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RHETORICAL INVENTION: A SURVEY

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A Thesis  
Presented to the  
Faculty of  
California State College,  
San Bernardino

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Art  
in  
English Composition

---

by  
Phyllis P. Bee

July 1984



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Approved by:

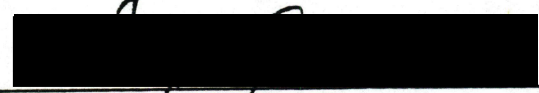


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## ABSTRACT

Heuristic procedures have occupied the attention of rhetors since antiquity. (Aristotle, and later the Latin rhetoricians, systematized procedures for Invention as an aid to discovering probable truth.)

By the late medieval period an altered perspective of the importance of Invention led to the neglect of its function in the rhetorical hierarchy. John Locke's interest in scientific methods and the need for disseminating information about the enlarging body of scientific knowledge influenced different approaches to discovery procedures. Ancient techniques had been neglected for so long that teachers of rhetoric and composition continued to ignore the importance of methodical discovery procedures and placed greater emphasis on other aspects of the writing act.

It was not until the twentieth century that the primary position of Invention in rhetoric was reestablished when theorists Richard Young, Alton Becker and Kenneth Pike developed the tagmemic heuristic procedure. Kenneth Burke's Pentad emphasized the importance of the sub-structure of words to the meaning of the text. Linda Flower's development of the structure tree and other strategies for prewriting, as well as contributions by other contemporary theorists

presently engaged in exploring and adapting both the ancient procedures and the modern theories of prewriting have made significant advances in meeting the needs of modern writers. It is hoped that this compilation of the theories of Invention and its expansion to subsume the idea of Prewriting would place in orderly perspective the long and varied history of Rhetorical Invention as well as the procedures and techniques available to contemporary teachers of composition.

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## INTRODUCTION

The purpose of this study is to investigate the techniques for heuristic procedures in modern composition, to compare the theories of modern theorists with those of Aristotle and to determine if and in what manner modern theorists diverged from the discovery procedures he identified in antiquity. Since classical times Invention has been regarded as the mysterious part of rhetoric. The aura of mystery increased as the significance of Invention was decreased and the difficulty of teaching it became evident. Modern research into heuristic procedures has done much to enlighten the mystery and to provide techniques for topic development. Information about these contemporary techniques as well as the history of Rhetorical Invention will offer teachers of composition some viable alternatives for teaching Invention as well as some insights to understand the anxiety behaviors exhibited by students as they move through the writing process.

Invention, or heuresis, is the primary member of the five parts of Rhetoric. Aristotle recognized its importance since sound arguments had to be discovered to support a citizen's case in the law courts, to persuade listeners and to aid both rhetor and audience to arrive at whatever could

be agreed upon as probable truths. Heuresis, the essential part of rhetoric that enables language to shape thought, define culture and influence behavior, is critical if the discourse content is to be reasonable enough to reveal probable truth and influence behavior.

The English derivative, heuristic, came to be a term useful in philosophy, psychology and logic, having the flexibility to move from the literary to the scientific fields. In the literary field, heuristic procedures are understood to be synonymous with the term Invention which implies a conscious act, following a planned procedure for arriving at a plausible solution to a writing problem. Invention is a crucial component of the rhetorical act in that it determines the content of the discourse. It is, therefore, more than just a useful writing skill, since it is the content of the argument that will convey the weight of persuasion or information, and in organizing the content of the argument, the writer is simultaneously organizing and enlarging personal knowledge.

In establishing the Topics, Aristotle observed what people did anyway as they invented effective speeches, and stabilized the procedure by identifying the Topics and the methods for detecting fallacies in arguments. If the principles governing Rhetoric, and Invention in particular could be systematized, then perhaps it was possible to teach people to develop arguments systematically to support a discourse.



And, since Rhetoric is common to all human affairs, sound and reasonable discourse content is critical if integrity, harmony and understanding is to be achieved.

For many centuries, the importance of the art of Invention was neglected, and for a long time was thought to be impossible to teach, although it was readily admitted that it could be learned. Having travelled a tortuous path, losing contact with rhetoric altogether, Invention, in the twentieth century is re-emerging still a critical component of the rhetorical hierarchy and still rich with pedagogical possibility. Psychological research in thinking and cognition has made, and continues to make invaluable contributions to rhetorical inventive procedures, theorists in language and education have devised heuristic procedures that are systematic and sufficiently rule-governed to provide teachers with a workable technique for teaching Invention.

In this study, I have collated the methods for teaching Invention devised by the major theorists of our times, to trace a historical overview of the psychological perspective of this very elusive skill, and to determine to what degree the modern theorists diverged from the principles set down by Aristotle. Further, I examined a representative set of current-traditional composition texts to determine the extent to which they utilized or acknowledged the principles of Invention identified by Aristotle.



This study concludes that while teaching Invention may not be a simple process, it is possible, at a number of levels, and considering the importance of content in discourse it will be well worth the effort.

## CHAPTER I

### OVERVIEW: CLASSICAL TIMES TO TWENTIETH CENTURY

In his Rhetoric, Aristotle devised a list of "topoi" or topics to use as probes, or as guides in the search for truth. The Special Topics deal specifically with law and speeches in the public forum. The Common Topics are the basis of deliberative rhetoric in which people engage continuously both in private and public affairs.

Invention, the core of rhetoric, and by far its most difficult aspect, was ignored for many centuries (following the disintegration of rhetorical principles which occurred largely as a result of the abuses of the Sophists in the second century.) For many centuries, Invention was thought to be impossible to teach, and it was relegated to the highly subjective realm of inspiration or creativity. Research into the locus and origins of creativity by twentieth century psychologists, however, has done much to demonstrate the possibility of teaching rhetorical invention, thus vindicating Aristotle's ancient position that systematic heuristic procedures were learnable and, therefore, teachable.

Invention, in our earliest times, played a crucial part in public speech, determining the content of the discourse. Since rhetoric, and by implication its content, had the power

to sway opinion, Plato insisted that only the moral man who knew his subject had any right to speak, which placed a narrow interpretation on what constituted truth, or who had any right to be heard. Aristotle apparently had some reservations about this dictum, for his Topics provide speakers with a procedure for discovering arguments to reveal the probable truth relevant to a matter at hand. Although what men believed to be true was a critical component in persuasion, Aristotle's technique did not relieve speakers of the responsibility to lead the audience to the discernment of truth as far as was possible, since his Topics included methods for testing the validity of statements before they were made.

The Latin rhetoricians Cicero and Quintilian prescribed good education, and development of personal integrity, in preparation for public speaking, thus linking the moral and the intellectual. Cicero systematized and simplified Aristotle's Topics in an effort to maintain the integrity of the principles of rhetoric which was gradually being eroded by the Sophist's emphasis on what men believed to be true rather than on the discernment of what was most probably true.

St. Augustine surprisingly did not insist on the high morality of orators, taking the position that either a good man or a vicious one could equally propound the Word of God provided he were skilled in the art of rhetoric. The arrogant belief that men were already in the possession of truth led them to discard, or at least discount, the idea of



rhetoric as the art of discovering and revealing probable truth. St. Augustine's On Christian Doctrine which was influential in developing the art of homiletics saw rhetoric, rather, only as the means of revealing absolute truth, seeking not the middle ground, but perceiving reality and motives from an either/or point of view.

7 During the eighteenth century, John Locke was an important influence in the scientific field, and although he delivered lectures in Rhetoric for one year at Oxford, he was not regarded as influential in that discipline. However, subsequent rereadings of his work have yielded some surprising insights. In addition to being the chief means of persuasion, or a medium for teaching or pleasing, Locke felt that the principal use of language was "to make known one man's thoughts or ideas to another, and to do it with as much quickness and ease as possible, and to convey the knowledge of things."<sup>1</sup> His interest in shaping a language style appropriate to scientific exposition resulted in a by-product that had significant influence in rhetorical invention. In proposing a style suitable and appropriate for expository and didactic prose, he extended the limits of the classical view of rhetoric and enumerated reasons beyond those identified by Aristotle and Cicero as the primary purposes for communication.

Locke further diverges from the classical view of rhetorical invention in suggesting that the human mind acquires

all its knowledge through experience which takes two forms, sensation and reflection. Edward P. J. Corbett grants this, but questions the implications of experience being the exclusive source of ideas in terms of Kenneth Burke's theory that identification between speaker or writer and audience is essential for effective communication. Aristotle himself recognized this when he pointed out that communication (rhetoric) was more effective if the audience showed some pre-communication experience with the speaker and was able to some degree to predict the outcome of the speech. Research into reading response executed by twentieth century theorists confirmed this statement, although careful examination of Aristotle's theory would have pointed out the exactness of this behavior.<sup>2</sup> Modern cognitive psychologists, moreover, in contradiction to Locke, insist that the person is more than the acts he performs, and more than the stimulus that prompted those acts. Gordon Allport's Becoming essay on the Leibnitzian tradition prompts him to question the validity of the Lockean theory of the tabula rasa condition of the human mind until sensual experiences informs the individual of stimuli in the environment. Leibnitz and Allport concur. They argue the reverse; there is a capacity for all indefinable means of knowing that is beyond the realm of sense impression not taken into consideration by Locke.<sup>3</sup>

Aristotle limited the discovery of probable truth to the realm of Rhetoric. John Locke acknowledges that certain

truth is almost impossible to attain as Edward P. J. Corbett recalls in his essay "John Locke's Contribution to Rhetoric"<sup>4</sup> in which he discusses John Locke's "Essay Concerning Human Understanding" (Ch. XIV, Bk. IV). Aristotle and Locke agree on this point. People constantly have to make practical decisions on what is only probably true, therefore, judgment and common sense in combination with that which is probably true must be the basis for sound decision making. By insisting on exploring verifiable data to challenge or to confirm belief, and by proposing varying degrees of assent, however, John Locke went beyond Aristotle's Rhetoric and into the realm of scientific and psychological inquiry in quest of a truth perhaps more close to certain than probable.

Late in the eighteenth century, in his Philosophy of Rhetoric (1776), George Campbell agreed with the Lockean position that rhetoric might have an end other than to persuade. His terms, to "enlighten the understanding," to "please the imagination," to "move the passions," or to "influence the will" closely resemble Cicero's trinity of values for rhetoric, to persuade (movere), to delight (delectare), and to teach (docere), which is a restatement of Aristotle's view of rhetoric as the art of persuasion.

As the nineteenth century unfolded, emphasis shifted from speaking to writing in the teaching of Rhetoric in American universities. Under Edward T. Channing, Harvard's professors explored the psychological processes involved in

rhetoric and by the latter half of the century had established courses in Freshman Composition, the art of written discourse. During this period, the concept of the paragraph was introduced by Alexander Bain in English Composition and Rhetoric (1866). This was a seminal work that was to promote movement from the word to the sentence to the paragraph to the whole composition as a pattern of instruction well into the twentieth century. But this approach placed such great emphasis on grammar and the correct mechanics of language, that the content of discourse was slighted in favor of correct usage of language. This represents a significant loss, for while grammar is the underpinnings of language maintaining logic and clarity, it becomes purposeless when viewed as an end in itself, since its primary and only function is to discipline discourse so that ideas are transferred with ease and clarity from rhetor to audience. The topic sentence and methods of developing the paragraph were closely linked to the classical topics. The three-part doctrine of unity, coherence and emphasis were developed by teachers who used Bain's text, English Composition and Rhetoric, however unaware they may have been that this trinity was named by Cicero many centuries earlier.

By the 1930's parents and business people raised such a clamor for the conventional basics that the teaching of rhetoric in any form was abandoned by teachers of English in favor of grammar, correct spelling and usage. By the 1940's



it appeared that teachers of English had relinquished their claim to rhetoric, and the classical tradition passed to teachers of speech. This abdication was clearly defined at Cornell University where it was the Speech Department that offered seminars using Aristotle's Rhetoric, Cicero's De Oratore, and Quintilian's Institutio Oratorio. Rhetoric had come a full circle in the province of oratory.<sup>5</sup>

#### HEURISTIC PROCEDURES IN CLASSICAL TIMES

(Aristotle's Topics for classical invention would have been a crucial component in the study of rhetoric) for mid-twentieth century students at Cornell. (Classical invention was concerned with discovering arguments to support a position with the possibility of persuasion dependent on proof or apparent proof provided by the words of the discourse itself. In his Rhetoric Aristotle examined heuristic procedures for different types of arguments separately. Artificial Invention dealt with what might be regarded as evidence and was appropriate for discourse in the public forum. These topics did not have to be invented, only applied. They were:

- |               |               |
|---------------|---------------|
| (a) laws      | (b) witnesses |
| (c) contracts | (d) tortures  |
| (d) oaths     |               |

The Common Topics could be used to discover arguments to support any kind of discourse. Of these, Aristotle named four:



1. The Topic of the Possible and Impossible
2. The Topic of Past Fact and Future Fact
3. The Topic of Degree
4. The Topic of Size

Aristotle proposed that if it is possible for one of a pair of contraries to be or to happen, then it is possible for the other to be or to happen, for any two contraries are equally possible. Moreover, if one side of two similarities is possible, so is the other; if the harder of two things is possible, so is the easier; if the ideal is possible, so is the average; if a beginning is possible, so is an end; and, finally, if the parts are possible, so is the whole. The topic of the impossible may be effected by reversing this procedure.

There are two ways of considering questions of Past Fact: occurrence or non-occurrence. If the occurrence of a Past Fact is under consideration, it may be noted that if the less likely of two things has occurred, the more likely must have occurred also. If what usually follows has occurred, then the previous event has occurred, and if a thing is completed, then it must have been attempted. It must be noted, however, that some consequences are inevitable and some are usual. Non-occurrence may be argued from the reverse of these premises. Future Fact may be argued along similar lines, assuming that a thing will be done, if there is both the power and the wish to do it, or that a thing will happen

if another thing which naturally happens before it has already happened.

Of the Topics of Degree and Size, Aristotle conceded their main difficulty to be a potential for retreating into generalization, presenting the speaker with the danger of having to argue without an object as example, assuming the audience's ability to conceptualize. However, it is still possible to construct arguments by following the principles set down for arguing from the Topics of Possible and Impossible, and Past Fact and Future Fact, and applying them to the Topics of Degree or Size.

For support of the Topics. Aristotle cited maxims, examples, and enthymemes as an important part of the thought-element that was critical to the production of effective discourse. While these forms may not be initially perceived as invention of the basic argument, they do serve to clarify ideas both for the rhetor and the audience.

Argument by example is effected by inductive reasoning. Sources for the example are actual past facts or the inventive parallel and the fable. Aristotle points out that the fable is suitable for popular audiences and is easier than the actual past event to invent since all that is required is the ability to think out the analogy, a power which is developed by intellectual training. Examples are useful where it is difficult to argue by enthymeme, but if it is possible to argue by enthymeme, the example may be cited as supporting



evidence. In addition to the four basic themes for discourse, Aristotle identified three methods of appeal to an audience; ethos, appeal to ethics, logos, appeal to logic, and pathos, appeal to emotion.<sup>6</sup> Further, he provided rhetors with twenty-eight probes to use as the heuristic procedure for validating arguments in common discourse and ten alter probes designed to aid rhetors in identifying fallacies in either their own or their opponents' arguments.<sup>7</sup>

Aristotle's concern with probing for probable truth indicates that human affairs in classical times were marked by at least as much complexity as characterizes human affairs in modern times. While people in those days may not have had to develop a language to cope with complicated scientific matters, they certainly had a language that was flexible and developed enough to deal with subtle, complex philosophical questions.

Despite this, Aristotle's Common Topics are a down-to-earth, and easily understood procedure for probing the essence of a problem. From a contemporary point of view the language may be cumbersome, but so is contemporary legal language. Yet, the probes of the topics are flexible enough to manipulate and possibly translate into modern language giving students and teachers alike an easily understood foundation on which to build as they move into the more technical probes provided by current research.

## CHAPTER II

### HEURISTIC PROCEDURES IN FRESHMAN COMPOSITION TEXTS:

1973-1981

As comprehensive as Aristotle's model and directions were, modern textbooks generally do not use the model in the rich entirety with which he supplied it, and consequently appear to have sanctioned the loss of unity of his theory. Evidence of this is revealed through the teachings of selected topics as a way of writing. Centuries of tampering with the basic system as Aristotle devised it, so that prevailing requirements could be met, have resulted not only in loss of unity but the uncertainty that has for so long characterized the study of invention. Certainly this is a factor in the failure of contemporary text writers to recognize the importance of Aristotle, and certainly Plato and Socrates as the identifiers and organizers of the principles governing human communication in western civilization. The system itself is now so fragmented, it cannot be judged to be the theory proposed by Aristotle.

However, insofar as each common topic is treated, students receive useful counsel for developing a piece of discourse, but questions to help students in determining appropriate support for arguments are scant. The greatest danger



of presenting the topics piecemeal, it seems to me, is the possibility that students may perceive the topics as a style (or kind) of writing, basically, rather than a means of exploring or restricting the subject, or as a method of supporting arguments.

Besides a dearth of guidelines that could quickly and efficiently lead to the isolation of the topic, and arguments in support thereof, students are frequently advised to select a topic from their own experience and interest. But much of the time, such topics have limited value in either the academic or commercial world.

The texts reviewed for the purpose of this investigation included twelve composition textbooks chosen at random and published between 1973 and 1981. (My concern in approaching each textbook was to determine the extent of instruction utilizing the Aristotlean Topics as well as acknowledgement of Aristotle as originator or Cicero as systematizer of the procedure for rhetorical invention.) Of the texts reviewed, none gave any hint of either Aristotle as the codifier of the principles governing their subject matter, or any reference even to the antiquity of the principles of rhetoric. Few provided clear instructions for heuristic procedures.

Of the texts reviewed, three came closest to the ideal of assisting students through the very difficult process of discovery. James M. McCrimmon's Writing With a Purpose (1973) provides a diagram giving students some idea of a



methodical means of restricting topics. It may be applied to arguments based on topics on the Possible/Impossible or Past Facts/Future Facts. He further treats other topics fairly thoroughly. The illustrative parallel, comparison and contrast, analogy, division, are referred to at varying points in the book.<sup>1</sup> Examples are cited and exercises are provided. Classification<sup>2</sup> (Definition) clearly relates to Aristotle's topic probe 7, in which students are told to define terms to put argument in a favorable light. The enthymeme is briefly discussed, and treatment of fallacies in reasoning meets almost all the criteria set forth by Aristotle, but from the perspective of the full syllogism rather than the enthymeme.<sup>3</sup>

Edgar V. Roberts in the prefatory notes to A Practical Rhetoric: Writing Themes and Tests concedes that while this text does not explicitly use the rhetorical topics it will attempt to demonstrate the interdisciplinary nature of writing.<sup>4</sup> It does provide a list of questions that approximate the Richard Young, Alton Becker, Kenneth Pike Matrix, but the list is topic specific and lacks the universal characteristics of the Young et al Matrix, or Aristotle's Topics. The greatest virtue of this text aside from its list of probe questions is the proposal that writing and thinking are related and that some form of prewriting activity may be helpful.<sup>5</sup>

Donald McQuade and Robert Atwan in Thinking and Writing assert that the basic question writers should ask is "Do we really know what we want to say before we say it?"<sup>6</sup> Although

this text largely depends on the use of literary examples for study and imitation, it does provide identification of the rhetorical features employed as well as exercises for exploration and experimentation.

It is this kind of organization that gives the text its flexibility since presumably teachers could adapt analysis of the literary examples to demonstrate a variety of rhetorical strategies. This text emphasizes the relationship of writing and thinking, and the importance of words. McQuade and Atwan's views seem to reflect Kenneth Burke's regard for the value of words in their opening comment that words "are not simply handy building blocks to be fitted into their proper places, but are, rather, powerful activators that continuously shape and reshape our thinking and writing."<sup>7</sup> McQuade and Atwan in using one of Aristotle's essays "Youth and Old Age,"<sup>8</sup> to demonstrate Comparison and Contrast and Description, is the only volume of the twelve reviewed that makes any reference of any sort to Aristotle.

The instances of treatment of the Common Topics are summed up in the accompanying chart.

		Possible/Impossible	Past Facts/Future Facts	Classification	Definition	Division	Comparison/Contrast	Degree	Size	Cause and Effect	Antecedents/Consequences	Contraries/Contradictions	Examples	Illustrative Parallel	Maxims/Fables	Enthymeme	Analogy	Deductive/Inductive Reasoning
Baylor	People and Ideas		X	X			X			X			X		X			X
Butler	Handbook of Practical Writing																	
Donald	Writing Clear Paragraphs																	
Driskill	Decisive Writing																	
Freedman	Contemporary Controversy																	
Kinsella	Techniques of Writing																	
McCrimmons	Writing with a Purpose		X	X		X	X			X	X			X		X		X
McMahon	A Crash Course in Composition																	
McQuade	Thinking in Writing						X			X								
Pichaske	Writing Sense																	
Roberts	A Practical College Rhetoric		X				X			X				X				
Willson	Analysis and Application				X													

It is clear, to me at least, that generally composition texts take a cautious approach relying on methods of topic development that gained acceptance in the past hundred years. Only rarely is reference made to any of the ancient rhetors and there does not seem to be a trend to identify Aristotle explicitly as the systematizer of the principles of rhetorical invention in modern texts, except for serious students of



rhetoric. (However, contemporary theorists are taking more careful consideration of Aristotle's principles of invention and adapting them to modern writing problems. They acknowledge the thoroughness and importance of Aristotle's work,) but the jargon of the new scientific approach tends to cloud the fact that modern research into rhetorical invention has its base solidly rooted in Aristotle's principles of rhetoric. Nevertheless, this scientific language has a special value to modern students since they respond to the language of science more readily than to the archaic language of Aristotle's Rhetoric. Given the intelligence that approaching writing tasks through grammar is unproductive, a modern application of Aristotle's principles certainly seems justified. Moreover, an approach to the teaching of invention that utilizes all the knowledge that research has made available certainly holds favorable promise, but awareness of the origin of the procedures presented and its relevance to the task at hand seems only just.

## CHAPTER III

### PREWRITING: THEORY AND PROCEDURES

A contemporary term for Invention is Prewriting. Although the two terms are used synonymously, there are some distinctions that can be made. Prewriting is that stage in the writing process that concerns itself with discovery. This includes the examination and analysis of knowledge of material, with the gathering of information and the selection of perspectives or aspects of the topic to be presented that will be most suitable for the prospective audience. A period of incubation while information is processed unconsciously, any kind of physical preparation or observation of ritual preparatory to the writing act are all included in the idea of prewriting.

Classical Invention as defined by Aristotle and affirmed by Cicero is the discovery of valid or seemingly valid arguments to render one's argument probable. The progression through the Topics imply a series of well-defined steps by which the writer can attain substance and proof for the discourse.

Prewriting places emphasis on the total involvement of the writer. Physical habits and psychological outlook influence not only the writing product but the writer's ability to



assess the required output necessary to create an effective piece of prose. The intuitive approach imbedded in the term Prewriting may apply greater benefits to creative writing, while the intellectual approach implicit in Invention will produce prose more appropriate to expository writing.

No doubt classical rhetors were subject to the same physical and psychological behaviors that occupy modern writers and we can be sure that with a mind as perceptive as Aristotle's, he was aware of the factors that influence the outcome of a writing task. However, the very intellectual approach of the Topics reflect his interest in teaching a method for isolating and narrowing one's general subject, and manipulating its perspectives to appeal to a given audience. This is the sharpest distinction that can be made between the two terms. Its intellectual quality makes Classical Invention easier to teach than the more comprehensive concept of Prewriting which involves the student in consciously exploiting both the intellectual and the reflective aspects of the writing process. For pedagogical purposes, Invention is less cumbersome, more clear-cut for the teacher and probably more productive for the student than the highly technical Prewriting. Further, it is difficult to see how purely meditative reflection will produce an effective piece of prose or a topic that is alien to the writer unless some steps are taken to enlighten the initial ignorance. As Young et al<sup>1</sup> in Rhetoric: Discovery and Change insist, the mind that is

prepared by study and careful thinking will be more likely to apprehend solutions to problems through intuition.<sup>2</sup> In effect, the writer must be informed of matters relevant to the topic, prior to the somewhat mystical states of relaxation or reflection if any substantial insight into the topic is to be gained. Yet, in spite of the time-consuming factor of tapping into the unconscious through meditation, relaxation or free-writing, contemporary theorists recognize the value and the potential inherent in the careful blending of the two approaches in order to achieve the best possible piece of writing.

Research by cognitive psychologists into the tacit mode has provided some valuable insights into prewriting behavior. Their research has not only shown the value of the meditative state as a heuristic, but it has led to the recognition of a variety of behaviors that influence writing. The idea that every act that takes place prior to the writing act must be termed prewriting as long as it influences the discourse itself is a point of no little interest to writers. Among such behaviors is the procedure termed Freewriting,<sup>3</sup> during which the writer is required to write freely without pause, and without thought for selection of topic, syntax or convention. By the end of any indeterminate period of time, the writer is assumed ready to attack a writing task of definite dimensions.

Another technique which draws upon research from cognitive psychology is Clustering.<sup>4</sup> This is a close relative of

Freewriting and is a form of a free association word game that is deceptively simple, yet indicates that knowledge about objects is stored in network form in the brain. A concept may be defined as a node which is a crucial intersection connected to pathways associated with material that share similar features or properties. (This fact may be the biological and psychological reason why analogies are effective rhetorical strategies.) Thus the concept "moon" could relate to ideas or properties such as night, light, cold, all-seeing, brilliant and so forth. One word leading to another would evoke other responses relating to the place the concept "moon" held in nature or mythology or science, and so establish a point of departure for the writer.

Other non-rational, or ir-rational, or perhaps a-rational behaviors of the prewriting period as identified by Toby Fulweiler and Bruce Petersen in Toward Irrational Heuristics: Freeing the Tacit Mode, include Mumbling, Staring, Moving, Doodling and Noise.<sup>5</sup>

Mumbling is defined as a form of low level articulation, that stops just short of articulate speech. Fulweiler and Petersen draw upon the theory of Lev Vygotsky here which argues that "concept formation is guided by the use of words." This extremely narrow division between articulation and non-articulation may represent an efficient method of thinking, since the non-linguistic items of imagery may be processed through these stages of articulation toward the solution of

the writing problem. Fulweiler and Petersen further agree with Carl Sagan that "articulation of a concept places the information into a deeper memory bank and radically increases the likelihood of retrieval."<sup>6</sup> Fulweiler and Petersen would even refine Mumbling into two distinct modes: free mumbling and bound mumbling. Free mumbling would be likely at the immediate awareness of a problem in an effort to locate a solution. The bound mumble is tied to a problem, and represents repeated efforts to find a solution and emerges as a reaction to the frustration or anxiety produced by the problem. Its usefulness may lie in the fact that it could suggest radical solutions to the problem at hand.

Staring is also a commonly used heuristic although Fulweiler and Petersen readily admit that some topics do not lend themselves to elucidation by this procedure. It can, however, produce insights into problems that are clearly defined, but the solution may be beyond the writer's immediate scope. This procedure seems to be a close cousin of the meditative mode.

In contrast to immobile staring, Fulweiler and Petersen identify Moving as a heuristic. They remind us that peripatetic problem solving dates back to Classical Greece and possibly an earlier era. One only has to recall the restlessness of Socrates at Athens or Aristotle at the Lyceum as they taught. Fulweiler and Petersen suggest that movement changes environmental perceptions as relationships change,



shift or blur. The physiological responses also combine with the environmental factors to enhance thought and speed up the incubation period.

A fourth non-rational heuristic suggested by Fulweiler and Petersen is Doodling. Artists and cartoonists have long been aware of the power of Doodling to release the design that is most succinctly expressive of what they wish to portray. Fulweiler and Petersen divide this heuristic into three forms:

1. Survival doodles which serve to make intolerable situations bearable, sublimating rage or desire. This form, however, is the least productive as a problem solving procedure for writing.
2. Graffiti doodling is psychologically aggressive and seems to be concerned with problems of personal conflict. Therefore, its value as a heuristic for rhetorical problems may be limited. There have been some theoretical discussions attempting to link limericks to graffiti doodling. Although there may be some possibility of using the limerick as an aid to analogy, Fulweiler and Petersen feel that further study is required.
3. The fantasy doodle is closely related to fantasy itself as it serves to fulfill wishes, tempers and manage fears. Fulweiler and Petersen suggest that this form of doodling releases the imagination for

problem solving unfettered by logic and performance. This kind of doodling is not difficult and the practitioner needs only follow where the mind and the hand leads. The discipline in this form is similar to freewriting in that, once started the doodle writer may not stop for a specified period. The process as well as the product is beyond the control of the practitioner, insofar as the problem solved may not be the problem the doodler was aware of, since this disengaged mode has access to the uncontrollable depths of the mind.

A surprising aid to problem solving identified by Fulweiler and Petersen was Noise. They submit that noise is a by-product of technology and therefore we may never return to the universal quiet of previous eras. To a people bred to tolerate a fairly high decibel level, silence may be disturbing, consequently rather than study carrels in libraries, students may be more effective at problem solving if alternate study areas in Television Lounges or Snack Bars are provided. The usefulness of noise as a heuristic seems to be located in its very distraction as it may serve to jar the writer out of a futile unproductive pattern of thought, taking a quantum leap, so to speak, into another orbital.

Whether or not a writer engages the benefits of the tacit mode as a heuristic, conscious thought and unconscious activity must combine to create some insight into the



problem, if the writer is to produce any discourse. Robert de Beaugrande points this out when he says that "Invention is a combination of ungoverned association and mechanical reproduction of knowledge,"<sup>7</sup> i.e., an interplay of the unconscious and conscious. He argues that the psychological processes that govern the act of invention may be quite accessible and, therefore, amenable to pedagogy. The nine characteristics shared by Classical Invention and the contemporary idea of Prewriting which are identified by de Beaugrande can assist writers in determining just where they are in the writing process. These nine points of correlation between Classical Invention and Prewriting are as follows:

1. The writer evolves an intention.
2. The writer decides upon a plan for achieving that intention.
3. The writer chooses a mode of discourse as medium.
4. The writer selects a topic or set of topics out of the general domain of human knowledge and experience.
5. Some specific aspects of the topics are given emphasis.
6. Those specified aspects are assigned some associated properties or proximities and are arranged into a basic structure of meaning.
7. Using the domains defined in (6) the writer searches for actual words and expressions for the surface text.

8. The selected words are arranged into a linear sequence in accordance with the strategies of syntax and applicable controls.
9. The final text is experienced by readers who are motivated to re-enact the formative processes and recover the underlying structure of meaning evolved during step (6). In so doing readers gain perspective on the topic and possibly on their own human situation.

These practical considerations of the prewriting heuristic proposed by de Beaugrande are supported by the techniques proposed by Linda Flower for solving writing problems. They are further, clearly defined so that teachers and students alike can assess progress in the writing process.

Knowing just which approach is appropriate for a teaching situation provides a composition teacher with a certain latitude. Taking the intellectual approach of classical invention may be more easily presented, but understanding the psychological reasons for some prewriting behaviors that students will unwittingly exhibit, for example, those heuristic procedures identified by Fulweiler and Petersen, should endow the teacher with a higher level of tolerance. Cognizance of prewriting behaviors is useful to writers whether experienced or not. Knowledge of personal preference in regards to prewriting behavior is likely to promote a relaxed attitude to the writing task which will influence the

effectiveness of the prose. Although some prewriting behaviors appear to be delaying tactics, if writers understand the psychological reasons for these tactics the energy produced by the ritual will be reflected in the effectiveness of the prose, raising the writer's confidence and self-esteem. If, however, these behaviors are misunderstood, the piece of writing is liable to be flawed by the writer's tension and loss of confidence.



Strategies

## CHAPTER IV

### HEURISTIC PROCEDURES: WRITING AND PROBLEM SOLVING

In Problem Solving Strategies for Writing, Linda Flower modifies the structure tree as a heuristic, or in her terms, a hierarchical organization of information. This system categorizes and labels each aspect of the writing problem so that the writer can see what direction the discourse may take. Although this system applies more readily to organization of material, it could serve as a model for invention in revealing to the writer the need to answer the familiar queries of Who? What? When? Where? and Why?. A major value of the structure tree is its ability through design to separate the problem into its constituent parts, giving aid to the writer in plotting the direction the discourse should take. Once the problem is defined, questions can be asked and objectives set for solutions.<sup>1</sup>

Experimentation with the structure tree as a prewriting heuristic for this paper exposed certain points that were necessary for me to address, as well as questions that had to be answered. It also highlighted the sequence for the material that would probably be the most productive. It seems only reasonable to regard behavior such as this as a pre-writing activity.

Linda Flower recommends a six point approach to solving writing problems:<sup>2</sup>

1. Define the conflict or key issue. This is probably the most difficult part of the writing task, as the difference between defining a problem and stating a topic will be the determinant of the success or failure of what the writer is trying to achieve.

2. Place the problem in larger context (i.e., back off and take another perspective).

3. Make a problem definition more operational. This is a crucial step in trying to understand an ill-defined problem and must be built on the first two points. This is the point at which the writer will narrow topic and seek answers to specific questions.

4. Explore the parts of the problem. Arranging the parts of the structure tree helps the writer see the various parts of the problem and the related issues at a glance. This can be a useful point-of-departure for the next step.

5. Generate alternative solutions. As the writer explores the parts of the problem, possible solutions will present themselves. If adequate preparation has been made, it will likely be at this point that the intuitive flash occurs.

6. Come to a well-supported conclusion. Integrity demands that evaluation of various solutions must take place so that the writer's propositions when perceived by readers as

probable truth will be more likely to have persuasive value.

The objectives here are to discover, by whatever means, intelligence that clarifies one's position on a topic and to utilize strategies to transfer that intelligence to the reader in a distortion free medium. For as de Beaugrande asserts, "invention is not the mere creation of novelties but rather the modification of existing knowledge in response to a specific intention and goal."<sup>3</sup>

#### TAGMEMIC HEURISTICS

Almost two decades ago, Richard Young, Alton Becker, and Kenneth Pike developed a tagmemic heuristic procedure designed to facilitate and enhance communication from writer to reader. Tagmemics, a linguistic term, applies to invention insofar as rhetorical and lexical choices have any significant influence on the meaning and eventual interpretation of the text. In its basic form, a tagmeme may be noted as a simple, declarative sentence. It is the largest unit of utterance in the linguistic hierarchical system ranging from phonemes to tagmemes.

Heuresis, the process of inquiry, encompasses the period of time through which a writer passes from the initial perception of a problem that prompts questioning of an act, event, or object in space to the time he has shaped an explanation of that act or event or object in space to create meaning, both for himself and an audience. This is a period



of recursive, uncertain experiences, void of guarantees to the writer that the final product will effectively inform, persuade or create any psychological changes in all audiences. The tagmemic heuristic system developed by Young welds these two concepts, utilizing their properties for the maximum benefit to the writer during the exploratory periods, which is divided into four parts.<sup>4</sup>

#### 1. Preparation

The writer recognizes the existence of a problem, uses conscious language, albeit internally at this point, to shape the problem, identify it, and control it. Young reiterates that this stage of the inquiry should be careful as inadequate preparation will have a detrimental effect at a later stage of the inquiry.

#### 2. Incubation

This period in the pre-composing stage is the least understood part of the process of inquiry. During this period the writer is not actively engaged in the consideration of the problem, but his subconscious having been prepared by the first part of the process for some insight into the nature of the problem, seemingly takes over and organizes information into perceptions consistent with the experience of the writer. This phase of the inquiry process has been a matter of intense research by cognitive psychologists, as is evident in the term itself, since their interest lay primarily in how the human mind responded to problems in areas

other than writing. The contemporary approach to prewriting through relaxation, free associating and meditation is a by-product of psychological investigation. As this period of incubation becomes more understood, its mystery will be exposed weakening the position taken by many educators that invention could not be taught, although it was readily admitted that it could be learned.

### 3. Illumination

At this stage of inquiry, the writer recognizes the contrastive features, range of variation and distribution within the context of the problem of the moment. This is the point at which the writer apprehends a solution to the problem and can suggest a system of organization for the data.

### 4. Verification

This is the stage at which the investigator tests the hypothesis for validation on revelation of inadequacies. If validation can not be achieved, then the process must be repeated.

In Rhetoric: Discovery and Change the heuristic model developed by Young (reproduced here) combines certain assumptions stated in the form of maxims and utilizes a particle, wave, or field approach.<sup>5</sup>



	CONTRAST	VARIATION	DISTRIBUTION
PARTICLE	<p>View the unit as an isolated, static entity.</p> <p>What are its contrastive features, i.e., the features that differentiate it from similar things and serve to identify it.</p>	<p>View the unit as a specific variant form of the concept, i.e., as one among a group of instances that illustrate the concept.</p> <p>What is the <u>range</u> of physical variation of the concept, i.e., how can instances vary without becoming something else?</p>	<p>View the unit as part of a larger context.</p> <p>How is it appropriately or typically classified? What is its typical position in a temporal sequence? In space, i.e., in a science or geographical array. In a system of classes?</p>
WAVE	<p>View the unit as a dynamic object or event.</p> <p>What physical features distinguish it from similar objects or events? In particular, what is its nucleus?</p>	<p>View the unit as a dynamic process.</p> <p>How is it changing?</p>	<p>View the unit as a part of a larger, dynamic context.</p> <p>How does it interact with and merge into its environment? Are borders clear-cut or indeterminate?</p>
FIELD	<p>View the unit as an abstract, multidimensional system.</p> <p>How are the components organized in relation to one another? More specifically, how are they related by class, in class systems, in temporal sequence, and in space?</p>	<p>View the unit as a multidimensional physical system.</p> <p>How do particular instances of the system vary?</p>	<p>View the unit as an abstract system within a larger system.</p> <p>What is the position in the larger system? What systemic features and components make it a part of the larger system?</p>



The maxims are the foundation for the process of inquiry suggested by the Matrix, and assume the prior experiences of the writer. They are as follows:<sup>6</sup>

Maxim 1 states that people conceive of the world in terms of repeatable units of experience.

Maxim 2 points out that units of experience are hierarchically structured systems.

Maxim 3, the most critical to the terms of the Matrix, states that a unit at any level of focus can be adequately understood only if three aspects of the unit are known:

1. its contrastive features;
2. its range of variation;
3. its distribution in larger contexts.

Maxim 4 gives the Matrix its terminology and provides a sense of direction for the writer since "A unit of experience can be viewed as a particle or a wave or a field, or may be viewed as all three.

Maxim 3 and 4 relate explicitly to the assumptions of the Matrix, while the others lend support to their terms. Further, there are some significant similarities between the Maxims and Aristotle's Topics. For example, before one can appreciate the contrastive features of a unit of experience, as Maxim 3 instructs, one must be open to the perception of experience. It is only in this way that an observer can gain the experience that will determine the possibility or impossibility of an event. Again, Maxim 1 points out, "people

conceive of the world in terms of repeatable units of experience," therefore, they have to shape their perceptions of the world about them based on their perceptions of the possibility or impossibility of an event as well as their knowledge regarding prior occurrences of this event. In other words, does an experience fall under Aristotle's category of Past Fact?

Certainly as people "conceive of the world in terms of repeatable units of experience," they create a sense of stability, yet they take into account the subtle imperceptible differences that lend dynamism to each experience. Units of experience, therefore, can share similarities, but an observer is just as likely to note different stimuli at varying instances. This depends in large part on individual preferences or experiences, relating directly to Aristotle's Topics of Past Fact and whether an event is Possible or Impossible. It relates further to Maxim 2 which states that "units of experience are hierarchically structured systems," so that the observer has to have had some previous knowledge or experience which could provide for varying perceptions or points of attention. For example, the same individual engaged in repeated experiences of visiting the same cathedral may note widely diverging stimuli on each occasion. One visit may prompt attention to the stained glass while attention at another time may focus on the statuary. The observer could also be aware of different aspects of the same object,

by comparing two or more objects in relation to size, or the degree to which the quality of workmanship is evident. The Maxims are a skillful blend of Aristotle's Topics. But, more than that, when they are borne in mind as one follows the directions of the Matrix, they emerge as far more explicit than the broad titles of the Topics. By providing specific questions to ask, Young has increased the value of the Topics to writers as they seek to identify and clarify the points that are critical to the piece of discourse in hand.

Framing one's questions carefully is critical to the success of a writing problem. Young recommends a playful attitude as one poses one's questions in a variety of forms. Ultimately, however, in dealing with ill-defined problems, questions of fact will be framed around the terms Who? What? Where? When?. These terms isolate and identify persons, act, or events, objects, time and location. Questions of process that ask for descriptive or prescriptive operations will be framed around "How?". "Which?" or "What?" will characterize questions that involve relationships which include value questions, (which is better?), questions of cause and probability, (what caused it?) or (which is more likely?). Questions of relationships also involve questions of logic, consistency and policy. Logic and consistency will investigate cause and effect, as well as classification. Questions of policy will seek answers to "What should be done?"



The heuristic model invented by Young, while apparently rule-governed in that certain boundaries are set, does in fact leave the writer a great deal of latitude in choosing the perspective to adopt relevant to the topic. The Matrix provides a series of questions to guide inquiry aimed at increasing the writer's chances for arriving at plausible solutions. The questions also aid the investigator to retrieve relevant information stored mentally while exposing the areas where information is needed, prompting the writer to exploit extrinsic sources.

In exploring a problem, a writer may employ any of the three perspectives identified in Maxim 4. "A unit of experience can be viewed as a particle or as a wave, or as a field, or may be viewed as all three." This gives the writer a variety of alternatives, choosing to consider an experience as if it were static, or as if it were dynamic, or as a part of a network of related experiences.<sup>7</sup>

Young points out that the particle view recognizes the static nature of a unit, ignores changes in time, and selects from the dynamic whole some part for presentation. The particle view ignores the difficulty of separating one unit from another, isolating the unit from its surroundings, giving it clear boundaries.<sup>8</sup> The wave view recognizes some dynamic features of the unit, noting flow or movement in time, in space, or in a conceptual framework. It points out the nuclear component or peak point of the unit, while it also

emphasizes the fusion, smear or absence of distinct boundaries between the unit and some other unit or units.<sup>9</sup> A field perspective directs attention to the relationships that order the parts of the unit and connect it to other units within a larger system.<sup>10</sup>

The Matrix is a chart designed to subsume all these perspectives as it creates a fully-developed heuristic for exploring physical objects, events or concepts. Each cell contains one operation, and as the writer/investigator proceeds through each operation, assumptions vary as perspectives shift. Young cautions that this heuristic is not designed to create mechanical writers, but to guide intelligence and to stimulate intuition, creating the possibility of dealing with complex problems in original ways. This approach is exemplified in a writing task provided by the theorists asking student writers to describe a waterfall using the operations of the chart. The writer describing the falls to someone interested in salmon fishing would order his perspectives differently from one who was describing the power. By viewing the same waterfall through different perspectives, even a single writer could produce two radically different essays while using the same heuristic procedure.

Recognition of contrastive features, range of variation, and distribution in a class is critical to effective communication, on the part of both the writer and reader. If the

reader shares the writer's experience of an object, or an act, or an event, their perception will be more likely to coincide. Aristotle made this point in observing that if the audience knew the outcome of what the speaker was saying, the speech was more thoroughly understood. This is a way of empathizing with the audience, or in Kenneth Burke's terms, achieving identification between the writer and the reader. Young renames and shows wider uses for heuristic procedures than did Aristotle whose heuristic procedure was developed primarily for application in the public forum. Young's concern is for the conveyance of accurate meaning to an eclectic audience in any discipline.

Although this rule-governed heuristic procedure is designed to give the Young theory form and ease of application in the classroom, some teachers have criticized its value as a teaching technique and have traced this difficulty to the built-in redundancy in the system.

Charles W. Kneupper of the University of Texas, points out that although time is a critical factor in the assimilation of new theories, the difficulty of application of the Matrix warrants some simplification. His criticism lay primarily with the terminology as well as with the redundancy of the operations of the Matrix.<sup>11</sup>

He suggests, therefore, combining some of the operations into new cells without sacrificing the intention of the original authors. Kneupper proposes changing the terms Field



and Distribution to read System, substituting Process for Wave and Variation, and modifying Particle to read Static.<sup>12</sup> These changes in terminology do not violate the Young theory, as these terms are included in the vocabulary they use to explain the system. The revised heuristic (reproduced here)<sup>13</sup>

### The Revised Tagmemic Heuristic

	Unit in Contrast	Unit as a System	Unit in a System
STY	View the unit wholistically as an undifferentiated, isolated entity.	View the unit as composed of separable component parts.	View the unit as a part in a larger system.
AT	What feature(s) serve to differentiate the unit from other similar things?	What are the components of the unit?	What are the other components in the larger system?
IC		How are the components organized in relation to each other?	How are these components organized in relation to each other?
		What is the structure of the system?	What is the structure of the system?
	(1)	(3)	(7.9)
PRO	View the unit as a dynamic process, object, or event.	View the unit as composed of dynamic separable component parts.	View the unit as a dynamic part of a larger dynamic system.
OR	What process of change occurred to create the unit?	How were the parts formed?	How was the larger system created?
OC	How is it changing currently?	What will happen to each in the future?	How is it currently changing?
ES	What will happen to it in the future?	Do different parts change at different rates?	What will happen to it in the future?
SS	What feature(s) serve to differentiate the unit from similar processes, objects, or events?	What does change in a particular part do to the overall system?	How does change in the larger system affect the unit?
		How is the structure of the system changing?	How does change in the unit affect the larger system?
			How is the structure changing?

is more economical in that it reduces the number of operations from nine to six. Further, Kneupper claims that the revised heuristic is easier to remember because of its reduced size, which makes it easier to comprehend, requiring less mental effort. It is more effective as a teaching tool since generally it is less complex than the original. He does concede, however, that teachers should compare the two heuristics and make independent decisions about its application. This is an eminently sensible suggestion and one which teachers might have employed in any case. The Young Matrix represents the cutting edge of the development of a system for teaching Invention. The important thing is that a method has been devised; its application will depend largely not only on the techniques used for teaching it, but its assimilation by any given group of students. Teachers of composition will almost certainly have to adjust their teaching methods to accommodate both their students and the rich potential of the Matrix.

#### THE PENTAD<sup>5</sup>

Kenneth Burke, in his Grammar of Motives produced by far, the most far-reaching perceptions of and applications for the Art of Invention. Burke transcends the Topics of Aristotle, widening their boundaries to encompass motives and thought control as well as the apprehension of that which is unapprehendable. Once it is understood that

language entails the underlying substance of words, as well as their surface value, greater freedom accrues to the writer in the choice of words for the transference of thought with a minimum (or maximum) of distortion depending on the writer's intention or neglect.

The terms of Burke's Pentad<sup>14</sup> illustrate his Dramatic Method, or Dramatism, which developed from the analysis of the relationship of thought, language and action. The five terms, Act, Scene, Agent, Agency, Purpose, encompass all human effort, and are employed in varying ratios. Act refers to any word that tells what took place whether in thought or deed. Scene refers to words which describe the background against which the act is performed. Agent denotes who or which kind of person performed the act, Agency specifies the instrument or instruments used. Purpose is the motivation that integrates all the parts of the Pentad.

Burke explains that the quality of an Act will be consistent with the quality of the Scene. Thus, any behavior of an actor that is out of character with the scene becomes marked and widens the potential for ambiguity. Scene may be suggested by the verbal action that embodies imagery, as with descriptive passages, or it may be conveyed by props used for stage settings. Scene may be alluded to by terms such as society, environment, situations, eras, words for particular places or time. Agent includes all words general or specific for person. Words for the motivational



properties of agents such as drives or instincts, states of mind, the will and the spirit are included in this class. The term also refers to words that signify the collective agent such as nation, group, church or race and to the Freudian terms, ego and superego. Included also under the sign of Agent are historical periods and cultural movements. All these properties of Agent when referred to and combined with Act must be encompassed by a Scene that establishes the logic of the Drama.<sup>15</sup>

Agency signifies the instrument used to perform an act, yet the instrument itself has no intrinsic purpose until one is assigned by the Agent. In demonstrating the significant role Agency plays in relating means to ends, Burke extends Aristotle's theory of causes and highlights how far modern science has altered the relationship of the terms means and ends. Purpose is implicit in the terms act, agent, agency and so is in danger of being absorbed by these other terms of the Pentad. As Burke explains, tools and methods are designed for a purpose, useful for the agent to perform some act. In closely scrutinizing the Act, the Scene or background against which it is performed, and the Agency or instrument the Actor or Agent uses to perform the Act, the reader or observer may discover the Purpose or motives governing the Action. Purpose, being implicit in the other parts of the Pentad is submerged in the other parts of the Pentad, and is silent. If Purpose or motives were

immediately obvious, it would more likely blend with Act or Agency but would become meaningless creating an Actor or Agent who acts in that direction.

A simplification of Burke's Pentad is utilized in the familiar "Who" (Agent), "What" (Act), "Where" (Scene), "How" (Agency), and "Why" (Purpose). More importantly, it provides teachers of composition at all levels with a set of probes for instructing students in approaching a writing task. Writers can recognize the kind of solution that is implicit in the problem through the use of these probes. A question of "Who" will require biographical data in response, a "What" question will refer to some event or experience. "How" will inquire into process, and "Why," perhaps the most interesting question of all, will involve analysis. The answer to "Where" sets a scene and can be implicated in the answers to all of the other probes.

The boundaries of the terms of the Pentad are subject to some overlap. The terms themselves must bear relationships to each other. Burke uses the term Ratio to demonstrate this relationship and overlap. The inherent relationship and overlap, however, are indicative of the ease with which a writer can move from the terrain of one term to another, or even merge the areas of any of the terms. However, this very ease of movement (or the importation of terms) is likely to cloud key terms and produce ambiguity. For example, although the term "situation" is synonymous



with Scene, it sometimes becomes confused with Agency. For instance, when reference is made to the "literary situation," the writer may mean not the actual conditions surrounding the writer's act of writing, but the motives that move a writer to choose a particular medium. It is the medium that becomes central to the writer's act, and is, therefore, the agency by which the act is performed. In this sense, the term does not refer to the scene against which the writing act is carried out.

The relationship of the terms, their ratios, when taken together will reveal the motives that underlie the discourse. All the parts must be consistent with each other, Act being consistent with the Agent's potential, the Agency and Purpose within the confines of Scene. The ratios of Scene-Act and Scene-Agent are central to motivational assumptions. Political motives place a great deal of pressure on these ratios. Scene-Act ratios may be applied deterministically in the sense that something had to be done or in the hortatory sense that something must be done. Scene-Agent ratios will be applied deterministically in the sense that someone had to do something or in the hortatory sense that someone must do something. Readers must be aware of the terms that can be used to disguise those ratios if they are to discover motives, for the synonymous use of terms often disguise the intent to control thought in cultural or political planning. Burke extends Aristotle's Topics in demonstrating how



far-reaching the application of the Topics could be when manipulated as a means of thought-control, or when they were misunderstood or mis-analyzed by the individuals or organizations to whom the discourse is directed. He discusses at great length the value and place of ambiguity in discourse. His aim is not to eliminate ambiguity, but to reveal the points at which it occurs. He points out that certain points in a discourse are vulnerable to ambiguity as a result of the transformation of the meaning of a word. Consciousness of the transformative potential of words is a point at which Burke diverges from Aristotle, who placed the onus for clarity on the rhetor. Burke makes it the responsibility of the audience also, to be aware of the potentially insidious presence of ambiguity and be prepared to expose or redefine the terms. If blending of perspectives between writer and reader occurs, creating a sense of identification with each other, it will likely be at this point. Burke's concern for the underlying motives which can be revealed by lexical choices marks a further point at which he diverges from Aristotle. Burke's interest in the motives that govern an act performed by an agent, as well as the location and instrument involved in the performance of that act goes beyond Aristotle's quest for probable truth and provides for writers a multiplicity of levels at which a topic might be developed.<sup>16</sup>

In terms of the problem of invention, Burke's investigation of Spinoza's philosophy of Intuition and Reason was most productive. Spinoza distinguished three kinds of knowledge: (1) Intuition, (2) Reason, (3) Opinion and Imagination. He argues that Intuition ranks highest since "it proceeds from an adequate idea of the absolute essence of certain attributes of God to the adequate knowledge of the essence of things." Adequate knowledge of the essence of things certainly seems dependent upon learning, upon investigating a line of study and informing the mind of the properties of that which was previously unknown. But, not until the investigator is able to conceptualize the essence of the thing will there be that moment of intuition which will enlighten the mind and foster understanding. Understanding is the result of study which prepared the mind for that flash of insight. Reason, in Spinoza's terms, must then be equated with this kind of knowledge that is incurred prior to intuiting the essence of the thing.

The distinction between Intuition and Reason, therefore, is that Reason is understood as knowledge gained through intellectual effort, or perhaps as apprehension of probable truth, while Intuition comes as an inexplicable flash of insight, producing understanding of the essence of the problem, or as close an approach to absolute truth as is possible. This line of thinking confirms the Young theory that the informed mind is prepared for that flash of

insight which promotes understanding. Burke's idea of writer identification with the reader is based on the same principle, since the informed writer will be able to intuit or invent the most effective prose to persuade or inform the reader. There is also some relation to Stanley Fish's idea of interpretive communities, which function as open dynamic entities when communication is based on identification between writers and readers. It seems that in some respects we are still concerned with the problem of conceptualization, or abstractions, that faced Aristotle when he identified the Topics of Degree and Size. The ability to understand the essence of the problem, however, enables the writer to invent the language to articulate, not only a statement of the problem, but a probable solution to the problem, as well as to alleviate some of the tension the reader experiences in attempting to comprehend the writer's meaning.

The approach of modern theorists to the ideas of identification between writer and reader, and the concept of intellectual effort being a necessary event prior to illumination of a problem contrasts sharply with Locke's position that we can only depend on experiences or empirical data to determine not only the appearances, but also the nature of things, acts or events. As a heuristic procedure Locke's emphasis on external data is heavily weighted in favor of the intellectual process, with minimal recognition



to the Gestalt theory that accounts for intuition.<sup>17</sup>

Spinoza, and certainly Burke and Young, move beyond the necessary intellectual effort toward intuiting the essence of a problem, Burke at least subsumes Locke's position when he points out that "with the help of our senses, we learn how to vary the 'sets' of ideas which we experience," so that once an event has been experienced we know or can recognize the appropriate set of sensations surrounding a similar idea or subsequent act. In spite of the limitations of Locke's theory concerning experiences as the primary informants to the mind, there is truth in the assertion that if writers and readers have had similar experiences, there is less likelihood of great disparity in their levels of knowledge making for a closer reconciliation of perspectives. The use of comparison becomes useful at this point, not necessarily as a frame of reference for the exact thing or experience itself, but as a contextual reference aiming for categorization of the object or experience, so that even if an audience does not know the exact object or experience, act or event, if the object, experience, act or event can be categorized, it can be thought about.

Aristotle understood this problem when he identified the topics of Degree and Size. Their intangible qualities and blurred boundaries made them difficult for the rhetorician since he would have to rely on the audience's ability to conceptualize. As Burke explicates various philosophies, it

seems that the consensus is, apprehension comes to us through the senses, leading to intuition about any object in general, which in turn fosters thought, which promotes understanding. Yet, this does not preclude the possibility of different perspectives, since the thingness of a thing is not diminished by external perspectives, even when viewed on the continuum of its existence. The ability to think and to intuit, in Burke's terms clearly applies to Agent, since only persons can think, and once ideas have been articulated, understood and acted upon, they enter the realm of knowledge that can be shared.

Agency and Purpose, the final members of the Pentad may be collected under the heading, Philosophy of Means. Agency is closely allied to Aristotle's term, Efficient Cause. One must ask what are the functions of an instrument, what services can it perform satisfactorily for the Agent, frequently being pushed to the point of religious utility or nature's service to man. Purpose, imbedded in the motive of the Agent is implicit in the instrument, thus melding Agent with Agency in Act. For this reason, it may not be necessary to remove ambiguity from discourse, but it is necessary for readers to be able to identify the strategic points at which ambiguity can conceal motives. Purpose is silent, for as Burke points out it is equivalent to the quest. Whether one is stalking one's quarry or in the solitary contemplation of a problem seeking answers, the silent purpose remains the unifying

element in human behavior lacing it with meaning.

Kenneth Burke's Pentad is exciting but its use will require careful thought. It is supported by a philosophy that demands consciousness of the underlying motives imbedded in words.

On the other hand, the Richard Young, Alton Becker and Kenneth Pike Matrix framed in scientific language provides teachers with a procedure that can command almost immediate results. The exactness of the structure trees which Linda Flower has devised and the step-by-step clarification of the writing process could aid beginning writing students to produce satisfactory essays in a variety of disciplines, I think, more easily than is possible with the Pentad. In no way does this imply any greater value on the work of Young or Flower than that of Kenneth Burke, or that Young or Flower has invented a procedure for creating automatic writers. In the current atmosphere of academia, speed of production has as high a value as quality of production. So while Young or Flower's procedure can gain common currency, (Burke's Pentad has the long-term staying power of golden treasure that casts its glow in solitude and silent contemplation. )



## CONCLUSION

Invention then is that part of Rhetoric that launches a writer on a journey of discovery, seeking the most effective means of communicating a proposition to an audience. Modern theorists are intensely interested in this journey or process of discovery. Their interest has led to some tampering, however, with Aristotle's principles of the Art of Invention. Although each bit of tampering has led to divergence from Aristotle's Principles, it represents not so much change in thought as range of thought. So, the systems devised by the theorists reviewed in this paper have not really altered the basic Principles of Invention, but have enlarged the potential of those principles to account for a greater diversity of knowledge.

Young recognizes that persuasion is dependent upon information and devised a heuristic that integrates the two while helping writers to develop skills and solve problems.

Kenneth Burke sees language as the basis of all culture. The Pentad accounts for all human effort and its supporting motives. Purpose and Thought merge to invent the words and grammar that will give shape and meaning to one's discourse. Aristotle and the rhetoricians of antiquity as well as other contemporary rhetorical theorists share this recognition of

the centrality of language to existence, culture, behavior and thought. As the thought element that determines the content of discourse, Invention takes on a critical significance particularly when one considers the power of language to conceal or reveal motives, as Kenneth Burke points out, and its power to shape thought itself. Recognizing language then as the vehicle for conveying thoughts and ideas from one individual to another, the heuristic procedures devised by the theorists reviewed here invest Invention with the ability to help writers select language and topics to transfer ideas from one individual to another with precision and a minimum of distortion.

But the greatest benefit of these heuristic procedures accrues to teachers of composition as they struggle to provide students with a method for probing a topic so they will have something to say and achieve a measure of success in writing. Certainly there are enough differences in the discovery procedures identified to offer teachers and writers at all levels a multiplicity of options. One has only to judge which method is best suited to the literary situation in hand and proceed accordingly. Certainly prewriting or the meditative approach will be valuable in one case, while in another, the Young Matrix will be more productive. In every case though, it would be well to consider the manipulative power of words as Kenneth Burke has so cogently pointed out. Words have the power to create fear, to create or

change existing structures of reality or by mere utterance to set one's place in the universe. Further, beginning at the point of Invention, discourse represents, perhaps unconsciously, the writer's quest for immortality in the wish that these words will live on guaranteeing freedom from oblivion.

Finally, as Linda Flower suggests, writing can be considered to be a problem-solving activity. In attempting to solve problems, people are engaged in an activity that is tilted toward the future, holding some potential for growth for the writer as the solution to the problem is integrated into the personal structure. It is certainly also useful to recognize the venerable history of heuresis and the value it holds for informing modern heuristic procedures, while leaving writers free to develop in whatever direction curiosity or interest indicates.

In diverging from the principles of classical Invention, Burke and other modern theorists have created not only a wider scope for Invention, but a greater depth of responsibility for both writers and readers to be constantly vigilant in the quest for clarity and truth.



## NOTES

### CHAPTER I

<sup>1</sup>James J. Murphy, ed., The Rhetorical Tradition and Modern Writing (New York: The Modern Language Association of America, 1982), pp. 73-83.

<sup>2</sup>E. D. Hirsch Jr., "Cultural Literacy," American Scholar, Vol. 52 (Spring 1983), pp. 159-169. Hirsch's research into writing pedagogy revealed that "good writing makes very little difference when the subject is unfamiliar." (p. 163) Also, "Audience reading skills vary unpredictably with the subject matter of the text," and in spite of the care taken in producing the prose samples, Hirsch found he was measuring instead, "the background knowledge of our audiences." While he did not set out to do so, Hirsch did in effect confirm Aristotle's ancient position that a speech will be more likely to persuade an audience, if the audience is familiar with the terms of the discourse and can predict the outcome of the speech.

<sup>3</sup>Gordon W. Allport, Becoming (New Haven, London: Yale University Press, 1955), p. 13.

<sup>4</sup>Murphy, p. 79.

<sup>5</sup>Edward P. J. Corbett, Classical Rhetoric for the Modern Student (New York: Oxford University Press, 1971). This overview of Invention and Rhetoric is abstracted from this work.

<sup>6</sup>Aristotle, Rhetoric, trans. Rhys Roberts, (New York: The Modern Library, 1954), Bk. II, Ch. 19 and 20, pp. 129-133. This overview of Aristotle's Topics is abstracted from this work.

<sup>7</sup>Aristotle, Rhetoric, see pp. 142-154, Bk. II, Ch. 23 for a detailed discussion of the twenty-eight probes. See pp. 155-161, Bk. II, Ch. 24 for a discussion of the uses of the enthymeme.

## CHAPTER II

<sup>1</sup>James M. McCrimmon, Writing with a Purpose (Boston: Houghton Mifflin Co., 1974), pp. 47-99. These topics are addressed at various points in Chapters III and IV on these pages.

<sup>2</sup>McCrimmon, p. 55.

<sup>3</sup>McCrimmon, p. 324.

<sup>4</sup>Edgar V. Roberts, Practical College Rhetoric: Writing Themes and Tests, (Cambridge, Mass.: Winthrop Publishers Inc., 1975), Introduction, p. XVII.

<sup>5</sup>Roberts, p. 8.

<sup>6</sup>Donald McQuade and Robert Atwan, Thinking in Writing: Structures for Composition, (New York: Alfred A. Knopf, 1980), Preface XIV.

<sup>7</sup>McQuade, p. 3.

<sup>8</sup>McQuade, p. 196.

## CHAPTER III

<sup>1</sup>Richard E. Young, Alton E. Becker and Kenneth L. Pike, Rhetoric: Discovery and Change (New York: Harcourt Brace Jovanovich, Inc., 1970). From this point on in this paper I will refer only to Richard E. Young as the author of this text.

<sup>2</sup>Young, pp. 73-74.

<sup>3</sup>Thomas Lee Hilgers, "Training College Composition Students in the Use of Freewriting and Problem-Solving Heuristics for Rhetorical Invention," Research in the Teaching of English, Vol. 15, No. 3 (October 1981), p. 297.

<sup>4</sup>Robert de Beaugrande, "The Processes of Invention: Association and Recombination," College Composition and Communication, Vol. XXX, No. 3 (October 1979), p. 260.

<sup>5</sup>Toby Fulweiler and Bruce Petersen, "Toward Irrational Heuristics: Freeing the Tacit Mode," College English, Vol. 43, No. 6 (October 1981), pp. 621-629.

<sup>6</sup>Fulweiler, p. 623. Fulweiler here refers to Carl Sagan's Dragons of Eden, p. 76.

<sup>7</sup>de Beaugrande, p. 261.

✓ CHAPTER IV

<sup>1</sup>Linda Flower, Problem Solving Strategies for Writing (New York: Harcourt Brace Jovanovich, Inc., 1981), pp. 87-93. See Strategy 3 and Figures 7-1 to 7-4.

<sup>2</sup>Flower, pp. 21-26.

<sup>3</sup>Robert de Beaugrande, "The Processes of Invention: Association and Recombination," College Composition and Communication, Vol. XXX, No. 3 (October 1979), p. 261.

<sup>4</sup>Young et al, pp. 73-76.

<sup>5</sup>Young et al, p. 127.

<sup>6</sup>Young et al, p. 26. The Maxims referred to here are discussed as follows: Maxim 2 on p. 29, Maxim 3 on p. 56 and Maxim 4 on p. 122.

<sup>7</sup>Young et al, p. 122.

<sup>8</sup>Young et al, p. 123.

<sup>9</sup>Young et al, p. 123.

<sup>10</sup>Young et al, p. 123.

<sup>11</sup>Charles W. Kneupper, "Revising the Tagmemic Heuristic: Theoretical and Pedagogical Considerations," College Composition and Communication, Vol. 31 (May 1980), p. 160.

<sup>12</sup>Kneupper, p. 161.

<sup>13</sup>Kneupper, p. 165.

✓ <sup>14</sup>Kenneth Burke, A Grammar of Motives (New York: Prentice Hall, Inc., 1954), pp. 7-9.

<sup>15</sup>Burke, p. 14.

✓ <sup>16</sup>Burke. That word choice is governed by motive is implicit in this work, but Burke treats the issue explicitly on pages 11 through 15 and pages 303 through 305.

<sup>17</sup>Allport, p. 15.



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