular actions of writing studies practitioners and teachers, then, there lie issues of engagement with the human essences of what we make. Beyond all of the types of knowledge and particular actions of writing studies practitioners and teachers, then, there lie issues of engagement with the human essences of what we make. For instance, the eventual uses of artifacts are often alluring and even romanticized; the products of human invention and application have at times led humans down paths of no return, such as with atomic weapons, carbon emissions, and a variety of developments that have overtaken our sensibilities and, in the worst of cases, threaten life as we know it. As Albert Einstein famously stated in 1946: “The release of atomic power has changed everything except our way of thinking . . . the solution to
this problem lies in the heart of mankind. If only I had known, I should have become a watchmaker.” Interestingly, Einstein’s lament of what the atomic bomb had created ends with a desire to be a watchmaker, a crafts-person. It is difficult to know all that Einstein meant by this, but his warning is clear: whatever humans make should be reflected on in advance of the final creation. That is, if we do not remain humble in our crafting and reflect before the fact on the ends of that crafting, then we can fall victim to the traps against which some of the ancient thinkers warned. In our crafting we must, as Rilke suggests, always take “a long step back” and offer our work toward the “bright mirror of space.”

Notes

1. A side comment: the role of “creativity” in tenure and promotion cases is often problematic, even in the humanistic disciplines like English, philosophy, and history. Have you ever sat in on or been the object of a promotion and tenure discussion where “creative work” is rather hotly debated as to its equivalency with “scholarship?”

2. Discussion of the separation of thinking from doing and how craft has been diminished in modern times can be found in Douglas Harper’s Working Knowledge: Skill and Community in a Small Shop, Matthew B. Crawford’s Shop Class as Soulcraft: An Inquiry into the Value of Work, Richard Sennett’s The Craftsman, and Shoshana Zuboff’s In the Age of the Smart Machine. Harper provides an ethnography to illuminate the centrality of craft knowledge to a rural mechanic shop. Crawford points to the predominance of “knowledge work” in both education and the workplace as prime examples of how craft is not recognized as having knowledge of its own. Sennett suggests that knowledge work itself incorporates craft knowledge, but that such knowledge is not normally acknowledged in the modern mindset. Zuboff’s now-classic work, in part, worries about the loss of craft knowledge in the digital era.

3. When I first conceived of this article, I was writing directly to technical, scientific, and professional communicators. As things progressed, it became clear to me that the emerging audience of writing studies is the preferable scope. Writing studies is representative of a number of disciplines involving writing, broadly construed. Some academic departments and programs have even begun to use this title, and they include composition studies; literacy studies; technical, scientific, and professional communication; digital rhetoric; computers and writing; writing centers; and a number of other subdisciplines. Further, these disciplines have emerged from some of the same exigencies, such as teaching practices, curricular development, public discourse, workplace practices, and public literacies, to name a few. In addition, they all at one time or another have been portrayed as merely grammar and correctness or rote learning with no epistemic qualities of their own. Thus, it is a
good umbrella term for a journal such as College Composition and Communication.

4. These two essays are found, respectively, in Discourse on Thinking and The Question Concerning Technology and Other Essays in the Works Cited.

5. Aristotle also uses the concept of the causes to explain natural phenomena. See Physics, II. 3, 7. It should also be noted that Plato discussed only three causes: the efficient, the formal, and the telos. Aristotle added the material, and Plato, it can be argued, conflated the material within the formal, as Wild suggests (256–57).

6. An example of a concrete artifact is the making of a cup. The maker has a desire to bring forth an object for holding liquids (arche). The matter of the cup (clay, perhaps) is the material. The form is the shape of the vessel, and the end is both the product (the cup) and the use to which it will be put. An example of a discursive artifact would be a speech. The rhetor has an exigency (arche), who then uses language (the matter), chooses an appropriate form (epideictic, for example), and then produces the speech that is, in turn, “used” by the audience. Not all scholars accept the idea that language is a form of matter (material). For rhetoricians this is less of a problem, but some philosophers have a much more difficult time with this notion.

7. A clarification is in order here concerning the distinction between knowledge and action in regard to techne. Techne is the knowledge (the theory) of the arts of making. It also involves the action of making as something to be made involves action. Aristotle calls the action of techne poesis. He argues likewise in regard to phronesis (practical wisdom) as phronesis is the knowledge of human action where the end (telos) is good action itself. The activity of phronesis, however, is praxis. Thus, I want to make clear that techne is not the same as poesis, but they are intimately intertwined. In one sense, it might be said that techne is the arts of making, while poesis is the energy (energia) involved in making.

8. I use the singular term maker here for the sake of clarity and consistency. Obviously, especially in the present time, many of our processes of making involve collaborative effort, and I believe the plural can just as easily be used.

9. The separation of the maker from the thing made has become pervasive in modern times. A problem with this conception of craft as separated from its culture has been recognized in the present day through a variety of venues. For instance, it is implied in Rilke’s epigraph to this article when he refers to the crafts person as one who “takes a long step back / to offer his work the bright mirror of space.”

10. The conflation of techne and phronesis is clearly controversial and complicated. Techne does stand on its own as a form of knowledge, and the work of such people as Janet Atwill and Janice Lauer make clear the reasons for making techne distinct from phronesis or episteme. My purpose here, however, is to attempt an acknowledgment of the reasons for separation but also to use the concepts in ways that can
provide a rationale for linking techne to ethical action. Thorough examinations of this problem can be found in Dunne and Ranney.

11. Here I am in some ways alluding to concepts of limits and boundaries that are well explained through different kinds of knowledge that are not often championed in Western thought, such as *metis* and *bricolage*. I also, however, am referring to notions of “bounded rationality” as defined by Herbert A. Simon in his discourses on modern economic theory. In brief, Simon argued that economic systems built upon notions of maximization and certain outcomes are misnomers. Among several analogies, he uses the analogy of playing chess to describe bounded rationality. There are countless moves a player can make (potentially millions), but the master chess player, through experience, learns to make the best move based upon what she knows in that present situation. Thus, for disciplinary formations, boundaries provide best ways of thinking about knowledge in certain contexts appropriate to present circumstances. He also calls this notion “satisficing.”

12. There are exceptions here, but they are rare. In some cases PIs have come from writing studies, but they either accomplished this through default when the engineer or scientist had to step aside in the middle of a project or, in even rarer cases, when the writing studies applicant is seen as a scientist or engineer by virtue of the fact that his or her particular institutional alliance is in an engineering or science department or college.

13. See Klein; Lauer; Johnson.

14. This quote has been widely used for years, but its actual source is attributed to a telegram he wrote in 1946 and again stated by him only days before his death in 1955.

**Works Cited**


Downing, David B. *The Knowledge Contract: Politics and Paradigms in the Academic


**Robert R. Johnson**
