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## Annotated Bibliography

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Arranged chronologically, these annotated bibliographic entries seek to provide readers with summaries of key texts on rhetorical invention and with a sense of the many ways in which invention can be conceived, investigated, and applied. For instance, while some texts describe specific heuristics for teaching invention (e.g., Young, Becker, and Pike and Berlin and Vivion), others are theoretical inquiries into the processes of invention (e.g., Flower, LeFevre, and Perkins). Whereas many of the earlier texts are primarily concerned with revitalizing interest in invention and demonstrating its importance to modern classrooms (e.g., Corbett, Lauer), as well as to modern politics and public discourse (e.g., Booth), a number of the later texts extend theories of rhetorical invention into other fields in order to understand how those fields produce knowledge (e.g., Simons and Gross and Keith). Much of this later work, often referred to as “the rhetoric of inquiry” or “the rhetoric of science,” was enabled by the earlier “rhetoric-as-epistemic” movement, which is represented here by the scholarship of Robert Scott, Michael Leff, Richard Cherwitz, and James Hikins. A number of the texts included are historical investigations of invention, some focusing on its classical roots (e.g. Atwill, Carter), and others its demise during the Enlightenment (e.g. Crowley, Berlin and Inkster). In addition to these kinds of texts, this annotated bibliography includes philosophical investigations of invention, meta-theories of invention, and several bibliographic essays.

Burke, Kenneth. "The Five Master Terms." *View* 2 (1943): 50-52.

"The Five Master Terms" is a helpful introduction to Burke's thought, particularly to the relationship between his new epistemological system of investigation, the pentad, and philosophy. Burke devotes the bulk of the essay to explaining his understanding of statements of motive—particularly their ubiquity in all systems of belief and fields of study—and how the five terms of the pentad provide "a general method that would enable [a reader] in a sense to 'anticipate' any specific notions about motives" (50). The pentad, according to Burke, anticipates the various philosophies, which is to say that philosophic systems take their form from the logic of the interrelationships between the terms of the pentad. Key to Burke's understanding of this relationship between the pentad and different philosophies is the idea that even when one term is ostensibly absent, it is still present, merely looming in the background. This presence is possible because the boundaries between the terms are fluid. Any rounded statement of motive, then, will include all of the terms.

Such rounded statements of motive, however, are rare. In fact, what distinguishes one philosophy from another is, according to Burke, the term that it privileges at the expense of the others. Materialism, for instance, privileges scene since it holds the environment—the material surrounding conditions—as the primary motivating factor of behavior. Burke continues this demonstration, discussing the featured terms for idealism (agent), pragmatism (agency), mysticism (purpose), and realism (act). He then stresses the overlap among the terms, particularly in the two pairings that have dominated modern thought: the agent-scene dialectic (idealism vs. materialism) and agency-purpose (pragmatism vs. mysticism). Burke concludes his explanation of the pentad by discussing the modern philosophies that oppose dramatism (i.e. behaviorism and logical empiricism) and the four ways in which he sees drama dissolved by philosophies.

Corbett, Edward P.J. *Classical Rhetoric for the Modern Student*. New York: Oxford UP, 1965.

*Classical Rhetoric for the Modern Student* helped rekindle interest in invention by making classical inventional strategies relevant to modern writers and modern writing situations. As Corbett explains in the preface, the foundation of the book is his belief that classical rhetoric provides students with a useful and effective system for inventing,

arranging, and phrasing arguments. After providing a brief overview of the classical tradition, Corbett focuses on what he considers to be the three most vital canons of classical rhetoric: invention, arrangement, and style. Invention receives the most extended treatment of the three since, according to Corbett, most writing problems stem from the absence of a viable thesis and useful strategies for discovering one. In his chapter on invention, Corbett explains how the concept of *status* can help writers state a thesis; he covers Aristotle's three modes of persuasion (the logical, ethical, and emotional); and he discusses the common topics and the special topics of each of the three kinds of discourse in classical rhetoric: deliberative, judicial, and ceremonial. For each idea or principle that he presents, Corbett provides illustrations and suggestions for its implementation.

Rohman, Gordon, D. "Pre-Writing: The Stage of Discovery in the Writing Process." *College Composition and Communication* 16 (1965): 106-12.

In this 1965 essay, Rohman defines prewriting as "the stage in the writing process when a person assimilates his subject to himself." In order to bring more attention to this inventional stage of writing, Rohman tries to isolate and describe the principle of pre-writing and devise ways for students to imitate its dynamic. He first establishes the relationship between thinking and writing, maintaining that "students must learn the structure of thinking that leads to writing since there is no other 'content' to writing apart from the dynamic of conceptualizing" (107). Rohman then characterizes prewriting as a kind of "groping for" the discovery of conceptualizations, combinations, or arrangements that will allow writers to fit their subject to themselves. Good writing, he continues, is produced when writers make such a discovery about their subjects within the context of their personal lives. It is in this regard that Rohman considers prewriting a form of self-actualizing and recommends three methods for imitating its principle: journal-keeping, meditation, and analogy. By emphasizing the importance of thinking and writing done before drafting, Rohman's work on prewriting helped initiate interest in invention among composition teachers and scholars.

Perelman, Chaim, and Lucie Olbrechts-Tyteca. *The New Rhetoric: A Treatise on Argumentation*. Trans. John Wilkinson and Purcell Weaver. Notre Dame: U of Notre Dame P, 1969.

Originally published in 1958, Perelman and Olbrechts-Tyteca's study of argumentation represents a significant break from the work of most early to mid-twentieth-century philosophers and logicians. The authors argue that because formal logic neglects anything (such as emotions or values) that cannot be demonstrated as self-evident through mathematical proof, it cannot account for the reasoning processes by which moral, judicial, political, and philosophical decisions are made. The goal of *The New Rhetoric*, then, is to provide the theory of demonstration (formal logic) with a theory of argumentation that explains how speakers and writers achieve or increase audiences' adherence to particular theses in these realms. Perelman and Olbrechts-Tyteca call this theory the "new rhetoric" because they see it as an attempt to reinvigorate the ancient art of persuasion long-neglected by logic and philosophy. Key to this reinvigoration of rhetoric is the authors' study of audience. Argumentation differs greatly from demonstration in that its audiences are particular, not universal. In fact, for Perelman and Olbrechts-Tyteca, the most important rule of rhetoric is to adapt the discourse to the audience.

Also like many classical rhetoricians Perelman and Olbrechts-Tyteca place a great deal of emphasis on the initiation and invention of arguments. In addition to covering possible premises or starting points of arguments (such as facts, values, and presumptions), Perelman and Olbrechts-Tyteca discuss at length the loci or topics that speakers can use to build arguments. Like Aristotle, the authors define loci as the headings under which arguments fall, separating them into common loci (loci that can be used in many situations) and special loci (loci that are situation or discipline-specific). The largest part of *The New Rhetoric* looks in depth at two major loci or argumentative schemes: association and dissociation. Associative schemes, which attempt to bring separate elements together, include three kinds of arguments: (1) quasi-logical arguments (arguments that claim similarity to formal logic); (2) arguments based upon the structure of the real (arguments that attempt to link unaccepted judgments about reality to accepted judgments); and (3) arguments which aim at establishing the structure of the real (arguments which seek to establish reality through the use of example or analogy). Dissociative schemes are the schemes by

which speakers dissociate elements united within a single conception and designated by a single notion. Perelman and Olbrechts-Tyteca distinguish dissociation from simply breaking the links between independent elements.

In addition to their focus on audience and invention, Perelman and Olbrechts-Tyteca devote considerable attention to the selection, interpretation, and presentation of data. Essential to this discussion is the authors' concept of presence. Perelman and Olbrechts-Tyteca argue that by simply selecting certain data and presenting them to the audience, speakers endow them with a special importance or presence. In addition to providing advice for creating presence, the authors cover techniques for strengthening, amplifying, and judging arguments in specific rhetorical situations.

Toulmin, Stephen. *The Uses of Argument*. Cambridge: Cambridge UP, 1969.

Although *The Uses of Argument* is not about rhetoric per se, this 1958 book played an important role in the revitalization of the discipline by showing that argument in all fields is contextualized and practical, which is to say, rhetorical. In order to make this point, Toulmin challenges the authority and applicability of analytic or syllogistic logic as the “paradigm” case of logical reasoning to which all other forms of reasoning should be compared. Specifically he argues that the three-part structure of the syllogism is too simplistic to represent and evaluate what he calls substantial arguments—the arguments that people use all the time in all fields in order to justify claims.

In order to develop a scheme for analyzing and assessing substantial arguments, Toulmin then looks at the ways in which arguments remain the same and change from one field to another. He finds that the force of modal terms such as *probably* and *certainly* do not vary across fields, but the criteria used to determine probability or certainty change from one field of arguments to another. As a result, he argues that validity can only be determined by studying the structure of arguments in a specific field or context. To facilitate this kind of analysis, Toulmin provides a six-part layout of arguments. The first three parts—claim, grounds, and warrant—do not differentiate substantial arguments from analytic arguments. The second three elements—backing, modal qualifier, and rebuttal—however, do distinguish sub-

stantial arguments from analytic arguments. The backing of a warrant, for instance, reveals the set of beliefs or the body of knowledge from which the warrant derives its authority. Such backing is absent in syllogistic logic since it is assumed that the major premise is an a priori truth. Toulmin's layout, then, distinguishes substantial arguments from analytic arguments by illuminating their contextualized nature. Moreover, by allowing readers and writers to map out that contextualization, it provides a scheme for recognizing the merits and defects of each type of argument. Teachers in composition and speech communication have found this aspect of Toulmin's work helpful for both analyzing and inventing arguments.

Young, Richard E., Alton L. Becker, and Kenneth L. Pike. *Rhetoric: Discovery and Change*. New York: Harcourt, Brace, Jovanovich, 1970.

Based on tagmemic linguistics and Rogerian psychology, this text sought to break with the current-traditional paradigm of composition pedagogy by providing students with systematic, yet rich and flexible strategies for initiating inquiry and communicating discoveries. Specifically, the text replaced the current-traditional emphasis on style and arrangement (a non-epistemic view of rhetoric) with an emphasis on invention (an epistemic view of rhetoric). Young, Becker, and Pike explain the theoretical foundation of this shift in the first part of the book by reviewing the history of rhetoric, explaining Rogerian rhetoric, and by describing tagmemic linguistics, which is a branch of linguistics that maintains that people understand the world in terms of repeatable units that are organized hierarchically. Young, Becker, and Pike develop this tagmemic view of language and understanding into a method for discovering multiple perspectives on a subject and for identifying and stating problems. For instance, to provide students with a heuristic for exploring a problem, the authors suggest that writers explore problems from three different perspectives: the particle perspective, which looks at a problem as a static entity; the wave perspective, which looks at it as a dynamic object or event; and the field perspective, which looks at it as an abstract, multidimensional field. In addition to providing inventional strategies, Young, Becker, and Pike offer writers strategies for verifying and evaluating hypotheses, discovering audiences' beliefs, establishing the importance of subjects, and for editing.

Lauer, Janice. "Heuristics and Composition." *College Composition and Communication* 21 (1972): 396-404.

Based on her 1967 dissertation, "Invention in Contemporary Rhetoric: Heuristic Procedures," which argued that interdisciplinary research on heuristics offered a new way of understanding invention as more flexible and open-ended than logic and as a guide to creative acts and complex arts, this bibliographic essay on heuristics and composition provoked an exchange with Ann Berthoff who disagreed with Lauer's recommendation that composition theorists use work in psychology to study invention. Their exchange foregrounded several issues, including: 1) the use of material from another field, especially the social sciences, in English Studies, 2) the humanities/ science divide, 3) the conception of "problem-solving," 4) an understanding of invention that includes the notion of strategy or art.

Booth, Wayne. *Modern Dogma and the Rhetoric of Assent*. Chicago, IL: U of Chicago P, 1973.

By arguing that the chief purpose of persuasion is to engage in mutual inquiry, Wayne Booth's *Modern Dogma and the Rhetoric of Assent* helped illuminate the importance of invention not only for the composition classroom, but also for understanding public discourse and debate. Booth's central claim in the book is that rhetoric in the modern era has become overwhelmingly dogmatic, which is to say that people very rarely believe in or offer good reasons as a means of persuasion. Focused exclusively on predetermined ends, they instead reduce rhetoric to trickery or manipulation in order to further one agenda while completely invalidating others. In Booth's words, rhetorical probability has become propagandistic plausibility (89). For the author this means that the difference between good and bad persuasion is not a matter of knowledge or wisdom, but rather simply a matter of skill (87). The cornerstone of this dogmatic view and use of rhetoric is the radical split modernism has induced between fact and value, between the objective and the subjective. On the objectivist side of this split are those whom Booth describes as "scientismic," and on the subjective side are the "irrationalists." Booth illustrates the differences between these two positions through his discussion of five kinds of dogma (i.e., dogma about the methods or means of producing change, dogma about the nature of the thing changed—the mind—and dogma about the scene of change—the world). Booth illustrates these dogmas in the work

of twentieth-century philosopher, Bertrand Russell, a man in whom Booth is able to locate both the scientismic and irrationalist sides.

In order to move beyond these modern dogmas, Booth proposes what he calls “a rhetoric of assent”—an epistemic rhetoric in which there are grounds for mutually discovering knowledge through argument and for seeing language as more than a vehicle for communication. According to Booth, this rhetoric of assent would be characterized by the command to “assent pending disproof” rather than the dogmatic command to “doubt pending proof” (101). Moreover, it would be characterized by a pluralistic approach to knowledge and truth. That is, it would not assert, as objectivism does, that all reasonable minds will agree on what is truth, but rather that minds will disagree. This disagreement, however, does not lead to complete relativism or the impossibility of consensus but, in fact, creates the need and the possibility of real rhetorical inquiry and argument.

Elbow, Peter. *Writing Without Teachers*. New York: Oxford UP, 1973.

Elbow’s objectives in this book are to assist writers in learning ways of generating ideas and words better and in improving their ability to judge their writing. Elbow proposes freewriting (writing quickly and without stopping for ten to twenty minutes) because it prevents writers from generating text and editing it at the same time. Often writers fail, Elbow maintains, because they attempt to get it right the first time by editing every bit of writing they produce. As a result of this premature editing, writers become frustrated, the writing process difficult, and the writing voiceless. By regularly freewriting or keeping a freewriting journal, Elbow believes that writers can develop a voice that will work its way into regular writing. In addition, freewriting provides a method of discovering subjects. After freewriting, Elbow recommends that writers look back over their text, determine what passages seem significant or strong, and continue writing about those passages. Freewriting also helps writers find topics through digressions. By straying from the subject in a freewrite, Elbow believes that writers can discover a new perspective or direction for their writing. Elbow also explains his developmental approach to writing through two metaphors: writing as growing and writing as cooking, while providing advice for setting up a teacherless classroom.



Winterowd, Ross W. "Topics' and Levels in the Composing Process."  
*College English* 34 (1973): 701-9.

Winterowd argues in this essay that the importance of the topics (or places of invention) has been overlooked in both composition theory and pedagogy. In order to revitalize the topics, Winterowd provides a method of categorizing them according to their nature and operation. First, topics may be finite or non-finite. Methods of paragraph development and Aristotle's topics are examples of non-finite lists. Burke's pentad provides an example of a finite set of topics. In order for a set of topics to be finite, Winterowd explains, it must not allow one to generate a question that cannot be classed under an item in the set of topics. Winterowd argues that in order for rhetorical theory to be logical and consistent, rhetoricians must understand not only the difference between finite and non-finite sets of topics, but also the difference between form-oriented and content-oriented sets of topics. Form-oriented topics, he explains, generate paragraph and sentence structures (e.g., Winterowd's "The Grammar of Coherence" and Francis Christensen's "free modifiers"). Young, Becker, and Pike's tagmemic heuristic is an example of a content-oriented set of topics.

Winterowd also proposes a three-level conceptualization of the composing process: the first level is the level of the proposition—a sentence made up of a modality plus a proposition. The teacher cannot intervene at this level of generation. The second level is that of inter-propositional connections—syntax. While the teacher can help students at this second level, Winterowd maintains that it is at the third level—the level of transition—that attention to invention is most helpful. At this level students are dealing with paragraphs and essays, and therefore need topics to generate ideas and solve problems concerning their subject.

Young, Richard. "Invention: A Topographical Survey." *Teaching Composition: Ten Bibliographic Essays*. Ed. Gary Tate. Fort Worth, TX: Texas Christian UP, 1976.1-44

In this 1976 essay, Young reviews three areas of scholarship on invention: 1) historical studies; 2) the four major methods of invention; and 3) the contexts necessary for understanding and teaching invention. Young begins each section of the essay by defining terms, providing historical background, and illuminating central issues or controversies.

In his review of historical studies of invention, Young finds that there is a lack of histories of invention per se. Young also reviews current attempts to incorporate classical rhetoric and invention into modern rhetoric and into composition courses. He then reviews the literature on the four major methods of invention: 1) Neo-Classical; 2) Dramatistic; 3) Pre-Writing; and (4) Tagmemic. Finally, he reviews the scholarship on four contexts necessary for understanding and teaching invention: 1) problem-solving; 2) criteria for determining the adequacy of methods of invention; 3) the relationships between methods of invention and conceptions of the composing process; and 4) teaching invention.

Scott, Robert. "On Viewing Rhetoric as Epistemic." *Central States Speech Journal* 27 (1976): 9-17.

Scott shows how the belief in *a priori* truth has allowed only marginal roles for rhetoric throughout history. Specifically, he argues that when one believes in the existence of a priori truths, rhetoric can only serve as either a neutral presentation of data or as a way to persuade inferior hearers of the truth they are incapable of seeing and grasping. In order to cultivate a new, epistemic understanding of rhetoric, Scott argues, using Toulmin's distinction between analytic and substantial arguments, that such a priori truths do not exist. Scott then explores the philosophic, epistemological, and ethical implications of his argument. For instance, he borrows (and extends) Douglas Ehninger and Wayne Brockriede's conception of "cooperative critical inquiry" to argue that truth is created in time, rhetorically, and through inquiry. Relying on sophistic rhetorical theory, particularly Gorgias's "On Being," Scott then argues that because truths are contingent rather than certain, men have to act in dissonant circumstances. In order to do so, he offers three ethical guidelines: toleration, will, and responsibility.

Emig, Janet. "Writing as a Mode of Learning." *College Composition and Communication* 28 (1977):122-28.

Emig's main contention in this essay is that writing, compared to the other three languaging processes (reading, listening, talking), corresponds uniquely to important learning strategies. Emig first reviews the criteria that have been used to distinguish writing from the other three processes. Most important among these is the creating/originating distinction. While talking, listening, and reading create verbal

constructs, they do not originate a verbal construct that is graphically recorded. Hence Emig establishes an important connection between the act of writing and rhetorical invention. Using the work of psychologists and linguists such as Lev Vygotsky and Dell Hymes, Emig continues to identify eleven additional ways in which writing is further distinguished from speaking.

Next she explains some ways in which writing uniquely corresponds to important learning strategies. For instance, she maintains that writing almost simultaneously deploys the three main modes of learning: the enactive (learning by doing), the iconic (learning through depiction in an image), and symbolic (learning by restatement in words). In addition, because writing is epigenetic, it provides immediately accessible and long-term feedback for students. Also based on Bruner's work, as well as Lev Vygotsky's, Emig argues that writing requires students to structure their inner thought through the establishment of connections and relationships, making writing a more self-rhymed, self-reliant, and engaged activity than talking.

Leff, Michael C. "In Search of Ariadne's Thread: A Review of the Recent Literature on Rhetorical Theory." *Central States Speech Journal* 29 (1978): 73-91.

In this essay, Leff isolates leading tendencies in meta-rhetorical theories, the most prominent of which is the idea that rhetoric is epistemic or knowledge-making. As the author explains, much of the meta-rhetorical work asserts that this conception of rhetoric is a major break from the modern rhetorical tradition. In order to test this assertion, Leff reviews three historical/textual studies, finding that, with the exception of figures such as Vico, all modern rhetorics examined present a view of rhetoric as non-epistemic. Leff then presents and explains four ways in which rhetoric can be seen as epistemic. The first claim that rhetoric has to epistemic status is the idea that rhetoric brings about new knowledge by altering our perception of an object within a fixed scheme of general standards. The second is that rhetoric is epistemic because it creates social knowledge through intersubjective agreement. Rhetoric can also be considered epistemic in a third sense in that it can act as a method for deciding between two paradigms that present different though internally consistent views of reality. Finally, the fourth and most radical conception of rhetoric as epistemic is the claim that epistemology is rhetorical, or that all knowledge is a rhe-

torical construct. Although Leff does not directly connect epistemic rhetoric and invention, the idea that rhetoric (or rhetorical inquiry) creates knowledge has helped to illuminate the importance of invention in both teaching and studying writing.

Harrington, David, et al. "A Critical Survey of Resources for Teaching Rhetorical Invention: A Review Essay." *College English* 40 (1979): 641-61.

Written in order to complement Richard Young's 1976 survey of scholarship on invention, this essay reviews composition textbooks that incorporate or emphasize invention. The authors use Young's four kinds of heuristic procedures (neoclassical, dramatistic, prewriting, and tagmemic) as a way to categorize textbooks. In addition, they review Speech Communications textbooks that deal with invention.

The authors note three kinds of neoclassical textbooks: 1) discussions of classical rhetorical theory; 2) adaptations of classical rhetoric for the purpose of teaching writing; and 3) composition texts in which features of classical rhetoric are assimilated but still recognizable. Next they review a number of prewriting centered texts. In addition to a thorough review of the tagmemic texts, Harrington et al. provide a discussion of tagmemic invention and its role in the larger process of inquiry. Also they explain Kenneth Burke's work and how it has been used in composition studies. In order to review textbooks influenced by Burke, Harrington et al. make the distinction between the sophistic understanding of the Pentad (the idea that the Pentad is a generalizable tool that can be used no matter the situation) and the dialectic understanding of the Pentad (the idea that the Pentad is simply part of a dialectic that allows writers to broaden their perspectives). Finally, Harrington et al. categorize the Speech Communications texts into four kinds, reviewing each based on its treatment of invention. The four categories are: 1) Public Speaking; 2) Argumentation and Debate; 3) Persuasion; and 4) Rhetorical Theory and Criticism.

Burke, Kenneth. "Questions and Answers about the Pentad." *College Composition and Communication* 29 (1978): 330-35.

In this essay Burke compares his conceptualization and use of the Pentad as an interpretive tool to William Irmscher's conceptualization and use of it as an inventional tool in his 1976 textbook, *The Holt Guide to English*. In order to make the comparison, Burke first synop-

sizes his work, explaining how he developed the Pentad. He explains, for instance, its relationship to his theory of literary forms and to his use of dramatism, which is the notion that language is primarily a mode of action rather than a mode of knowledge. By way of this short history, Burke also explains how symbolism and nonsymbolic motion are related in his work.

Burke begins his comparison of Irmischer's work to his own by problematizing the parallel that Irmischer draws between the Pentad and Aristotle's topics. According to Burke, the topics help the writer discover something to say, while the Pentad is designed to help him discover what to ask. He continues to explain that his intention was not to provide writers with a means of producing text, but rather to provide critics with a means of interpreting what was already written. Burke also stresses that in his work the ratios (the way two terms of the Pentad are related in an interpretation of motive, e.g., scene-act) and their circumference (the overall scene of the human behavior being interpreted) receive much more attention than the terms of the Pentad themselves. Burke then returns to a review of his work, focusing on how the Pentad has changed, in order to explain how Irmischer's use could differ so significantly from his own.

Berlin, James, and Robert Inkster. "Current-Traditional Rhetoric: Paradigm and Practice." *Freshman English News* 8 (1980): 1-4, 13-14.

In this essay, Berlin and Inkster maintain that while the traits of current-traditional rhetoric are easily discernible, its underlying epistemological assumptions are elusive, accounting for the paradigm's longevity and strength. In order to identify and evaluate its epistemological tenets, Berlin and Inkster examine how four current-traditional textbooks conceptualize and treat reality, the writer, the audience, and the discourse. First, though, they briefly trace the historical origins of current-traditional rhetoric, focusing on the ideas and traditions it inherited from the work of George Campbell, Hugh Blair, and Richard Whatley. Among these ideas, one of the most prominent—and most devastating for composition—was the notion that invention fell outside the domain of rhetoric. In Campbell, for instance, invention was a logical or scientific matter; for Blair, it was a matter of genius and mystery—something that could not be taught because it was different for each rhetor. And from Whatley's rhetoric, Berlin and Inkster ex-

plain, the current-traditional paradigm received its mistrust of persuasion, an attitude that helped to keep invention outside the boundaries of rhetoric.

Through their analysis of the four textbooks, Berlin and Inkster find that the current-traditional paradigm understands reality as fixed, knowable, observable, and rational. As a result of this view, there was no need for persuasion, instead just reporting. This premium placed on reality put constraints on the writer. For instance, it eliminated the need for heuristic procedures, reduced the role of the writers, and limited the ways in which writers could interact with their audience. In conclusion, they urge scholars and teachers to scrutinize the epistemology guiding their beliefs and practices.

Perkins, David. *The Mind's Best Work*. Cambridge: Harvard UP, 1981.

By examining common assumptions about invention, the work of famous inventors, and some of the literature on invention in the arts and sciences, Perkins argues that creating is better understood in terms of the “commonplace resources” of the mind than in terms of natural talent, sudden insight, mental leaps, and other “special accounts” that do not respect the reality of invention. He argues that reasoning, remembering, searching, noticing, and selecting are the real boundary-breaking ways of thinking involved in creation. Perkins also maintains that the essence of invention should not be understood as a process but instead as product. Creativity also requires standards and criteria according to Perkins. When searching for answers and ideas, what matters are the standards guiding the search, not the length of the search. Having good standards, though, can help a searcher sustain a search longer, preventing premature closure.

Perkins also assesses the role that plans play in invention. He first looks at the question of “plans down deep,” or the underlying mechanisms (such as scientific paradigms) that guide invention. Although many people see such plans as an encumbrance, Perkins argues that prefabricated units, plans, and schemata are necessary for the kinds of creation that require improvisation. Moreover, Perkins maintains that new skills are acquired through a mix of learning new schemata and adapting old ones. Despite the necessity of underlying plans in learning and creating, the author does acknowledge how new or anomalous observations are often subsumed into the dominant schemata or para-

digm. Perkins then looks at “plans up front,” or heuristics, which he defines as rules of thumb that often help in solving certain kinds of problems without providing guarantees (192). Although heuristics are not problem-solving formulas (like algorithms), Perkins believes that they are ways of preventing premature closing, redirecting thinking, and making creators more aware of their thinking processes. Because many heuristics are general, Perkins explains, people must modify them to fit particular situations and needs. This process of modification itself, he argues, can lead to increased awareness of thinking and creating processes. Perkins also discusses the role of heuristics in solving discipline or genre-specific problems. He argues that even though general heuristics cannot replace field-specific knowledge, they can provide strategies for developing such knowledge. In addition to assessing their value, Perkins makes recommendations for teaching heuristics.

Cherwitz, Richard, and James W. Hikins. “Toward a Rhetorical Epistemology.” *Southern States Speech Journal* 47 (1982): 135-62.

Continuing the rhetoric-as-epistemic discussion, Cherwitz and Hikins introduce a systematic theory of rhetorical epistemology in this essay. In order to make clear the epistemological, metaphysical, and rhetorical assumptions upon which their theory rests, the authors define rhetorical discourse and knowledge. Rhetorical discourse, they maintain, is the “description of reality through language” (136). In other words, a writer uses rhetorical discourse when he/she makes a statement about the world in an attempt to establish belief in the minds of a particular audience. While such statements may be true or false, Cherwitz and Hikins contend that in order for statements to attain the status of knowledge, they must be true. In addition, in order for a statement to be considered knowledge it must be believed in, and it must be justified through evidence. Based on these three criteria, they define knowledge as “justified true belief” (147). In addition, the authors argue that because all knowledge is inherently linguistic (or propositional), rhetoric is epistemic. Finally, Cherwitz and Hilkins present the central features of their theory of rhetorical epistemology by analyzing the ways in which rhetorical discourse provides the basis for knowledge. Specifically, they maintain that rhetorical discourse is differentiative (it allows one to distinguish objects of knowledge); associative (it allows for the combination of descriptions of reality); preservative (it

ensures that epistemic judgments are maintained); evaluative (it allows for critique); and perspectival (it illustrates that disagreement in human discourse over the same object of knowledge results from rhetors perceiving different aspects of that object).

Burns, Hugh. "A Writer's Tool: Computing as a Mode of Inventing." *The Writer's Mind: Writing as a Mode of Thinking*. Ed. Janice N. Hays, et al. Urbana, IL: NCTE, 1983. 87-94.

Burns describes his attempt to provide his students with practical, computer-assisted instruction for rhetorical invention through a program that generated specific heuristic questions. More specifically, this computer program determined the direction and motivational sequence of a line of inquiry, while the writer was responsible for providing the content of the inquiry. According to Burns, this program created a dialogue between the computer and the writer that encouraged the writer to recognize dissonance or articulate problems. Burns describes programs based on tagmemics, Aristotle's topics, and Burke's pentad. In conclusion, he argues that combining heuristic procedures and computer media is a viable way to improve methods of inquiry.

Lauer, Janice. "Issues in Rhetorical Invention." *Essays on Classical Rhetoric and Modern Discourse*. Ed. Robert J. Connors, Lisa S. Ede, and Andrea A. Lunsford. Carbondale, IL: Southern Illinois UP, 1984. 127-39.

In this essay Lauer identifies and historicizes the three main differences in textbook treatments of invention by tracing them back to their roots in classical rhetoric. The first salient difference is the genesis of writing—the question of how best to stimulate or generate discourse. A number of texts suggest that students select a topic and narrow it. Other texts, however, ask students to pose questions in order to resolve a problem or dissonance. Lauer traces this difference back to the classical doctrine of *status*, the earliest art governing the genesis of discourse. The second difference is the purpose of exploration, or the relationship between exploratory acts and judgment. One group of texts gives exploration a support role, while the other gives exploration an epistemic or investigative role. Lauer locates this difference in the long-standing disagreement over the roles and purposes of rhetoric and the topics. The final difference centers on these questions: Can rhetorical invention generate material for any kind of discourse, or is



it limited to certain kinds? How are we to understand certainty and probability in terms of rhetorical invention? Contemporary textbooks, she observes, offer different kinds of *topoi* for the generation of different kinds of discourse. These discrepancies guide students to different kinds of material and lead them to draw conclusions with varying levels of probability. In order to locate this issue in historical debate, Lauer reviews a number of both primary and secondary sources.

Kinneavy, James. "Kairos: A Neglected Concept in Classical Rhetoric." *Rhetoric and Praxis: The Contribution of Classical Rhetoric to Practical Reasoning*. Washington DC: Catholic UP, 1986. 79-105.

Kinneavy's objective in this essay is to demonstrate the relevance and applicability of *kairos*, a principle of discourse initiation, to composition studies and programs. While scholars in fields such as speech communications, anthropology, theology, and philosophy have realized and written about the importance of concepts such as *kairos*, rhetoricians and compositionists, Kinneavy maintains, have not given it serious attention. In order to revitalize the concept, then, Kinneavy first traces its history, focusing on its role in the work of figures such as Hesiod, Pythagoras, Gorgias, Plato, and Cicero. He then reviews the work of three important scholars—Rostagni, Untersteiner, and Tillich—in order to show how the concept has been investigated and conceptualized in other fields.

Next Kinneavy considers the two fundamental elements of *kairos*—right timing and proper measure—as they are embodied in five dimensions: ethics, epistemology, rhetoric, aesthetics, and civic education. Through this analysis Kinneavy is able to demonstrate both the pervasiveness of *kairos* in the ancient world, as well as its relevance to the modern (or postmodern) world. In addition, he proposes a composition program based on the five dimensions of *kairos*, exploring how each dimension could change and enhance a writing program. Key among these changes would be increased attention to 1) the situational contexts of writing; 2) the value systems of particular contexts; 3) persuasive discourse; and 4) finding realistic audiences for writing. Although Kinneavy does not address invention directly, it follows that a *kairos*-based program—a program that emphasizes situational context and persuasion—would also be an invention-based program.

Miller, Carolyn. "Invention in Scientific and Technical Discourse: A Prospective Survey." *Research in Technical Communication: A Bibliographic Sourcebook*. Ed. Michael G. Moran and Debra Journet. Westport, CT: Greenwood Press, 1985. 117-62.

Miller's review begins with a discussion of the conditions—the requisite conceptions of rhetoric, science, and technology—that are necessary for even considering the role of invention in scientific and technical discourse. In addition to providing a brief history of these conditions and conceptions, Miller reviews the work of scholars (e.g., Charles Kneupper, Floyd Anderson, Michael Halloran, James Kinneavy) who have tried to understand (or re-understand) the relationships among rhetoric, science, and technology. With these preconditions and issues established, Miller turns to the history of invention in terms of the rhetoric/dialectic split (a split articulated most clearly by Peter Ramus) that removed invention from rhetoric. According to Miller, and to the scholarship she reviews, this split led to two conceptions of invention: a broad conception which considers the processes of scientific inquiry and technological problem-solving to be part of invention, and a narrow conception which considers these processes to be antecedent to discourse.

While this broad view legitimizes inquiry into invention in scientific and technical discourse, it does not provide a single or clear direction for that inquiry. Therefore, Miller qualifies the scholarship included in the remainder of the survey, explaining that it is only potentially relevant to invention. Miller divides this material into three major areas: 1) a broad view of invention that deals with the process of inquiry and the creation of ideas; 2) a narrower view of invention that concerns the persuasiveness of expression and presentation; and 3) scholarship on the application and teaching of invention in scientific and technical discourse. Among the many issues that Miller looks at in the first area of literature is the question of how scientific knowledge is created. Under this rubric, she reviews the work of rhetoricians and philosophers of science, such as Hans Reichenbach, Aristotle, Francis Bacon, Michael Polanyi, and Bruno Latour. Miller also reviews work of the "Weltanschauung philosophers of science"—philosophers such as Steven Toulmin, Thomas Kuhn, and Walter Weimer, who "understand science as a thoroughly rhetorical enterprise" (129). Also in this area Miller reviews relevant literature on problem-solving, dividing it into two categories: that which approaches problem-solving as

a psychological process, and that which approaches it as a social phenomenon. Miller's survey of the second area of scholarship focuses on the contexts, constraints, and forms of presentation in scientific and technical discourse. Here she reviews scholarship such as Charles Bazerman's that analyzes the kinds of arguments made in scientific and technical documents, scholarship such as Robert Merton's, Jacques Ellul's, and Daniel Bell's that deals with scientific and technical ethos, and scholarship such as James March's that looks at the social and institutional frameworks that effect the production and presentation of scientific and technical discourse.

Miller begins her review of the final category of literature by reporting that there are few sources for teaching and applying invention in scientific and technical discourse. She divides the few sources that do exist into two groups: those that try to improve technical and scientific productivity, and those that address the writing problems of professionals and students in scientific and technical fields. Among the sources in the second group that deal with invention, Miller points out J. W. Allen's "Introducing Invention to Technical Students" and Michael Moran's "A Problem-Solving Heuristic." Miller concludes her review of these sources by illuminating the few writing texts (e.g., John C. Mathes and Dwight Stevenson's *Designing Technical Reports*) that provide more than a superficial treatment of invention for scientific and technical discourse. In conclusion to the review, Miller remarks on the ability of theory to bring together disparate research on invention in scientific and technical discourse, the dangers and benefits of drawing on scholarship from other fields, and the importance of examining the rhetorical tradition for continuing this line of inquiry.

LeFevre Burke, Karen. *Invention As a Social Act*. Carbondale, IL: Southern Illinois UP, 1986.

LeFevre's book draws on scholarship in linguistics, psychology, rhetoric, and philosophy to offer a theory of invention as a social and dialectical act. Opposed to this theory, LeFevre explains, is the traditional, Platonic view of invention that has dominated composition. According to LeFevre, this view is atomistic and asocial, assuming that individuals are capable of generating subject matter or ideas privately through means such as introspection and self-examination.

LeFevre explains the social act theory of invention as an alternative to this Platonic view, arguing that there are at least seven ways in

which invention is a social act. She maintains, for instance, that invention is social because the self is socially constituted, because inventive acts build on a social legacy of ideas, and because they are influenced by social collectives, such as institutions, bureaucracies, and governments. In order to explain her claim that invention is dialectical, LeFevre argues there is a dialectical partnership between human agents and the contexts in which they exist and act. In order to explain why she considers invention an act, LeFevre borrows from the work of Hannah Arendt and Michel Foucault. From Arendt she borrows the idea that while an inventive act is initiated by a rhetor, it requires an audience to be completed. From Foucault she borrows the idea that inventive acts are constant potentialities that extend over time through a series of social transactions and texts. LeFevre also proposes a four-part continuum to study the “socialness” of invention, explains the linguistic, psychological, and philosophical foundations of her theory, and explores its implications.

Young, Richard. “Recent Developments in Rhetorical Invention.” *Teaching Composition: Twelve Bibliographic Essays*. Ed. Gary Tate. Fort Worth, TX: Texas Christian UP, 1987. 1-38.

This essay examines six developing areas of scholarship on invention. In his discussion of the first area, The Composing Process, Young argues that all methods of invention either directly or indirectly present a conception of the composing process. He then reviews scholarship on these conceptions, illuminating some of the major debates about the composing process. Next Young reviews recent scholarship about Rhetoric as an Epistemic Activity, and surveys the body of literature about writing as a mode of learning. He also explores how the idea that rhetoric is epistemic could affect other disciplines, the WAC movement, and technical writing. In the third area, Situational Context, Young discusses studies of *kairos*, audience, discourse community theory, and the ethos of the writer. In Heuristics, the fourth area, Young reviews new scholarship about heuristics, dividing it into two categories: The Nature of Heuristic Procedures and The Utility of Heuristic Procedures. In his review of the fifth area, Pedagogy and Methods of Invention, Young surveys new scholarship on the four methods of invention presented in his 1976 essay: classical, Romantic (formerly pre-writing), dramatic, and tagmemic. Young warns that since each method implies a different conception of the composing

process, and is embedded in a different set of theories, teachers should not assume that they are necessarily compatible or interchangeable with one another. Finally in the fifth area, the History of Invention, he reviews bibliographic studies of rhetoric from both English and Speech Communications departments.

Carter, Michael. "Stasis and *Kairos*: Principles of Social Construction in Classical Rhetoric." *Rhetoric Review* 7 (1988): 97-112.

Carter examines two concepts of classical rhetoric—*stasis* and *kairos*—in order to demonstrate that rhetoric and composition has roots in social theories of knowledge. Both of these concepts, according to Carter, were central to the generation or invention discourse. Carter explains the role of *stasis* in the classical tradition (particularly in the work of Cicero, Quintilian, and Hermegenes) as a method for identifying the issue at hand and also for leading the rhetors to the *topoi* appropriate to it. Based on this understanding, Carter provides five identifying features of *stasis* (e.g., that stasis grows out of the conflict of opposing forces, that the stasiastic conflict is generative, creating an impetus for rhetorical action, and that it is a doctrine of inquiry associated with asking questions).

In order to map out some of the ways in which *kairos* has been used and conceptualized, Carter provides a helpful history of the concept, concentrating on its role in the Pythagorean understanding of the universe and in sophistic rhetorics such as Gorgias's. Also in this discussion of *kairos*, Carter explores its ethical dimensions, arguing that it was through *kairos*, a principle of situational appropriateness, that the Sophists acted despite their belief that all truths are in some way false. Carter then explores the possibility of a historical relationship between the two principles that could cast doubt on the split between the sophistic tradition and the Aristotelian-Ciceronian tradition, and strengthen the case for the social constructionist roots of classical rhetoric. He concludes the essay by discussing the ways in which composition has suffered due to the loss of the *stasis-kairos* principle.

Crowley, Sharon. *The Methodical Memory: Invention in Current-Traditional Rhetoric*. Carbondale: Southern Illinois UP, 1990.

Using a deconstructive approach, Crowley examines the history and nature of current-traditional rhetoric, focusing on its theory of invention. Among Crowley's objectives is to show that current-traditional

rhetoric is a reduction of the eighteenth-century rhetorical theory upon which it is based. Her examination begins with eighteenth-century rhetorical theory and its break from classical rhetorical theory, particularly the classical emphasis on communal knowledge and the rhetorical situation. As Crowley explains, eighteenth-century rhetoric reflected the values of the Enlightenment, especially its faith in science and reason. Rather than positing an epistemic view of language or rhetoric, rhetoricians like George Campbell, Hugh Blair, and Adam Smith advocated an understanding of language as the representation or vehicle of thought and knowledge. Influenced by movements such as faculty psychology, these British rhetoricians believed that all minds worked in linear ways that could be investigated through self-reflection. Rhetorical success, then, meant understanding the universal principles of human nature rather than the particularities of the rhetorical situation. As a result, invention during this time became an individualistic process of introspection.

According to Crowley, these eighteenth-century rhetorical theories had developed into current-traditional rhetoric in America by the nineteenth century thanks to the work of writers such as Samuel Newman and Richard Green Parker. These writers, and others like them, she explains, turned the principles of eighteenth-century rhetoric into formulas for producing texts. The introspective theory of invention, for example, was reduced to a prescription to simply “select” an object from memory and transform it into a subject for writing. Expressing these subjects in discourse became an issue of method: writers were instructed to arrange their ideas in ways that accurately reflected mental processes or movements. As attention to invention continued to diminish, this emphasis on method and arrangement overtook current-traditional rhetoric, giving rise to the modes of discourse: exposition, description, narration, and argumentation, or EDNA. Eventually EDNA became for the current-traditionalists an arrangement-based genre theory in which the formal features of texts represented and distinguished different rhetorical aims or objectives. In addition, the emphasis on arrangement and formal features encouraged a unit-based approach to discourse in which the current-traditionalists looked at texts as collections of words, sentences, and paragraphs. Thanks to this unit-based approach, the five-paragraph essay soon dominated composition, making it an increasingly methodical and less rhetorical enterprise. Crowley also explores the ethical and epistemological

limitations imposed on current-traditional rhetoric by its adherence to rigid conceptions of accuracy, reason, propriety, and universality.

Simons, Herbert W., ed. *The Rhetorical Turn: Invention and Persuasion in the Conduct of Inquiry*. Chicago: U of Chicago P, 1990.

Herbert W. Simons's "The Rhetoric of Inquiry as an Intellectual Movement" introduces *The Rhetorical Turn* by exploring the motivations, scope, and implications of the rhetoric of inquiry movement. In general, Simons explains, this movement argues that the process of inquiry can be understood more usefully in rhetorical terms, according to the idea that all stages of the inquiry process depend upon communal and individual judgments. While there are several rhetorics of inquiry, Simons suggests that as a whole, this movement is built around conceptions of rhetoric as "the study of how one ought to argue and use language in situations and on issues for which there can be no proof in the strict sense of that term" (6). A major consequence of this conception, Simons explains, has been the effort to rethink and revise the intellectual history of rhetoric. Another key consequence has been an alliance between rhetoric and social constructionism. Part of the rhetorical analyst's job, he maintains, is to determine how discursive constructions of the real are made persuasive. While some rhetoricians believe that this task applies only to the extra-logical, extra-factual aspects of a text (i.e. style), others argue that fact, logic, and reason are themselves rhetorical. This difference constitutes a pivotal distinction between approaches to the rhetoric of inquiry. While Simons does not directly argue for one approach over the other, he does believe that rhetoric provides the means to evaluate and choose among competing rationalities. This ability, however, will never be fully developed unless rhetoricians begin to study "the arts of the sayable," or invention. Such a study, he concludes, might include formalistic theories of conceptual development, lines of argument, methods of arrangements, and stylistic choices.

In "Scientific Discovery and Rhetorical Invention: the Path to Darwin's *Origin*" John Angus Campbell studies Charles Darwin's process of invention in order to provide a new perspective on the development of the theory of natural selection. Drawing from Darwin's notebooks, Campbell argues that his work follows an informal logic of rhetorical invention rather than a formal, scientific logic. In other words, Campbell argues that Darwin's work was guided primarily by

the inventional task of convincingly presenting his findings to an audience of skeptical colleagues. To this end, Darwin grounded each of his theories in a trope, or central metaphor. Campbell's analysis of these metaphors, as well as analogies, images, and lines of argument, begins with Darwin's conversion to transmutation following his return from the Beagle voyage. Campbell then sketches key moments in the strategic logic by which Darwin arranged his images and arguments into distinct narratives. In conclusion he suggests that by taking the facts and interpretations of his colleagues for granted, and by arguing that his new version of natural selection best explained them, Darwin formed his mature theory of natural selection. Campbell's main point about this process of formation is that in it discovery and justification were not separate procedures but rather two aspects of "a single logic of inquiry and presentation" (86).

Like Campbell, Alan G. Gross uses rhetorical theory to understand the production of scientific knowledge. In "The Origin of the Species: Evolutionary Taxonomy as an Example of the Rhetoric of Science" Gross argues that a complete rhetoric of science should be able to reconstruct the natural sciences without remainder, that is, without any idea or feature left unaccounted for. Gross tests this hypothesis of completeness against evolutionary taxonomy, the science of classifying plants and animals as species in accordance with evolutionary theory. Specifically, he attempts to translate the analytical categories of evolutionary taxonomy (the stages at which species are identified, defined, or redefined) into rhetorical terms. For instance, drawing on concepts such as Perelman and Olbrechts-Tyteca's universal audience and presence, Gross shows how evolutionary taxonomists placed plants and animals in taxonomic groups in a way that made such placement seem natural and inevitable, as if the species ontologically belonged there. These placements, in turn, worked to demonstrate and justify evolutionary theory, which, according to Gross signals the end of the species as a natural kind and its beginning as a rhetorical construction. Gross then considers the implication of this rhetorical construction without remainder, arguing that the rhetoric of science demonstrates that there is "no theoretical or empirical core, no essential science that reveals itself all the more clearly after the rhetorically analyzed parts have been set aside" (107). While this demonstration does not mean that rational reconstructions are wrong, for Gross it does eliminate any sharp dis-



inction between rationality and rhetoric. In conclusion he discusses the implications of this position for the disciplinary status of rhetoric.

In “The Rhetoric of Decision Science, or Herbert W. Simons Says” Carolyn R. Miller argues that decision science, a theory for generating procedures that will guarantee best decisions, attempts to reverse the rhetorical turn. To support this claim Miller compares decision science to the art of deliberative rhetoric, citing three main differences: 1) the treatment of uncertainty; 2) the treatment of audience; and 3) conceptions of human rationality. Based on this comparison, Miller argues that decision science exhibits what Wayne Booth called *motivism*, the inability to reason about values, and *scientism*, the belief that there is a dichotomy between fact and reason. As a body of theory predicated on the superiority of procedures, she argues, decision science is unable to deal with the problem of choice about human action, the very choices that are the focus of Aristotelian deliberative rhetoric. Because of this inability to deal with choice, as well as the inability to account for the importance of symbolic interchange, the same problems appear and reappear in decision no matter how it is reconceived. Importantly, Miller continues, the points at which these problems reappear have direct analogues to concepts of rhetorical theory, particularly invention. In sum, she suggests that because decision science is too narrow and authoritarian to be of use in real conflicts, rhetoric as a deliberative art is a much better model for how to exercise reason and make choices in real conflicts.

Dilip Parameshwar Gaonkar’s contribution to *The Rhetorical Turn*, “Rhetoric and Its Double: Reflections on the Rhetorical Turn in the Human Sciences,” marks a departure from the position expressed in most of the collection’s essays. Generally speaking, Gaonkar questions the legitimacy of the turn by looking at its implications for rhetoric’s self-understanding. He argues, for instance, that the rhetorical turn is actually a “flight from mere rhetoric,” or from rhetoric as an empty, supplemental discipline. Fueled by its epistemic anxiety and its hunger for disciplinary legitimacy rhetoric has executed this flight through two moves: a diachronic move which tries to create an appropriate intellectual history for the field, and a synchronic move which tries to find a subject matter. According to Gaonkar, recent attempts to uncover the hidden history of rhetoric (i.e. attempts to rediscover sophistic rhetoric) are the product of the diachronic move. He associates the synchronic move with the rhetorical turn, arguing that there are actu-

ally two turns: the implicit and the explicit. While the explicit turn still conceives rhetoric as a supplement, the implicit turn conceives it as a theoretical and epistemological enterprise that has been suppressed by philosophy throughout history. Gaonkar argues that rhetoricians are lured by the implicit turn because it provides them with more disciplinary legitimacy than the explicit turn. However, once the internal crisis in philosophy that has caused the rhetorical turn is over, he believes that rhetorical consciousness will fade and rhetoric will be forced to deal with its role as a supplement.

Berlin, James A., and Michael J. Vivion, eds. *Cultural Studies in the English Classroom*. Portsmouth, NH: Boynton/Cook Heinemann, 1992.

Authors in this collection describe the effects that Cultural Studies has had on English programs and classes and suggest heuristics for writing cultural critiques. In the introduction to the collection, Berlin and Vivion describe the rise of cultural studies in America, explaining many of the conflicts surrounding it, particularly its clash with traditional, canonical literature-based English curricula. In addition, the editors offer a broad definition of cultural studies as the study of the ways social formations, practices, and discourses are involved in the shaping of subjectivity. Most program and classroom descriptions in the collection evidence a similar definition of cultural studies, as well as corresponding writing pedagogies, practices, and heuristics. In his report on Carnegie Mellon's shift to a cultural studies-based English program, for instance, Alan Kennedy describes the "teaching the conflicts" pedagogy used by many of his colleagues. In order to help students write about scholarly arguments, teachers at Carnegie-Mellon ask them to create "issue trees." The purpose of this heuristic, Kennedy explains, is to show students that the world is multi-positioned and that by taking a position on one particular aspect of an issue, scholars necessarily remain silent on other issues. According to Kennedy, this strategy prepares students for writing by allowing them to determine what positions they are invested in and by teaching them that their own writing does not have to offer a definitive answer or solution.

Phillip Smith II describes similar practices at the University of Pittsburgh, where some teachers adopted a Freirean "problem-posing" pedagogy. Specifically, Smith reports on Mariolina Salvatori's attempt

to redefine critical reading and writing through two techniques: self-reflexive hermeneutical critique and deconstructive critique. The goal of this heuristic, Smith explains, is to help students write about literature and literary scholarship by asking them first to locate their own position and investments in the act of interpretation (self-reflexive hermeneutics) and second to expose and explore the fissures or gaps in the text (deconstruction). Like many cultural studies heuristics, the advantage of problem-posing is that it makes students active creators of knowledge rather than passive receivers.

Several contributors in the collection describe heuristics that ask students to answer questions in order to generate analysis. In order to help students decode the meaning of visual texts, for example, Joel Foreman and David R. Shumway have them answer seven questions about the conditions of production, key features, and ideological structures represented in visual texts. As a way to encourage students to inquire into the cultural construction of gender, Alan W. France asks them to answer nine questions about gender representation. For instance, in any given object (e.g., a film or advertisement) students must figure out who is looking at whom, what physical contacts are made, who refers to the body, who takes off clothing, and who is good at what task. Other heuristics discussed in the collection ask students to examine and deconstruct the binary oppositions they find in texts. Generally speaking, all of these cultural studies heuristics aim to prepare students for writing by teaching them to recognize and analyze the meaning, values, and assumptions of both canonical and marginalized texts.

Flower, Linda. *The Construction of Negotiated Meaning: A Social Cognitive Theory of Writing*. Carbondale: Southern Illinois UP, 1994.

In this book Flower argues for a social cognitive theory of literacy as the construction of negotiated meaning. Unlike limited definitions of literacy, which substitute specific parts of literacy for the whole, and general definitions, which see literacy as a generalized capacity of thought, Flower's social cognitive theory claims literate action is a socially situated problem-solving process. As such it recognizes the importance of rhetorical situation as well as the problem-solving skills a learner uses to interpret the situation. Such skills, Flower maintains, are the intellectual moves which allow people to construct meaning

by reorganizing problems, recalling information, recognizing patterns, setting goals, making inferences, and responding to prior texts and other voices.

Looking more closely at this social cognitive theory of literacy, Flower examines its two most important metaphors: negotiation and construction. She compares negotiation to other common literacy metaphors, arguing that negotiation gets at the interactive as well as the internal aspects of literacy. In other words, it focuses attention on individual thinking processes, but places those processes within the circle of socially structured, purposeful discourse, thereby illuminating the goal-driven or dilemma-driven aspects of meaning making. Asking what it means to say that meaning making is a constructive process, Flower then looks at the specific interpretive and inventive acts by which individual writers create personal meaning. For instance, she examines theories of how writers represent and network information; how they develop and use schemas; and how they rely on contexts and prior knowledge. She then compares this social cognitive understanding of construction to social construction and to social interaction, emphasizing its distinct goal of creating observation-based literacy theory.

Flower turns next to questions of application, looking specifically at how a social-cognitive theory of literacy can be implemented or supported in education. She argues that by bringing the goals, dilemmas, and interpretive processes of meaning making to the table, collaborative planning increases the chances that learners will become aware of their “strategic knowledge,” or understanding in action. In addition to collaboration, Flower suggests cognitive apprenticeship as a way to increase learners’ metacognitive awareness. Building on strategies such as modeling, scaffolding, and fading, cognitive apprenticeship uses expert/novice distinctions to teach rhetorical awareness and the conscious control of one’s options through problem-solving heuristics. Finally, because these kinds of metacognitive skills are central to Flower’s theory of literacy, she offers a theory of reflection (a method through which students can reconstruct their literate acts), which she illustrates through actual episodes of collaborative planning taken from in-depth studies of two college writers. Although invention is not a key term for Flower in this book, her investigations of problem-solving and meaning-construction make it an important text for understanding the intersection of social and cognitive forces in rhetorical invention.

Couture, Barbara. *Toward a Phenomenological Rhetoric: Writing, Profession, and Altruism*. Carbondale, IL: Southern Illinois UP, 1995.

In *Toward a Phenomenological Rhetoric*, Barbara Couture investigates connections between rhetorical invention and phenomenology in order to restore truth to rhetorical practice. She begins by arguing that current critical and rhetorical theories exclude truth from writing by accepting philosophical relativism and by proffering resistance as the primary method of creating and maintaining identity. As a way to make rhetoric a truth seeking activity, Couture proposes a phenomenological rhetoric. Before delineating this alternative rhetoric, Couture examines the premises of philosophical relativism as well as the ways in which critical theory associates self-identity and representation with forms of resistance, namely narcissism and fetishism.

In the heart of her argument, Couture provides a broad outline of phenomenology, focusing on the work of Edmund Husserl and Maurice Merleau-Ponty. After reviewing some critiques of phenomenology (e.g., Derrida's), Couture presents three criteria phenomenology develops for truth and explores the ways in which these three criteria apply to rhetorical practice and, in particular, to methods of discovering truth. She maintains that a phenomenological rhetoric engages us with the world and moves us from alienating resistance toward open collaboration. Couture discusses two specific ways in which individuals can engage in this process of truth-seeking through rhetoric—profession and altruism. Finally, Couture reviews the work of Jürgen Habermas, Charles Altieri, and Thomas Kent in order to discern three standards for evaluating the truth and rightness of discourse: congruence, consensus, and commensurability. She argues that in order to meet these standards, each discursive act must be founded on an a priori commitment to maintain goodwill and to respect each participant's intrinsic worth as a person (203).

Gross, Alan, and William Keith, eds. *Rhetorical Hermeneutics: Invention and Interpretation in the Age of Science*. Albany: SUNY Press, 1997.

Essays in this collection respond to questions Dilip Parameshwar Gaonkar raises about rhetorical criticism in his essay, "The Idea of Rhetoric in the Rhetoric of Science." Based on his analysis of the rhetorical criticism of scholars such as Alan Gross and John Campbell,

Gaonkar argues that classical rhetoric (Aristotelian rhetoric) is a productive rather than hermeneutic or interpretive enterprise. As such, it cannot provide rhetorical critics with the tools necessary for profitably interpreting scientific texts. In other words, because doctrines such as topical theory and stasis theory are “rules of thumb” meant to generate speeches, Gaonkar finds rhetoric a “thin” interpretive theory, lacking the hermeneutic constraints necessary for fruitful interpretation. Gaonkar attributes the current “globalization” of rhetoric to this thinness rather than to actual knowledge-making merits of rhetorical theory. In addition, Gaonkar argues that classical rhetoric is unsuitable as a hermeneutic theory because it presents an agent-centered model of invention incommensurate with the insights of structuralist and post-structuralist theories of subjectivity.

Michael Leff responds to Gaonkar’s assessment of rhetorical theory by arguing that in the classical tradition, production and interpretation were not discrete activities but rather two parts of a fluid, dialectical relationship. An example of this dialectical relationship, he maintains, is the doctrine of imitation. According to Leff, ancient rhetors had to interpret speeches in order to imitate them; this act of interpretation then served as a method for invention since it not only familiarized rhetors with historical texts but also inculcated rhetorical judgment in them (97). Alan Gross also defends the value of rhetorical criticism, arguing that rhetorical criticism in fact does generate knowledge. Key to Gaonkar’s argument against the knowledge-making status of rhetorical criticism is his claim that such knowledge is not vulnerable to falsification. Gross counters this claim by recounting scholars’ attempts to falsify particular textual interpretations yielded by rhetorical criticism. Gross also shows how case studies of the rhetoric of scientific discourse (e.g., his own rhetorical criticism of Copernicus’s *Narratio Prima*) have become starting-points for theories of discourse. Like Leff and Gross, Carolyn Miller takes issue with the claims that classical rhetoric is productionist and agent-centered, arguing that such perceptions are more attributable to modern (and for Leff, foundationalist) interpretations of the classical tradition than to the tradition itself. According to Miller, the doctrines of classical rhetoric are far too diverse and even conflicted to be seen as offering a dominant ideology. Miller also problematizes Gaonkar’s use of the metaphor “translation” to describe the task of creating a rhetorical hermeneutic. Gaonkar’s choice of the term “translation,” Miller argues, ignores the role of interpreta-

tion in this task; that is, it ignores the “dialectical tacking” between part and whole, new and familiar, and taking and giving that generates incremental understanding (165). For Miller, the metaphor “dialogue” more accurately describes the movement between production and interpretation necessary for a rhetorical hermeneutic. Rhetorical hermeneutics, she maintains, is doubly hermeneutic since it is an interpretive device based on the act of interpretation itself.

William Keith and David Kaufer respond to Gaonkar by arguing that rhetorical theory is thin only because rhetoric has been misclassified as a practical art rather than as a design art. For Keith, rhetoric, like engineering and architecture, is a *techne* (a productive art) which fulfills its purpose by responding to its exigencies. Also like other design arts, the success of rhetoric depends upon the artist’s ability to hide its design or strategy. Keith points out that this feature puts rhetoric in a strange situation: its subject matter (strategy) is never present in its products. Given this aspect of a design art, Keith asks what kind of interpretive theory is suitable for rhetoric? Borrowing from the art of engineering, Keith proposes that rhetorical critics follow the interpretive model of “reverse engineering,” a process of reconstruction that tries to relate the features of the product to the constraints of ends and means (237). In other words, reverse engineering is a critical approach to rhetorical designs as the products of “sets of strategic responses to the constraints that obtain for them” rather than the intentions of the rhetor. For Kaufer, classifying rhetoric as a design art means understanding it as a theory of reception monitored and informed by a theory of production. While other design arts such as engineering immediately seem to fit this bill, rhetoric has been less frequently defined in these terms because historically rhetoricians have had little awareness of what they do, of their art. For example, Kaufer argues that the topics have been understood as either a plan for building arguments or a tactic for creating leverage with an audience. In actuality, however, the topics function for rhetors simultaneously as plans and tactics (as well as language events, memory stimulants, etc.); as such they attend to reception and production. Like Keith, Kaufer believes that a theory of rhetorical hermeneutics must account for rhetoric’s status as a design art. He suggests that rhetorical critics adopt an interpretation-by-design approach which attempts to interpret the utterances of an rhetorical artifact against their alternatives—against what could have been said but wasn’t. Unlike general hermeneutics, Kaufer writes, in-

terpretation-by-design constrains critics by limiting possible interpretations to what can be “rescinded through an alternative rendering of the speaker’s productive choice” (257).

Atwill, Janet M. *Rhetoric Reclaimed*. Ithaca, NY: Cornell UP, 1998.

Atwill examines Aristotle’s concept of productive knowledge (*techne*), contrasting it to both practical and theoretical knowledge, in order to challenge the “normalizing tendencies” of the Western humanist tradition. According to Atwill, these tendencies have been made possible, in part, by the neglect of the *techne* tradition, a tradition that was far less concerned with establishing models of subjectivity, value, and knowledge than it was with inventing and intervening within the productive forces of time and circumstance. Atwill illustrates this concern by examining ancient Greek medical, technical and rhetorical treatises, as well as mythical accounts, such as the Prometheus narratives depicted by Hesiod, Aeschylus, Protagoras, and Isocrates. While she admits that *techne* is not necessarily linked to democratic movements in these texts and by these figures, Atwill does argue that because productive knowledge is markedly different from other kinds of knowledge, especially theoretical, it provides a method for re-understanding difference not as an anomaly or problem but rather as a condition and opportunity.

Atwill illustrates some of these major differences in the book by explaining *techne*’s relationship to *kairos* (opportune or appropriate timing) and *metis* (cunning or resourcefulness). Unlike philosophical knowledge or reasoning, which must be timeless to be true, *techne* involves knowledge and reasoning that is explicitly temporal and contextual. As Atwill puts it, the aim of *techne* is “neither to formalize a rigorous method nor to secure and define an object of study but rather to reach an end by way of a path that can be retraced, modified, adapted, and ‘shared’” (69). The purpose of such a path, she continues, is not to discern or study a “thing” but rather to invent—to deform limits so that alternative destinations can be reached. Atwill continues the discussion of *techne* and invention, looking closely at how forces such as nature, spontaneity, and chance both enable and constrain productive knowledge. She then examines *techne*’s roles in social, political, and economic orders, arguing that as *techne* came to be associated with individual ability and economic capital, its potential to disrupt and re-create social boundaries diminished. Atwill also explains how this



potential was further diminished, if not stifled, by Plato's separation of logos and techne. Next she explores the role of techne in Aristotle's work, arguing that although it is clearly part of Aristotle's epistemological taxonomy, productive knowledge has been neglected due to the theory/practice binary. She then criticizes the idea that rhetoric can be contained within or understood by this binary, citing in particular its failure to account for rhetoric's implication in exchange, its resistance to epistemological and axiological ends, and its dependence on time and circumstance. In conclusion Atwill argues that by extricating rhetoric from this binary, that is by re-understanding it as a form of productive knowledge, scholars might move beyond some of the impasses and violence of the humanistic tradition.

Vitanza, Victor. "From Heuristic to Aleatory Procedures; or, Toward 'Writing the Accident.'" *Inventing a Discipline*. Ed. Maureen Daly Goggin. Urbana, IL; NCTE, 2000. 185-206.

In this essay Vitanza explores the theoretical and practical possibilities of adopting aleatory procedures as an alternative to heuristics. For Vitanza, heuristics represent the "old economy" of writing—an economy based on definition or restriction, binary logic, and the law of noncontradiction. As a result of this economy, heuristics exclude the third term, the possible, or the compossible. Aleatory procedures, which represent the new economy, however, seek to include this excluded third term through excess, chance, and accident. By including the third term and thus destroying binary logic, aleatory procedures would, according to Vitanza, change the foundation of rhetorical invention, moving it from stasis to metastasis. In addition, aleatory procedures would not use *topoi* as arguments, but instead as tropes. For Vitanza, changes such as these could alter writing in the disciplines and initiate positive political, ethical, and social action.

As examples of aleatory procedures, Vitanza discusses Greg Ulmer's *heuretics* and anagrammatic writing. The heart of Ulmer's *heuretics* is his CATIt heuristic, which is an acronym that stands for Contrast, Analogy, Theory, Target, and tale. It replaces argumentative writing with associational networks, the logic of cyberspace, or what Ulmer calls electracry. Vitanza's second example of aleatory procedures, anagrammatic writing, is the idea that language can think, or more pre-

cisely, that too much mastery of the object by the subject has resulted in the object's accidental ability to make meaning.

Bawarshi, Anis. *Genre and the Invention of the Writer: Reconsidering the Place of Invention in Composition*. Logan, UT: Utah State UP, 2003.

Anis Bawarshi's *Genre and the Invention of the Writer* examines how what she calls "the synchronic relationship between writers and genres" gets enacted in rhetorical invention (10). Specifically Bawarshi is interested in using recent genre theory to provide an account of invention that challenges discussions which understand invention as a pre-social process of introspection. Building on the work of scholars such as Karen Burke LeFevre, Carolyn Miller, Anthony Giddens, and Charles Bazerman, Bawarshi argues that genres are constitutive of social and rhetorical actions, relations, and subjectivities. As such, she believes that they help maintain the desires they are designed to fulfill. In other words, genres are sites of both the articulation and acquisition of desire. It is here at this intersection between articulation and acquisition that Bawarshi locates rhetorical invention, arguing that writers invent by "locating themselves within genres, which function as habits or habitats for acting in language" (110). "Rather than being identified as the agency of the writer," she continues, "invention is more a way that writers locate themselves, via genre, within various positions and activities. Invention is thus a process in which writers act as they are acted upon" (143).

In order to make this process of invention more accessible to students, Bawarshi advocates and describes a genre-based pedagogy in which teachers teach students "how to identify and analyze genred positions so that they can locate themselves and begin to participate within these positions more meaningfully, critically, and dexterously" (146).

Carter, Michael. *Where Writing Begins: A Postmodern Reconstruction*. Carbondale, IL: Southern Illinois UP, 2003.

Michael Carter's *Where Writing Begins: A Postmodern Reconstruction* begins, appropriately enough, with the question: where does writing begin? This question, though, quickly morphs into another: what is writing? Carter tries to answer this colossal question against the backdrop of charges that writing teachers, in their effort to make writing

definable and teachable, have made it servile or instrumental, that is, a means to some other, more worthy end, such as self-expression, the creation of knowledge, the critique of ideology, etc.

In part, Carter agrees with these charges—he agrees that by locating the value of writing outside of the event of writing, we've ignored what's intrinsically valuable about it. Importantly, though, Carter does not stop here, at critique. Instead he uses his search for writing's beginnings as an opportunity to reconstruct an understanding of writing as both teachable and intrinsically valuable.

One of Carter's first reconstructive moves is to dismiss the notion of a temporal beginning for writing, seeking instead an ontological conception of beginning, which he finds in the Greek term *arche*. As Carter explains, *arche* as beginning represents a threshold point where the infinite enters the finite, the divine enters the human, and the spiritual enters the material. Characterized by the interpenetration of contradictory forces, *arche* evokes a kind of Janusian thinking that Carter describes as state of "doubleness and betweenness"—being neither in nor out but at once in and out; at once facing the past and future, the known and the unknown (25).

In order to develop this alternative understanding of beginnings, Carter turns to modern dialectical theory and Alfred North Whitehead's process philosophy, both of which help him distinguish the kind of creativity associated with archeological beginnings from the kind associated with temporal beginnings. Unlike most Western notions of creativity, which tend to be monolithic and unilateral, positing a subject-creator who produces a created object in a singular, identifiable event, archeological creativity is ongoing or continuous, each moment understood as a threshold between the past and future that represents an opportunity for newness, change, and disruption. Moreover, as Carter explains, this conception of creativity is also "utterly collaborative" in that it views all things, biotic and abiotic, as creative. Instead of unilateral, then, creativity in this *archeological* model is multilateral, flowing in all directions, erasing the division between creator-subject and derivative, commodified object (206).

For Carter it is here, in the multilateral, ongoing, and (dis)continuous creativity associated with *archeological* beginnings, that we can find the intrinsic value of writing. As he points out, many scholars in Rhetoric and Composition have defined good writing as the juxtaposition of opposing forces, but none have argued, as he does, that its intrinsic

value lies in such juxtaposition. And none have so explicitly argued that these are the terms through which we should understand invention. "Invention," Carter writes, "is not about finding answers, figuring out what to write, or supporting a thesis. Rather it is about placing everything into question, the threshold event between the unknown and known, the familiar and unfamiliar." As such, he continues, it "is essential to the creative experience of writing as beginnings. [. . .] It is how we conceive of creativity as utterly intrinsic to writing" (223-24). Offering a radically new perspective on writing's beginnings, Carter argues that "invention is not focused on making writing good, but rather "on the good of writing, the destabilizing experience of participating in beginnings" (225). It is from this new perspective, and with the help of reconstructive postmodern theory and theology, that Carter offers a re-understanding of both the meaning and the ethicality of teaching writing in late postmodernism.