Rhetorical action in Francis Bacon's new scientific method

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Rhetorical action in Francis Bacon's new scientific method

by

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Signatures have been redacted for privacy

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INTRODUCTION: FRANCIS BACON'S *ADVANCEMENT*,
THE NEW SCIENTIFIC METHOD, AND THE RHETORICAL TRADITION

The purpose of this study is to re-evaluate Francis Bacon's rhetorical theory and its relation to the process of invention for the advancement of knowledge. It will begin by articulating Bacon's goals as set forth in the *Advancement of Learning*, by looking at his work against the background of the rhetorical tradition, and by introducing his definition of rhetoric in terms of his faculty psychology. In the following chapters, this work then proceeds to illustrate the limitations of previous scholarship in its estimation of Bacon's rhetorical theory and thus to expand the discussion started in this introduction so as to recommend a further and richer interpretation concerning the intimate relation between Bacon's rhetorical theory and his scientific method.

Karl Wallace has noted that Bacon's *Advancement of Learning* is most valuable for studying Bacon's theory of rhetoric. Bacon here deals more fully than any other place with the nature and particular function of the art of rhetoric and with its place in relation to other arts. But even here, as Wallace also notes, Bacon's work does not intend nor deliver any well-developed or systematic theory of rhetoric, and any study is thus required to provide considerable interpretation. The present work, as it attempts to set forth as accurately as possible a picture of Bacon's views on the proper role of rhetoric, relies heavily on the *Advancement of Learning*. Citations to the *Advancement* throughout the work are from Arthur Johnston's edition, *The Advancement of Learning and New Atlantis* (Oxford, 1974). Where it is necessary to provide additional illustration from other of Bacon's works, I have cited from J. Spedding, R. L. Ellis, and D. D. Heath, *The Works of Francis Bacon* (London, 1864). References to this edition in the text provide both volume and page number for convenience.
Francis Bacon's *Advancement* and the New Method

The constant subject for Francis Bacon's lectures and various publications from his early *Valerius Terminus* published in 1603 to his *De Augmentis Scientiarum* published in 1623 was the pursuit of reform for traditional learning and the concept of a new method of investigation and call for a new experimental approach to knowledge. Bacon's work all aimed toward his larger life-project, the *Great Instauration*, which was to be divided into six parts that together would present a complete system of science. Bacon intended the *Instauration* to review all received philosophies, to advance reforms for learning, and to lay the foundation for a new scientific study of nature by way of direct observation and experimentation.

*The Advancement of Learning* in 1605 was the first of Bacon's philosophical writings to be published. Bacon suggests that some account of the first part of the *Instauration* could be found in the second book of the *Advancement* and in its revised and enlarged version, the *De Augmentis*. Bacon in *The Advancement of Learning* takes upon himself the task of surveying all matters "concerning the excellency of the merit and true glory in the augmentation and propagation thereof" and "what the particular acts and works are, which have been embraced and undertaken for the advancement of learning; and again, what defects and undervalues I find in such particular acts. . ." (5). Bacon's concern in the *Advancement* is centered on the inadequacy in the seventeenth century of existing knowledge and on the need for its advancement, the deficiencies that have prevented such advancement, and the new method of invention by which, Bacon argues, progress is possible.

Bacon's ideal objective, then, "the total reconstruction of the sciences, arts and all human knowledge," proceeds in Book I of the *Advancement* with an explicit challenge to the authority of all received philosophic traditions both past and present, which, he argues, have been accepted as true and which, in their assumption that all knowledge has been
discovered, inhibit the process of learning. He attacks the universities and the reigning schools of thought and levels his severest criticism against medieval philosophy for what he sees as an attachment to the influence of Aristotle. Bacon denounces those who rely complacently on authority and assume that they have come to know and who have been corrupted by the Idols of the Mind and have, in fact, "by tradition, credulity, and negligence" (Works VIII 78) received only one side of the argument. Bacon’s attack on the authority of traditional learning opens the argument for further discovery and invention—and, it would seem, the way for rhetoric to resume its position at the core of this process of discovery.

However, we must first consider Bacon’s comments concerning the art of invention in Book II of the Advancement. The primary concern of Book II is the classification of knowledge and as such, it works to explicate the place of rhetoric in Bacon’s design for the advancement of knowledge. Bacon intends in Book II to pursue a complete system for classifying knowledge that would omit nothing and by which he might identify those branches that are wanting and in need of further investigation and those, as well, that are as yet unexplored but are necessary to advance learning. He intends, then, not only to pursue a survey of knowledge, but also to classify and assess the kinds of learning that are “excellent” and those that are lacking or uncultivated. He proceeds in the Advancement to divide all knowledge into history, poesy, and philosophy. He briefly treats history and poesy and then moves to treat as the main topic of Book II the third part of knowledge, which he classifies as philosophy and claims as the general category for all sciences. In his discussion of philosophy, he distinguishes between divine philosophy, by which he means inspired or revealed theology, and the coordinate divisions he calls natural philosophy or natural science and human philosophy or the sciences of man and society. As he comes in the rest of his system to discuss human and civil philosophy, and particularly those sciences that concern man’s mind rather than his body, he makes a further distinction
between the sciences of logic and ethics. He proceeds then to consider at length his central interest – the four logical disciplines or the four “arts intellectual”: invention, judgment, memory, and elocution.

Bacon borrows these four intellectual arts from the five classical divisions that had traditionally been associated with rhetoric. Samuel Wilbur Howell notes, however, that for Bacon, these arts have much broader meaning. They are arts that underlie not any single discipline, but all the various disciplines in his system of knowledge (Logic 366). These four processes, then, underlie the comprehensive general reorganization of learning that Bacon advocates. But Bacon’s first and central concern with the intellectual arts is with the art of invention. It is here, in his discussion of invention, that he makes a distinction between the invention of arts and sciences and the invention of speech and arguments. As for the invention of arts and science, Bacon attacks what has been previously offered by way of logic. Bacon sees this part of invention as hitherto greatly deficient and much wanting. He argues that traditional, deductive logic “doth not pretend to invent sciences” (Advancement II 118). And the form of induction that had been advanced by past philosophers is “utterly vicious and incompetent” (Advancement II 120). As he moves, then, to consider the invention of speech and argument, he finds that “the use of this invention is no other but, out of the knowledge whereof our mind is already possessed, to draw forth or call before us that which may be pertinent to the purpose which we take into our consideration” (Advancement II 122). As such, he states that “it is no invention, but a remembrance or suggestion. . . .” He allows it to be called invention, though, so long as it be understood that “the scope and end of this invention is readiness and present use of our knowledge, and not addition and amplification thereof” (Advancement II 122). Bacon then introduces here what he called his “new logic,” that of induction, by which man might through direct sensory experience and observation discover knowledge that no one had known before.
Francis Bacon's *Advancement* and The Rhetorical Tradition

Most recognized and widely accepted scholarship concerning Bacon's philosophical work asserts that his work is characteristic of the Renaissance in that it exemplifies the wide and sweeping changes that prevailed and are thought to mark a significant transition from scholastic to modern times. Much of the scholarship agrees that Bacon succeeded in his objective to reform the sciences and arts of human knowledge, and it generally agrees, as Fulton H. Anderson says, that even if many of the principles that constitute Bacon's philosophy had been entertained by others before him, the amplification and modification of these "in light of a new aim and a new method" marks "a departure from all the philosophies that had gone before" (20). Howell suggests as well, and perhaps more importantly for my purpose here, that Bacon's treatise, *The Advancement of Learning*, and what he finds to be Bacon's modern concept of rhetoric mark a significant departure in ancient theories of rhetoric that prevailed in centuries prior ("Renaissance Rhetoric" 293).

It's Howell's view that one of the most important changes in the theory of rhetoric in the Renaissance concerned rhetoric's relation to invention (299). According to Howell, Bacon's treatise represented the ideas of his era in denying to rhetoric the priority of invention and aligning invention, instead, with the methods of scientific investigation. Bacon's work advocated a new science that combined direct experimentation, careful observation and classification, and an inductive logic that he believed would lead to certain knowledge and reveal truth as to the nature of reality. And, Howell argues, the distinction Bacon makes between invention and rhetoric was critical to his notion of the progress of science and the advancement of knowledge. Bacon centered his new philosophy and method of science on new knowledge attained through original invention and discovery. In doing so he made a distinction between invention as a scientific method for revealing new knowledge and invention in the art of discourse, or rhetoric, as a procedure for selecting and arranging information already discovered. Bacon effectively appropriated the method
of *inventio* as the investigation and discovery of ideas and lines of argument for the sciences and re-assigned it only a secondary place in rhetoric, contributive to its function of arranging and presenting ideas for public presentation.

Howell suggests that the Renaissance and specifically the work of Francis Bacon might be regarded, at least as far as the purpose of rhetoric and the place of *inventio* is concerned, as marking the end of one era and the beginning of another (292). As Bacon claimed for science exclusive control over invention, rhetoric was relegated to a secondary position, was left only with style and delivery and limited to persuading popular opinion toward ideas already discovered by methods of logic and science. Howell asserts that these changes are vitally important to the growth of modern rhetoric and notes that they have deep roots in the ancient world.

Certainly, the relationship between rhetoric and invention raises important and complex theoretical issues for the history of rhetoric, but the dispute concerning the relation between rhetoric and invention did not begin with Bacon in the Renaissance; rather, it proceeds from the argument between the sophists and Plato in ancient Greece and can be traced well through the sixteenth century. For the most part the dispute is focused around the subject of invention and whether rhetoric works through language and argument to construct knowledge or whether it works merely to convey knowledge that lies outside its province, as discovered in philosophy and science. I would argue, then, that the changes Howell identifies represent epistemological differences concerning the nature of knowledge and its relation to rhetoric that do not so much originate with Bacon or even during the Renaissance as they exemplify differences that can be viewed as genuinely vital forces in early Greek and Roman and through medieval and Renaissance rhetoric.

Before attempting to evaluate Bacon's own conception of rhetoric's relation to invention, it is important to review briefly the controversy as to the nature of invention in rhetoric and its rival arts, as it unfolds in pre-Socratic, classical, medieval, and early
Renaissance scholarship. The following review will provide a necessary historical
background for theories of rhetoric and the invention of knowledge.

The power and the importance of rhetoric were certainly already known to Homer
and the early poets and to the pre-Socratic philosopher Empedocles, who might be
considered a beneficiary of the Homeric tradition and an inventor of early rhetoric (Enos
61), but the formulization of rhetoric and its establishment as a discipline were due
primarily to the activities of the sophists. While any reconstruction of the sophistic
movement will necessarily be only partial, it is, nevertheless, possible in reviewing
individual sophists to ascertain a common preoccupation with a theory of knowledge, the
nature of truth, and the relation between language, thought, and reality (Enos 61, Kerferd
2, Untersteiner xv). Protagoras, to whom ancient historian Diogenes Laertius attributed the
doctrine of the anti logoi (Untersteiner 19), and Gorgias, who was the beneficiary of a
philosophical tradition that he was able to develop, stabilize, and standardize into a
markedly sophisticated system of rhetoric, have been identified as the most well-known of
the sophists (Enos 74; Ijsseling 27; Kerferd 42). The philosophical concept of opposing
logoi means to assert that on every matter there are two opposing points of view and that
on any question an individual can take either position and debate it with success. But the
concept of two logoi in opposition works as more than a rhetorical statement: it holds
significant theoretical implications as to the nature of knowledge (Freeman 348, Kerferd
86). Both Protagoras and Gorgias believed that knowledge is bound to human experience,
limited to sense perception and confined by context, and so is relative and controversial.
Both questioned the validity of absolute certainties and denied the existence of an objective
knowable truth. And because they believed that absolute truth is unknowable, perhaps
even nonexistent, they turned to rhetoric and the theory of anti logoi as an intellectual
method of inquiry for the invention of knowledge. They believed that while the search for
transcendent truth is futile, a system of rhetoric, a method of investigation based on arguing
from contrary positions and directed by stylistic devices and modes of arrangement, is essential in coming-to-know, in constructing truth by way of consensus for the sake of generating probable and only partial knowledge.

Plato's attitude towards the method of knowing and the relation between rhetoric and knowledge advocated by the sophistic movement represents a significant departure from such views, a departure that reflects a fundamental and irreconcilable rift between two conflicting epistemologies (Enos 63; Kennedy, APG 15). Plato was philosophically opposed to the sophists' view of the world and thus to the starting point for the view of rhetoric they held. In contrast to the sophists' assertion that humans cannot attain knowledge of absolutes or of essences or essential truths and that rhetoric is thus a necessity for achieving probable knowledge through consensus, Plato believed that essential truth exists and is attainable not by rhetoric, which he believed can work to conceal truth, but by way of philosophical inquiry, which he believed seeks to discover the certain and the transcendent. Plato agreed that senses are limited and often inaccurate in acquiring knowledge, but he asserted that knowledge cannot be reduced merely to perception and probability and suggested, rather, that humans ought to look further for the truth, for more permanent, transcendent knowledge. And so in the Gorgias Plato makes a clear distinction between rhetoric, a counterfeit sophistic activity that is unable to provide knowledge and so is concerned only with belief and illusion and provides only appearances, and philosophy, one of the genuinely scientific pursuits he calls technai. And he distinguishes, as well, between the method of antilogic, a method that encourages indirection and frivolity, and the method of dialectic, which provides a formal, logical system of argumentation by question and answer that seeks to attain a telos, a universally affirmed, immutable end (Enos 95). Plato believed, finally, that knowledge of the truth can be obtained not in practicing rhetoric, but by studying philosophy.
Aristotle in his *Rhetoric* voices his opposition to earlier sophistic methods, but goes on, as well, to answer the objections to rhetoric Plato raises in the *Gorgias* and moves, then, to sanction rhetoric as an intellectually rigorous *techne* and a legitimate and serious discipline (Enos 58). Aristotle believed that sophistic methods were inadequate because they had been motivated by nonintellectual and nonrational thinking and so moved to respond to Plato's objections by recommending for rhetoric a rational system of argument (Bizzell and Herzberg 145; Enos 59).

Aristotle attempted to treat rhetoric "philosophically" or scientifically by reducing it to a system of classifications with distinctions and divisions and sub-divisions. He begins his classification by stating that "rhetoric is the counterpart of dialectic" (151). Aristotle thus challenges Plato's subordination of rhetoric to dialectic, or philosophy, and suggests, in fact, that rhetoric and dialectic do not differ so much in nature or in function as in structure and form. Aristotle identifies, as well, the five parts or canons: invention, disposition, elocution, memory, and delivery. But while he emphasizes invention and the important role of the proofs and the topics (finding-places for arguments) for investigating arguments, he suggests, nevertheless, that rhetoric is somewhat limited in that it serves as an art of communication more than for the discovery of new truth (Enos 59; Kennedy, *Classical Rhetoric* 65). For Aristotle, scientific demonstration, reasoning from scientifically true premises where the objective is to know and to discover what is necessarily true, is superior both to rhetoric and dialectic. According to Aristotle, only scientific demonstration arrives at true knowledge. Rhetoric works in the realm of human experience to acquire probable truth in matters where true knowledge is unavailable (Bizzell and Herzberg 144).

The Roman orators Cicero and Quintilian further developed and perfected the basic principles of classical Greek rhetoric as set forth in the Aristotelian tradition, including the division of rhetoric into the five parts or canons. (Thonssen and Baird 178). So too, both
Cicero and Quintilian took up the dispute between rhetoric and dialectic, as the relationship between the two disciplines continued to be regarded as problematic (Kennedy, Classical Rhetoric 89). Cicero in his De Oratore reproves Socrates for scorning the practice of oratory and regards the severance of oratory from philosophy as "absurd and unprofitable and reprehensible" (247) because, he suggests, there is no distinction between learning to know and learning to speak, between "res" and "verba," thinking and speaking (Ijsseling 35). Cicero’s ideal, then, was to bring together eloquence and wisdom and to unite the orator with the philosopher. The ideal orator is, as Cicero advocates, an orator who can speak with fullness and variety and is knowledgeable of all important subjects and arts, appears, as well, in Quintilian’s definition of the orator as "the good man skilled in speaking." For Quintilian the orator is far superior to the philosopher because the orator must not only have perfect knowledge of philosophy, but also possess wisdom and a facility for the art of speaking (Kennedy, Quintilian 34). Quintilian asserts that those philosophers who despise rhetoric are "simply idle and conceited" and claims that while philosophy can easily be feigned, eloquence cannot be (qtd. in Ijsseling 39). Quintilian, finally, suggests that the pursuit of truth is best directed by persuasive eloquence than by philosophical method.

The medieval concept of rhetoric departed significantly from classical systems as the disappearance of much of Greek and Roman learning and the Christian transformation of its existent fragments increasingly confined rhetoric to a position subordinate to dialectic (Bizzell and Herzberg 367). The work of Boethius, then, was important for preserving what Greco-Roman learning it did. Boethius thus had a profound influence upon the conception of medieval rhetoric as he attempted to explicate and compare the theories of topical invention in the systems of Aristotle and Cicero. Boethius takes up as his explicit goal an analysis of the differences between rhetorical and dialectical topoi and thus between the arts of rhetoric and dialectic themselves. He asserts that both rhetoric and dialectic use
essentially the same topoi, but concludes, then, that the differences between rhetoric and dialectic concern subject matter (Leff 14). While dialectic deals with the thesis, a general question with no reference to particular circumstances, rhetoric takes as its subject the hypothesis, a question concerned with specific circumstances. Boethius concludes thus that rhetoric derives its arguments from propositions provided by dialectic. This conclusion effectively subordinates rhetoric to dialectic, the topics of which are broader than and prior to rhetorical argumentation (Leff 14), and denies to rhetoric any force itself for generating knowledge.

Finally, as the relative positions of rhetoric and dialectic continued to be subject to inquiry under Ramus’ program for reform during the Renaissance, dialectic became increasingly dominant and rhetoric was increasingly subordinated, pursued selectively and regarded merely as a preliminary and preparatory subject. Ramus’ system of rhetoric and dialectic, which became very popular in England between 1574 and 1620 and was thus very influential in shaping schools of thought during Bacon’s lifetime, was particularly dramatic in the severing of rhetoric from dialectic (Howell, “Renaissance Rhetoric” 294; Walton 294). Ramus constructed his conception of rhetoric with the explicit goal of distinguishing it from dialectic. He noted that the relationship between rhetoric and dialectic had been unfortunately intertwined at least since the sophistic movement and asserted that the two disciplines must be finally and fully separated from one another (Ong 226). And he proceeded to meet his goal by rearranging the traditional five parts of rhetoric so that the activities of invention and arrangement were given over completely to dialectic. He left rhetoric, then, only with elocution and delivery and thus reduced it merely to concerns with stylistic ornamentation, isolated it from any means of invention, and drained it of any power to generate knowledge.

The traces of the very tenuous relationship between rhetoric and invention described here present only a notional reconstruction, one that is fragmented and open to
interpretation. Certainly much more can and has been said on the subject. But while a comprehensive historical account of rhetorical theory is impossible in light of time and space, the survey of theories thus cited serves to point out the sharp distinctions among differing positions across many centuries concerning the nature of the relationship between rhetoric and invention. The conception of the merits and/or the limitations of rhetoric certainly affected its placement in the hierarchy of arts and theories of knowledge with which classical, medieval, and Renaissance scholars alike were concerned. Bacon, in undertaking a survey of all the branches of knowledge, was certainly aware that the treatment of the relationship between rhetoric and invention was one focal point reflecting differences between schools of thought.

The scholarship fairly consistently agrees with Howell and cites Book II of the Advancement to support their assertions that Bacon works in the rhetorical tradition to further diminish the importance of rhetorical invention for the advancement of learning and advances instead a new method of observation and experimentation (Briggs 151; Howell, “Renaissance Rhetoric” 293; Howell, Logic and Rhetoric. 371; Jardine 216; Stephens 69; Wallace, “Bacon’s Conception” 128; Wallace, Francis Bacon 61). Certainly, when considering Bacon’s comments on the nature of invention, there is a trend in the scholarship to read Bacon’s theory of rhetoric as one that devalues rhetoric’s importance for the progress of knowledge. Lisa Jardine argues that Bacon distinguishes vigorously between “discovery,” the investigation of new knowledge by way of the new logic, and rhetorical “invention,” the presentation of received assumptions or an already existent body of knowledge for argument or display (6). And she goes as far as to assert that Bacon is so preoccupied with discovery as the primary mode of human experience that he finds rhetoric, as a study of the presentation or transmission of the known and accessible, to be merely a social and conventional art, and in the last resort a parasitic activity (170). James Stephens concludes too that rhetorical invention is for Bacon merely an act of recollection --
the art of invention is to draw out of our stocks of knowledge whatever serves the occasion, but has nothing to do with the discovery of such knowledge (69). And Karl A. Wallace finds similarly that in Bacon's mind, rhetoric is an inferior science because it must rely upon received philosophies as subjects of discourse (61).

**Francis Bacon's *Advancement and a New Rhetoric***

I would argue that Bacon does mark a significant departure from previous theories of rhetoric. But I don't agree with much of the scholarship that finds Bacon to contribute to the diminution of rhetoric by treating it as an inferior subject. In fact, I would argue that Bacon's new conception of rhetoric in terms of its psychological function returns rhetoric to the center of the process of invention and discovery. In order to evaluate Bacon's own assessment of the place of rhetoric and the role of invention in his design for the advancement of knowledge it is necessary now to move even further to examine his definition of rhetoric and its placement within his conception of faculty psychology. As Bacon moves to consider the fourth art, that of "tradition," elocution or the transmission of knowledge, he identifies three parts: the organ of tradition, the method of tradition, and the illustration of tradition. And he here comes to treat the third division, the illustration of tradition, or rhetoric—a science, he says, that is "excellent, and excellently well laboured" (*Advancement* II 139). It is here that Bacon states his conception of rhetoric's work in terms of its relation to specific human faculties: "the duty and office of rhetoric is to apply reason to the imagination for the better moving of the will" (*Advancement* II 139). Because the faculty psychology that informs Bacon's definition of rhetoric is also at the foundation of his entire system, it is important to consider rhetoric's function in terms of its relation to the faculties of reason and imagination.

The same scholarship cited earlier, when it turns from Bacon's comments about invention toward an interpretation of his definition of rhetoric, "to apply Reason to the
Imagination for the better moving of the Will” and notes the place of rhetoric at the center of Bacon’s faculty psychology, seems to draw very different conclusions. Jardine, for example, evidently, does not recognize the important implications of her further assertion that in Bacon’s psychology as “logic presents arguments in such a form that reason gives its assent to the conclusions, so rhetoric presents the conclusions of the author’s reason in vivid images, whose persuasive force produces assent to the proposition, and movement towards the desired goal” (219). It would seem that, as such, the power of rhetoric to influence action would work to facilitate further scientific inquiry. Stephens notes, as well, that the will and the appetite convert knowledge into action and suggests that “[o]nce information is discovered by the senses and judged by reason, it is the receiver’s option to act by believing it, using it to inquire for new discoveries, or even where truth is presented, by rejecting it” (65). The implication here is that rhetoric works in Bacon’s faculty psychology with the imagination to excite the will of the inquirer to perform additional inquiry and experiment and further evaluation and criticism in the continued advancement of knowledge. In fact, Wallace argues that “without the aid of imagination, human reason cannot operate and the human will cannot determine upon a line of action” (38). And he suggests that as Bacon understands rhetoric to influence action, the end of rhetoric for the scientist is evaluation and criticism (29).

The significance of rhetorical activity for Bacon’s system is even more considerable when we come to Marc Cogan’s attempt to locate and to evaluate the import of rhetoric’s action within Bacon’s philosophical system. Cogan notes that all intellectual operations of judgment within Bacon’s system are carried out either by the faculty of reason or the faculty of will: all speculative thought and rational determination of what constitutes the better course of action fall into the province of the reason and every choice as to the actual action to be pursued is the subject of the will (214). Cogan argues that the explicit function of rhetoric works even within the individual toward “the translation of one’s reason to
one’s own imagination for the purpose of assuming rational control of one’s own actions” (223), and he states that according to Bacon’s system, an individual who does not possess rhetorical skills remains unable to capitalize on the results of thinking in the realm of action. He concludes that

by defining for rhetoric this inward function and moment, Bacon gives an explicitly rhetorical dimension to the understanding of action. By making control of the imagination (and through it the will) a procedure of which the unaided speculative reason is incapable, and which requires, therefore, the special powers rhetoric provides, Bacon makes all action, individual as well as corporate, depend on the knowledge and use of rhetoric. . . .” (224)

It can be argued, then, that rhetoric stands at the center of human activity -- either speculative or practical -- and wields an inescapable influence over both thought and action (216). Cogan explores the implications of this import for morality and ethics in Bacon’s system, but offers little in context of Bacon’s scientific method.

David Payne articulates a fairly standard position in diminishing the import of rhetoric’s psychological function when he suggests that although rhetoric serves an important function within Bacon’s faculty psychology, its primary role is neither to invent nor to judge, but to “illustrate” (253). He argues that the key word for Bacon is “tradition” and notes that Bacon viewed knowledge arrived at through oral discourse as a matter of tradition and thus part of the past. This role, Payne notes, is different from that with which rhetoric was credited in classical times, and he argues that “[a]l]l of the evidence and commentary on Bacon should help to advance one conclusion” (248) -- that is, that Bacon saw the role of rhetoric in a way that “places him in line with the consistent decline of rhetoric which began in the middle ages and continued through the age of romanticism” (253). Although at first glance it would seem that Payne is right to assert that all the commentary agrees upon a standard interpretation of Bacon’s theory of rhetoric, I would
argue, however, that upon closer examination the evidence, rather than advancing only one conclusion, produces several different interpretations as to Bacon's rhetorical theory. I would point to James P. Zappen who, in fact, recognizes that various historians have supported a number of different, often incompatible and even conflicting arguments regarding Bacon and his view of rhetoric and that these differences are "both historical and historiographic" (74). And I would agree, thus, with Sharon Crowley who asserts that concerning historiography or the doing of history, "there exists no objective means of finding, interpreting, or assembling historical data which could guarantee the truth of the resulting narrative" (7).

The following paper intends, then, to explore the conflicting, contradictory interpretations of the place of rhetorical invention in Bacon's scientific method. The paper will argue that if we consider the following three points, we will come to the conclusion that science and rhetoric are much closer related in Bacon's system than has previously been allowed: 1) Bacon's Advancement attacks all traditional learning, including traditional rhetoric, to make way for his plan for reform; 2) Bacon's new science is one that condemns the pursuit of experiments for speculation only and advocates the active use of results; and 3) Bacon's new rhetoric is required in his system of faculty psychology before any deliberative action can take place. The paper will argue that Bacon posits a redefinition of rhetoric that links it both to reason and the imagination and makes it a prerequisite for action -- including continued scientific inquiry and experiment. It will support an alternative interpretation that finds Bacon to allow a more active role for rhetoric in his new method of inquiry and invention than has previously been recognized. And it will, finally, set forth an interpretation that instead of placing Bacon in line in advancing the diminution of rhetoric, in fact, sees him as advancing rhetoric by emphasizing its proper function at the center of scientific invention and progress.
CHAPTER 1. REVIEW OF LITERATURE

The proliferation of scholarship concerning Bacon’s work, in light of the variety and the complexity of his achievements, precludes any comprehensive endeavor to synthesize the research. My focus in this chapter, instead, will be to provide a reasonably complete review of the literature that attends to Bacon’s conception of rhetoric and to consider those particular specialized studies that deal directly with Bacon’s theory of rhetoric. My framing concern will be with the assertion made fairly consistently in the scholarship that stresses the inferior position rhetoric holds in Bacon’s system, particularly for invention and in comparison to scientific investigation.

General texts in the history of rhetoric tend to give very little space to Bacon’s theory of rhetoric. When they do turn to his theory, they tend to stress that while Bacon considers rhetoric an important art for influencing action, he nevertheless distances rhetoric from the invention of knowledge. In their text *The Rhetorical Tradition: Readings from the Classical Times to the Present*, Bizzell and Herzberg state, for instance, that Bacon distinguishes between the nature of invention as it applies to science, where it works toward the invention of something new, and as it is used in rhetoric, where it is concerned with the recollection of knowledge already produced by science. They point out, then, that Bacon regards science as the invention of new knowledge and rhetoric as the means by which knowledge is used in social concerns, particularly as it recommends moral, ethical behavior (624). In *Rhetoric in the European Tradition*, Thomas Conley suggests further that Bacon “radically devalued” rhetoric as it pertains to invention (164). He states that Bacon conceives of invention as the process by which new knowledge is discovered by way of experimentation, and he goes on to say that Bacon believes rhetoric, the discovery of arguments, must be “expelled from schools of serious thought about the real world” (167).
The Authority of Karl Wallace

Certainly, there is a trend in the scholarship to read Bacon's theory of rhetoric as one that devalues rhetoric's importance for the progress of knowledge. I believe that we might gain some insight into this trend if we consider the authority with which Karl Wallace speaks on the subject. Wallace's *Francis Bacon on Communication & Rhetoric, or: The Art of Applying Reason to the Imagination for the Better Moving of the Will* published in 1943 provides to date what is widely recognized as the most comprehensive comment on Bacon's theory of rhetoric as it is worked out in the *Advancement*. Any interest in Bacon's new science and the connection (or lack thereof) with rhetoric must refer to his text, which provides what William A. Sessions describes as "the most prolific commentary" and thus also, perhaps, the most authoritative commentary on Bacon's rhetorical theory (359). Wallace's stated intention here is twofold: first to set forth Bacon's theory of rhetoric as it appears in *The Advancement of Learning* and its expanded Latin translation, *De Augmentis Scientiarum*, and then to construct an evaluation and an appraisal of the contributions that Bacon's theory provides. Wallace says that Bacon advocates a clear distinction between science and rhetoric. He argues that Bacon distinguishes rhetorical invention from scientific inquiry, and he says that because Bacon limits rhetoric to popular opinion and to the affairs of the multitude, he finds it inferior to science (49).

Wallace begins with an attempt to set forth Bacon's classification of knowledge and to identify the position within this hierarchy given to rhetoric. It is here that Wallace finds Bacon to distinguish between the kind of discourse used when engaging in scientific and/or didactic communication and the kind of discourse used when intending to influence action. Wallace asserts that Bacon intends to distinguish in his system the Method of Discourse, or disposition, from the Illustration of Discourse, or rhetoric. Bacon removes the method of discourse from its traditional place under rhetoric and assigns it the status of a separate art
in its own right. He then distinguishes between different kinds of methods, first between the Magistral and the Initiative, according to the ends at which each aims (18). The Magistral method assumes a popular audience and aims to instruct in the use of knowledge already discovered. The Initiative method assumes an audience of critical learners, the “sons of science,” and aims to communicate knowledge as it was discovered so as to further its progression (18). According to Wallace, the Method of Discourse distinguishes didactic communication from scientific discourse and works, as well, to distinguish both of these from the Illustration of Discourse, or rhetorical address. Wallace suggests here that Bacon does not intend to include rhetoric in scientific discourse and proceeds to argue that Bacon distinguishes rhetorical invention from scientific inquiry.

Wallace goes on, then, to note that Bacon differentiates between two kinds of invention, one concerning the sciences and the other concerning speech and arguments. Wallace explains, citing Bacon, that while the first type might appropriately be considered invention because it works to discover what we do not already know, the second type of invention cannot rightfully be called invention because it does nothing more than to discern the best use of our present knowledge to discover and produce arguments applicable to the subject at hand. He quotes heavily from the second book of Bacon’s Advancement to support his conclusion that Bacon regards rhetorical invention as a process merely to draw forth material from our storehouse of knowledge and not as the discovery or advancement of new knowledge (55). Wallace goes as far as to argue that because rhetoric relies upon received knowledge and is concerned with popular discourse, it “finds precise, scientific knowledge of little use” and concludes:

Thus it is clear that rhetoric relies on popular truth rather than on scientific truth. The arguments employed in rhetorical address will be drawn from popular opinion, will utilize a method of disposition appropriate to this level
of truth and to their persuasive function, and finally will be expressed and delivered in a manner consonant with their social function. (48)

As such, Wallace finds rhetoric in Bacon’s view and his system to rank far below science. However, it is important to note here that Wallace does not proceed to suggest that Bacon leaves rhetoric an empty art, with concerns only of style or ornamentation. In fact, while Wallace notes the temptation to interpret Bacon’s conception of rhetoric in such a way, he asserts that a more accurate perspective will find Bacon to place great emphasis on invention, on the selection of arguments and ideas with reference to a specific situation and given audience. The specific function of rhetoric in Bacon’s system is to choose from among appropriate arguments to persuade popular opinion as to influence right action in matters only of ethical or moral concerns. Wallace asserts that rhetoric is an art of public discourse, as it rules in popular affairs to influence right conduct.

Wallace cites Bacon’s definition of rhetoric, “The duty and office of Rhetoric is to apply Reason to Imagination for the better moving of the will,” to argue that the special province of rhetoric is its power to influence action. In Bacon’s system of faculty psychology, the will is the agent responsible for inciting voluntary, deliberative action. And rhetoric is the only art which employs the imagination on behalf of the reason to influence the will. Wallace argues that “without the aid of imagination, human reason cannot operate and the human will cannot determine upon a line of action” (38). It would seem that such an interpretation would prompt Wallace to suggest, then, that rhetoric is integral to Bacon’s scheme for the advancement of learning because the end of rhetoric for the scientist is to rouse the imagination to action, to evaluate and criticize and then accept or reject new knowledge (34). Wallace seems, though, not to consider the ramifications of his interpretation and proceeds instead again to undermine the importance of rhetoric in Bacon’s scientific method as he later says that the function of rhetoric is limited in Bacon’s system to persuading popular opinion so as to influence right action in matters only of
ethical or moral concerns (40). Wallace continues to argue that Bacon conceives of rhetoric, by virtue of its particular function of exciting the will, as essentially social, as reserved for the level of popular knowledge and for establishing the just and good cause.

Finally, then, Wallace turns to evaluate Bacon's rhetorical theory, and he finds that Bacon's most significant contribution is his assertion that rhetoric works as a complete, full-bodied, independent art. He concludes that because Bacon recommends for rhetoric its own province — to impel right action — Bacon "has helped to maintain the dignity and solidity of rhetoric" (225). And he argues that because Bacon subordinates concerns of style to the invention of arguments, because he emphasizes the importance of content and reasoned argument rather than figurative dress and stylistics, he maintains a classical view of rhetoric, one that regards rhetoric as a legitimate and distinct activity.

Wallace's later work — his 1956 article "Aspects of Modern Rhetoric in Francis Bacon" and his 1961 essay "Bacon's Conception of Rhetoric"— continues to reflect his argument that rhetoric is not engaged in scientific communication but is, rather, an art of public discourse, as it rules in popular affairs to influence right conduct (405). In fact, he argues in his "Bacon's Conception of Rhetoric" even more explicitly that Bacon conceives of rhetoric, by virtue of its particular function of exciting the will, as essentially social, as reserved for the level of popular knowledge (138). Wallace notes here the function of rhetoric to recommend reason to the imagination and notes, as well, the special function of the imagination as it works toward the goals of science in the discovery of knowledge and towards the end of ethics in the discovery of right action. Nevertheless, Wallace finds that in Bacon's view, the faculties are employed either as instruments of knowing or as means of action, and he moves thus to assert that Bacon limits the end of rhetorical discourse to its ethical function to recommend conduct that is virtuous and good (118). Wallace again notes that Bacon distinguishes rhetorical invention from scientific inquiry and evaluates rhetoric separately from the science which discovers new knowledge.
General Trends and Specific Conflicts

I think it's important to recognize, now, that Wallace is careful in his interpretation of Bacon’s rhetorical theory and his evaluation of Bacon’s contribution both to set forth what it is that separates rhetoric from the new science and to look deeply into what it is that legitimizes the office of rhetoric as an independent art. Wallace’s dual intentions here identified — to stake out a legitimate place for rhetoric by distinguishing rhetoric from science and by emphasizing rhetoric’s own special province — preview, then, what many have come to see as the standard interpretation in Baconian scholarship. This standard interpretation tends 1) to see rhetoric removed entirely from Bacon’s method for the invention of new knowledge and thus devalued in his overall plan, and 2) to consider rhetoric’s position in Bacon’s system as important only for moral instruction and civic affairs. David Payne goes as far as to assert that “[a]ll of the evidence and commentary on Bacon should help to advance one conclusion: Bacon represents a turning point in not only rhetorical theory, but an entire tradition of thought about knowledge in the methods of its acquisition and transmission” (248). He proceeds to explain that the research and interpretation finds the new modern tradition for which Bacon is known one in which the advancement of knowledge depends not on invention in rhetoric, but on discovery by way of scientific investigation. And while the scholarship finds rhetoric’s function to be important, it notes rhetoric’s limited role to illustrate knowledge already discovered so as to influence the proper action of the public (248).

I would suggest that there are two problems with setting forth such an interpretation as “standard.” I would argue first that the scholarship which does articulate this interpretation fails to recognize the import of rhetoric’s psychological function for invention, and as such it fails too to note rhetoric’s import for Bacon’s overall plan for the advancement of learning. And secondly I would argue that while the temptation is there to read the scholarship as advancing one coherent and standard interpretation — in fact, upon
closer examination, much of the scholarship, rather than advancing only one conclusion, produces several different interpretations as to Bacon's rhetorical theory, some of which overlap, others of which take opposing views, and all of which offer only partial images.

Certainly, when considering Bacon's comments on the nature of invention, the trend is to read Bacon's theory of rhetoric as one that devalues rhetoric's import for the progression of knowledge. However, even when the scholarship for the most part shares with Wallace the assumption that Bacon distinguishes between and privileges invention in a new scientific method over invention in rhetoric, it fails to come to any agreement or support any one conclusion as to the scope of rhetoric's function within Bacon's larger plan for the advancement of learning. When turning to Bacon's definition of rhetoric in terms of his system of faculty psychology, for instance, the trend is to read Bacon's theory of rhetoric as one that conceives of rhetoric as providing a necessary service in the continued advancement of learning. The following review enumerates the various stances by which scholars have understood and evaluated Bacon's conception of rhetoric. The framework constructed here approaches the scholarship as it tends either 1) to emphasize rhetoric's position as inferior to science and thus to evaluate rhetoric's position in Bacon's system fairly harshly, or 2) to acknowledge rhetoric's inferior position but to emphasize its special province and thus to allow a limited but kinder evaluation.

Rhetoric as a "Second-Class" Art

Of those works that find Bacon to diminish the value of rhetoric, Lisa Jardine's (1974) *Francis Bacon: Discovery and the Art of Discourse* proceeds to evaluate perhaps most harshly rhetoric's place within Bacon's philosophical system. Her study, as the title suggests, stresses the distinction concerning "invention" that Bacon makes between discovery, the investigation of new knowledge by way of a new logic, and the art of discourse, the selection and arrangement of received knowledge for the purpose of
argument or display. Jardine asserts that Bacon finds rhetoric to be concerned with opinion and persuasion and so deems it a social and conventional art, unsuitable for producing truth in areas of "real" knowledge (170). And she goes as far as to say that Bacon sees rhetoric as a "second-class" study and in the last resort as a "parasitic" activity (170). Jardine does recognize that Bacon defines the function of rhetoric as applying reason to the imagination to excite the will and asserts that "[a]s logic presents arguments in such a form that reason gives its assent to the conclusions, so rhetoric presents the conclusions of the author's reason in vivid images, whose persuasive force produces assent to the proposition, and movement towards the desired goal" (219). Jardinerecognizes theimportofthe imaginative faculty in acting as a mediator between rational evaluation and the will to act, though she evidentlyresiststhefurtherimplicationsofherassertion. It would seem that the power of rhetoric to influence action would work to facilitate further scientific inquiry. But she, too, limitstheofficeofthismediatingfunctiontoethicalandemotionalconcerns (91). And she concludes, finally, that for Bacon, rhetoric is essentially ornamentation (216).

Charles Whitney (1986), as well, finds Bacon to severely limit and thus devalue the province of rhetoric. He attempts in *Francis Bacon and Modernity*, to examine what he finds to be Bacon's characteristically modern project, a project that, Whitney argues, consists of tensions between old and new, tradition and revolution. Whitney approaches Bacon'sconceptionof rhetoric from these tensions and argues that Bacon denies to rhetoric theinvestigativepower it had once claimed and reapplies that power to science in the search for truth (10). Whitney suggests Bacon's convictions as to the proper relation of rhetoric to the discovery of truth emerge from the discontinuity between Bacon's dependence on rhetorical traditions and his commitment to a revolutionary new process of discovery. Whitney goes on to emphasize that Bacon designates popular discourse as the appropriate field of rhetoric (147). Unfortunately, in noting rhetoric's function in Bacon's system as a
psychological tool for swaying public opinion so as to gain acceptance for science, Whitney concludes that Bacon limits the realms of the imagination and rhetoric merely to instrumental functions and thus “renders them impotent in the larger human endeavor of discovery” (148).

**Rhetoric as a “Limited but Essential” Art**

Most scholars of Bacon agree that rhetoric is a limited but essential art and tend to emphasize that Bacon removes rhetoric from any participation in the invention of new knowledge. A number of these scholars, however, follow a second basic trend in recognizing also that Bacon nevertheless maintains for rhetoric an important position in his philosophy. Again, even within what I have identified as this second trend in Baconian scholarship there emerges various interpretations as to the position that rhetoric occupies in Bacon’s philosophy. David Faldet (1990) and Paolo Rossi (1968) emphasize rhetoric’s function as it works in areas of moral and civic concern. Faldet states in “Of Readiness and Rhetoric in Bacon’s Advancement of Learning” that as rhetoric carries out a necessary social function, it occupies a “limited but essential” place in Bacon’s plan for new learning (30). Faldet, too, notes that Bacon distinguishes between the canon of invention in rhetoric from invention in science and then rejects the overextension of the rhetorical concept of invention into areas of scientific experimentation. He says that Bacon warns, in fact, that such overextension prevents the search for new knowledge in the advancement of learning. Bacon prefers that the term “invention” be preserved for the new scientific method (31). Faldet finds that Bacon thus defines rhetoric’s place to be in the communication and use of remembered knowledge in the conduct of human affairs and concludes, then, that Bacon’s interest in rhetoric is aimed at its influence in moral and civic affairs (29).

In Francis Bacon: From Magic to Science Paolo Rossi also stresses that Bacon distinguishes between invention in science, which is to invent or discover what we do not
know, and the invention of arguments, which is only to select what is pertinent from
knowledge already discovered. He finds, then, that rhetorical invention in Bacon’s scheme
assists knowledge but does not work to extend it (153). Rossi then notes Bacon’s
definition of rhetoric as applying reason to the imagination to better move the will and says
that by this Bacon means to grant rhetoric the power to influence action. He goes as far as
to suggest that within Bacon’s scheme of psychology, all action is preceded and motivated
by the imagination. He, too, however, turns then to limit rhetoric to moral concerns by
asserting that for Bacon the art of rhetoric belongs to the sphere of ethics and influences
moral actions (185).

Rhetoric as a Moral and Civil Art

While Faldet and Rossi tend to emphasize the limits of rhetoric’s function, other
scholars tend to emphasize the importance of rhetoric’s explicit function to influence action.
Jerry Weinberger (1985), in his commentary on Bacon’s Advancement of Learning:
Science, Faith, and Politics: Francis Bacon and the Utopian Roots of the Modern Age,
finds too that for the sake of practice in moral and civic matters and in regard to popular
opinion, Bacon asserts the superiority of rhetoric. He emphasizes that Bacon’s principle
task is to describe the arts and sciences as they must be pursued for the furthermost end of
knowledge in the practical life – that is, the unity of theory and practice, of contemplation
and action (229). And he argues that since the end of the new method is unity in theory
and practice in the “active life,” Bacon intends rhetoric to be an all-knowing art of arts
(275).

Cogan (1981) also is concerned with the special powers of rhetoric to make action
possible. His “Rhetoric and Action in Francis Bacon” provides a very illuminating
interpretation of Bacon’s faculty psychology and the “explicitly rhetorical dimension” of
action in both personal and public affairs. He notes, too, that Bacon describes rhetoric in
terms of the human faculties and explains that "of the rational arts of communication, only rhetoric addresses the imagination; of the arts that address the imagination, only rhetoric is informed by reason, and only it has as its end the rational management of action" (219). While other arts of communication are concerned with thought and speculation, rhetoric is designed to influence action. Cogan asserts, then, that this special function in the process of action might be understood as "translative" in that it translates the conclusions the reason has drawn into a form acceptable to the imagination so as to influence or initiate action (221). And he suggests rightly that this function becomes even more vital in considering Bacon's notions as to the field of rhetoric's operation.

Cogan here too argues that while the natural field for rhetoric is the persuasion of others in the public domain, the description of the role rhetoric plays in terms of the faculties suggests another field for rhetoric in the case of the individual. He asserts that Bacon never restricts his statements concerning rhetoric's translative role to the translation of conclusions from one person's reason to another's and that, in fact, Bacon intends rhetoric to work on the individual level (223). Cogan argues that for Bacon, "the first and most important translation of reason to imagination must occur in the individual; and this means that in some sense the first and most important field of operation for rhetoric is internal and personal, rather than public" (223). He concludes, then, that Bacon finds the use of rhetoric to be necessary if action, both personal and public, is to be rational and moral and goes on to say that an individual who does not possess rhetorical skill will remain a "kind of intellectual paraplegic, able to think but unable to capitalize on the results of this thinking in the realm of personal conduct" (225). But rather than examining the implications for scientific inquiry of the special link between rhetoric and action, Cogan limits his observations to the implications for moral instruction and general ethical understanding.
Rhetoric as a Popular Art

A number of those scholars, like Cogan, who emphasize the importance of Bacon’s new definition of rhetoric in terms of faculty psychology are also concerned with the specific value of Bacon’s new theory of rhetorical style for delivering to the populace the results of scientific investigation. In “Francis Bacon and the Historiography of Scientific Rhetoric,” James P. Zappen (1989) is concerned with Bacon’s theory of style particularly as it affects scientific rhetoric. He asserts that Bacon arranges several methods of presentation as follows: the magistral and exoteric methods and “Methods” are designed for the use of knowledge by the public, and the initiative and acroamatic methods and aphorisms are designed for the progression of knowledge by those who Bacon labels the “sons…of science” (81). And he notes that Bacon also provides at least two styles, the imaginative and the plain style, each of which addresses different faculties and is thus suitable for serving different purposes and addressing different audiences in different parts of his scientific method.

James Stephens (1975) too devotes his study to Bacon’s plan for the delivery or transmission of discoveries made by way of the new science. Stephens’ Francis Bacon and the Style of Science discusses Bacon’s conception of discourse in general and of the rhetorical tradition and explicates Bacon’s new theory of communication, a style of presentation that he believed should prevail among scholars. Stephens says that Bacon found the traditional rhetoric to encourage and cater to the weaknesses of the mind. The traditional system of rhetorical invention, then, is shifted by Bacon to the invention merely of speech and arguments, an act of remembrance, of recollection of what has already been obtained. While Stephens emphasizes here that Bacon finds rhetoric to be a popular art and to handle reason as it is planted in the opinions of the vulgar (35), he later moves to find Bacon’s definition of rhetoric in terms of the faculties to be illuminating and even says that science and rhetoric are united in the psychology of discovery. He notes the power of
rhetoric in relation to the imagination and states that Bacon believes the imagination could be profitably exploited by the scientist for the translation of the new science to the “crowd of learners” (35) and thus for further advancement of learning. He goes on, though, in what seems like a contradictory suggestion to intimate that Bacon appoints an even more important role for rhetoric in the scheme for reform by pointing to its hold over the will: “Man’s will and appetite are the faculties which convert his knowledge into fruitful action. Once information is discovered by the senses and judged by reason, it is the receiver’s option to act by believing it, by using it to inquire for new discoveries, or, even where truth is presented, by rejecting it” (65). And he points to the importance for the new science to persuade even intellectuals — to stimulate inquiry, “to create inventors rather than scholars, actors on rather than passive recipients of knowledge” (77).

**Rhetoric as “Supreme Illustrator of Knowledge”**

A small number of works assert further that even if rhetoric relies on received knowledge, as Bacon’s new plan for scientific inquiry depends upon rhetorical communication between inquirers, rhetoric works as a tool to assist science by illustrating the results of experimentation for both popular and learned audiences. John C. Briggs (1989) in *Francis Bacon and the Rhetoric of Nature* is interested in Bacon’s instruction for the transmission of scientific discoveries. He argues that Bacon found traditional rhetoric to function merely as a tool. And because Bacon found traditional rhetoric to recall learning rather than discover it and thus to close inquiry prematurely, he believed rhetoric, in fact, to corrupt the advancement of knowledge (151). Briggs states that Bacon’s charges against traditional rhetoric throw into question its usefulness for civil discourse and limits its import for addressing popular audiences (155). He notes, then, that Bacon responds to the defects in traditional rhetoric by reconceiving it in such a way as to allow its incorporation into the new philosophy. Briggs finds Bacon’s argument that true scientific
method should transmit the process of scientific invention in the same way it was invented to be, in fact, a variation upon rhetoric's use of the imagination for the cause of reason (31). He finds Bacon to discard the old rhetoric and fashion a new that by way of the aphoristic method stimulates scientific activity. It is questionable, however, whether Bacon sets forth the aphoristic method as rhetorical activity. In fact, as Wallace asserts, Bacon seems to distinguish very carefully between the Method of Discourse, which would include the aphoristic method, and the Illustration of Discourse, or rhetorical address. Finally, then, it is also questionable whether Briggs's conclusion that Bacon's new rhetoric is a scientific rhetoric that arises from the principles of the new science and is "as rhetorical as it is scientific" (214) is a dependable one.

Zappen, however, notes that Bacon divides the transfer of knowledge into the organ of tradition, the method of tradition (which is a part of logic), and the illustration of tradition (or rhetoric). And he proceeds to note that Bacon seems to intend logic to be directed toward science and rhetoric to be directed toward popular opinion. But he rightly notes that the distinction is not so simple and that the exact relationship between the two arts is left unclear (246). He goes on to argue that Bacon, in his discussion of method, distinguishes among several kinds of method to be used based on the given subject, audience, and purpose and that as such, as logic is concerned with audience, it seems to be concerned with both learned and popular audiences (246). Zappen, however, argues in "Francis Bacon and the Rhetoric of Science" (1975) that the most important implication that might be drawn from Bacon's theory of communication is that the transfer of knowledge relies on both logic and rhetoric. Zappen points to Bacon's own insistence to argue that the divisions among the branches of knowledge should not be applied too strictly. He, then, asserts further that Bacon's principle of the unity of knowledge "suggests that logic is the proper realm of the rhetorician" (246). And he concludes, though only briefly, that "Bacon's theories about discourse suggest the possibility of an alliance between inquiry
and expression” (247). Although Zappen does not pursue the ramifications of such an observation, I believe his point raises issues here that are, at least partly, at stake in my own inquiry.

Howell observes that one important characteristic of theories of rhetoric during the Renaissance concerns invention and the emphasis placed on the distinction between invention in the scientific investigation of external realities and invention in rhetorical discourse as the means by which those realities ought to best be presented and used (“Renaissance Rhetoric” 303). In dealing specifically with Bacon’s theory of rhetoric in a chapter in his Logic and Rhetoric in England, 1500-1700, Howell (1961) notes, as well, that Bacon distinguishes between two kinds of invention, but he does not suggest, then, that Bacon limits rhetoric to the popular audience and to public affairs. Howell moves to the position in explicating Bacon’s definition of rhetoric as applying reason to the imagination for the better moving of the will that Bacon means here to place rhetoric as an alliance between reason and imagination so that reason might operate in the human life. Howell points to Bacon’s assumption that if the reason prevailed, cold logic would be enough to persuade both the learned and the popular audience as to the truth of propositions and proofs. But, as Howell notes, Bacon, in fact, believes that the passions tend to be unruly and disobedient to the reason so that even the learned tend toward unreason, emotion, and prejudice. Bacon, then, does not limit rhetoric merely to discourse addressed to the popular audience, but suggests that rhetoric must necessarily address itself to the reason and the imagination in learned discourse, as well (373). Howell thus concludes that one of Bacon’s chief contributions to modern rhetoric is his “emphasis upon rhetoric as the supreme illustrator of knowledge for any audience, learned or popular” (375).

B. M. G. Wormald (1993) attempts in his study, Francis Bacon: History, Politics and Science, 1561-1626, to reappraise Bacon’s reputation in natural science as well as his contributions to other fields. As he discusses Bacon’s program, Wormald aptly stress that
Bacon places rhetoric between logic and morality as participating in both. And he emphasizes the participation of and the importance of rhetoric in relation to Bacon's new scientific method: rhetoric, like the common logic, "will assist by communicating not only instructions about itself but also the results it may succeed in achieving" (86). Even while Wormald says that Bacon assigns to rhetoric various limitations, he asserts, nevertheless, that Bacon views rhetoric as wholly indispensable (86). He argues, in fact, that Bacon finds rhetoric "rightly used, not separated from philosophy/science, but harnessed in unity with it, makes and sustains society" (88).

Margaret L. Wiley (1971) in her article entitled "Francis Bacon: Induction and/or Rhetoric" does much to further the argument that Bacon defines for rhetoric a more active role in his new program for the advancement of learning. Wiley places the psychological qualifications that Bacon sets forth for his ideal investigator at the center of her argument when she suggests that Bacon's inductive method and his rhetorical theory are closely related in that the end of both is ultimately movement directed by right action. Wiley quotes from Bacon's assertion, which states that the matter at hand is not merely speculation but the real business and power of operation, to support her own argument that both his inductive method and his rhetorical discourse begin by aiming at action (74). I agree with her suggestion that both Bacon's scientific method and his rhetoric make use of human imaginative capabilities and directive reasoning ability to direct action and thus further the work of investigation (70), and also when she draws the important conclusion that the most single common factor between Bacon's method and his rhetoric is that neither is aimed at intellectual stasis, but rather both seek a quality of movement or action that presses dynamically forward (72).
Conclusion

John C. Briggs states that "[t]he reading of Baconian texts resembles the Baconian reading of nature, for in both the interpreter must discover a clue to the labyrinth" (13). Perhaps, then, as Briggs says, because Bacon at times doubles back, contradicts himself and changes his way, and, as Karl Wallace suggests, because the interpreter who presents Bacon's views must conjecture to a great extent, the reading of scholarship concerned with Baconian texts also resembles the labyrinth, for the reader here too will encounter doubleness. The doubleness I am identifying lies in the attempts I find present in the scholarship to locate and evaluate rhetoric's place within Bacon's philosophical system. The scholarship, when noting Bacon's distinction between discovery in science and invention in rhetoric and when turning to Bacon's definition of rhetoric and noting its place at the center of Bacon's faculty psychology, draws various conclusions as to the implications of such placement. The various conclusions that are drawn, then, give way to multiple tensions - tension as to whether rhetoric is an inferior and parasitic activity or an art central to Bacon's plan for the advancement of learning, as to whether rhetoric addresses learned audiences or is limited to popular audiences, as to whether rhetoric takes part in furthering scientific investigation or functions only in public affairs and concerns of morality. Such tensions, I argue, as they become apparent in the literature, in their discord will open a space for a renewed interpretation of Bacon's conception of rhetoric.

As the controversy remains in the scholarship as to whether Bacon finds rhetoric to be impotent or at best a parasitic activity or defines it as absolutely indispensable as the supreme illustrator of knowledge, there remains space in which Bacon's theory of rhetoric is certainly open to interpretation. I believe that the literature, even when it more positively acknowledges rhetoric's central position in Bacon's psychology and grants rhetoric an essential position in Bacon's plan for the advancement of learning, fails either to recognize the very central position that rhetoric shares with scientific inquiry in Bacon's new method
of invention or to set forth a comprehensive view of the import of rhetorical activity for Bacon's new science. I would argue, in fact, that there is space even in which to pose an alternative interpretation of Bacon's theory of rhetoric, one that positions rhetoric as much more central to Bacon's new scientific method of invention than has been acknowledged by any of the previous scholarship. The remaining chapters will, then, proceed in such a direction to explore the fuller implications and greater importance of rhetorical action within Bacon's new method of inquiry and experimentation in the continued advancement of knowledge.
CHAPTER II. REFUTATION AND REFORMATION

The aim of this study, in the remaining chapters, is to present an alternative interpretation of the importance of rhetorical action in Bacon’s system. This interpretation will ensue from the theory of communication set forth in *The Advancement of Learning* and from the faculty psychology that emerges from Bacon’s work. The plan for this chapter is twofold. First, this chapter will argue that it is necessary to read Bacon’s complaints against traditional rhetoric in context of Bacon’s attacks against all received traditions. The chapter will move first to outline the major points in Book I of *The Advancement of Learning* that explicate Bacon’s opinions concerning received philosophies and in so doing will illustrate that much of what the scholarship has cited as complaints that Bacon makes against rhetoric are, in fact, specific complaints against scholastic logic and humanist rhetoric. Second, this chapter will proceed to articulate the ends at which Bacon’s reform of knowledge aims and will thus emphasize Bacon’s plan for constructing a new live and active science. I believe this effort will leave us in a position to find Bacon to allow for a much more active role for rhetoric in his new method of inquiry and invention than has previously been recognized.

**Refutation of Received Philosophies**

Bacon’s ideal objective, “the total reconstruction of the sciences, arts and all human knowledge,” begins with an explicit challenge to the authority of received philosophic traditions. Bacon is concerned with the inadequacy in the seventeenth century of existing knowledge and with the deficiencies that have prevented its advancement:

The subtlety of nature is greater many times over than the subtlety of the senses and understanding; so that all those specious meditations, speculations and glosses in which men indulge are quite from the purpose,
only there is no one by to observe it. As the sciences we now have do not help us in finding out new works, so neither does the logic which we now have help us in finding out new sciences. The logic now in use serves rather to fix and give stability to the errors which have their foundation in commonly received notions than to help search after the truth. So it does more harm than good. (Works VIII 69)

In such terms Bacon thus attacks the authority of traditional learning, which he argues has been accepted without scrutiny as true and which in its assumption that all knowledge has been discovered inhibits the process of discovery. Bacon’s inventory of learning, his comments on its adequacies and inadequacies, and his method for the reform of knowledge proceeds, then, with his review of past philosophers. In Book I of the Advancement, Bacon takes up the task of surveying “what the particular acts and works are, which have been embraced and undertaken for the advancement of learning; and again what defects and undervalues I find in such particular acts...” (Advancement I 5). He treats all classical philosophies with similar condemnation, as he cites as the greatest obstacle to the advancement of learning a reverence for antiquity and a belief that all knowledge had already been discovered. His primary objection is that all past philosophies rely more on intellectual contemplation than on direct observation and experimentation. In his attack he intends to make way for further discovery and invention.

Bacon’s complaints against received traditions have been studied in detail. Anderson has provided an important study of Bacon’s relation to past philosophies. And there are, as well, a number of important works that have evaluated the status of rhetoric and dialectic in the sixteenth and seventeenth centuries (see Ashworth, Jardine, Lechner, Gilbert, Howell). My aim here is not to provide additional insight into these studies, but rather to stress that Bacon’s concept of rhetoric and his appraisal of its worth must be seen in light of this appraisal of all received tradition.
Bacon’s allusions to rhetoric must be read as a parallel strain, in the context of his criticisms against the “defects and undervalues” of all traditional learning. As Bacon refers to the defects in argumentation, he means to point specifically to the limitations he finds in the syllogistic logic that is at the foundation of Aristotelian and scholastic traditions. And as he refers to vain eloquence, he intends to argue specifically against the excessive imitation of Ciceronian figures as practiced by some in the humanist tradition. Bacon argues that as men have been concerned with disputation and argument and have relied on authority or have been carried away by the whirl of eloquence and the imitation of classical texts, they have gone astray and have abandoned experience and investigation entirely. Bacon believes thus that his new vision of progress requires a break with traditional learning, and likewise a break with the rhetorical tradition, of the seventeenth century. As he argues, though, for a new method and a course of experimentation by which men might address themselves to new discoveries, he also fashions a new rhetoric with an alliance to rational action that also works to advance the progress of science.

**Received Rhetorical Tradition**

Lisa Jardine documents the attempt by contemporary rhetoricians in the sixteenth and seventeenth centuries to assign to rhetoric merely the function of ornamentation. She clearly documents the reorganization of the trivium from the fourteenth century through the sixteenth century that subordinated rhetoric to dialectic and thus left it with only formal composition, ornamentation, and delivery (19). Jardine, as noted, has argued that Bacon follows the educational reformers in the sixteenth century as he reserves the term *rhetoric* for illustration and ornamentation. Karl Wallace suggests, in fact, that in noting the various places where Bacon’s incidental comments allude to the nature of rhetoric, a reader might certainly infer that Bacon views rhetoric as merely ornamentation or figures of speech (51). He points to places where Bacon alludes to rhetoric as “adornment,” as the dressing up of
ideas for popular discourse. In the *Advancement*, for instance, Bacon cites the arts of logic and rhetoric and suggests that as the one is for "judgment," the other is for "ornament" (*Advancement* II 65). Wallace asserts, though, that Bacon's allusion to rhetoric as merely ornamentation "seems to be uncritical and transitory, and probably indicates merely that he was aware of the attempt, by those contemporary rhetoricians who endeavored strictly to compartmentalize the arts, to identify rhetorical discourse with ornamental presentation" (51).

The reorganization of the trivium and the hard and certain division of the sciences common from the twelfth through the sixteenth century certainly proved detrimental to the status of rhetoric. Brian Vickers notes that medieval rhetoric suffered a diminished status as its place in the trivium was constantly usurped by dialectic or theology. He refers to Richard McKeon's classic essay concerning the demise of rhetoric to note the influence of scholasticism and the method of dialectic that led to the fragmentation of rhetoric. He finds that the scholastic emphasis on logical methodology subordinated rhetoric to dialectic, stripped it of its teaching on invention, and divorced it from its practical implications. Vickers quotes from McKeon to point out that as rhetoric, too, was incorporated into theology it was used as "an instrument to 'clarify the meanings and remove the ambiguities of scriptural statements' and to systematize collections of authorities" (229). However, the "most crucial change in medieval rhetoric," according to McKeon, was the resultant shift from "subject matters" to "verbal forms" as rhetoric became a "simple art of words" (qtd. in Vickers 230-31). The intellectualism of scholastic rationalism and its emphasis upon logical methods of argumentation left little concern for a rhetoric defined as mere ornamentation and style.

But while rhetoric's status suffered from the domination of scholasticism in the universities through the Middle Ages, its development during humanist educational reforms of the fifteenth century remained, unfortunately, deficient. Vickers notes that an important
readjustment took place in the balance of the trivium as the humanist reform in the educational curriculum increased the time spent on rhetoric and allowed it greater emphasis. But even while new humanist attitudes rejected medieval fragmentation of the rhetorical tradition, the humanist aim to restore the prestige of classical rhetoric yielded questionable results. While Renaissance humanists rediscovered classical texts and stressed the five parts of the canon, they nevertheless pursued *elocutio* with the greatest zest. Vickers notes that many rhetoricians found *elocutio* to be more important than *inventio*, and some even pursued it at the expense of *dispositio* (282-83). He notes that references to Cicero's and Quintilian's description of *elocutio* as an all important skill served as humanists' justification for making eloquence central to their work (273). Vickers notes, in fact, that humanist rhetoricians regarded *elocutio* never as mere ornamentation, but rather as a complex term connoting "prudence and knowledge" (283). And yet many, nevertheless, who pursued eloquence with great interest, tended to give only a perfunctory treatment of rhetoric -- treatment that stressed elegance in literary expression and use of appropriate figures of speech, and that was concerned primarily with the imitation of Latin models, particularly passages of Cicero's works (259).

Wallace suggests, however, that Bacon puts ornamentation and style in their proper place early in the *Advancement* as he proceeds to articulate his quarrel with all received learning. The intention of the first book of the *Advancement* is to provide a defense of learning. The book proceeds both to set forth the weaknesses of traditional learning, as it restricts knowledge to what has been discovered by received philosophies, and to persuade statesmen to look forward to a new method by which new knowledge might be discovered and learning thus improved. There are, Bacon argues, three weakness or "distempers" of traditional learning: fantastical learning with its "vain imaginations," contentious learning and "vain altercations," and delicate learning or "vain affectations" (*Advancement* I 25).
The Attack Against Humanism

Bacon treats first the distemper of delicate learning, when "men study words and not matter"—a distemper characteristic, Bacon argues, of the humanistic scholars. Bacon cites the influence of Martin Luther on the humanist revival of classical texts. As Luther called upon ancient authors to support his present argument against the traditions of the church, he emphasized Greek and Latin learning so that the ancient authors, both in divinity and in humanity, which had long time slept in libraries, began generally to be read and revolved. This by consequence did draw on a necessity of a more exquisite travail in the languages original, wherein those authors did write, for the better understanding of those authors, and the better advantage of pressing and applying their words. And thereof grew again a delight in their manner of style and phrase, and an admiration of that kind of writing . . . .

(Advancement I 25)

Bacon notes briefly what has caused this distemper, the tendency to seek style rather than matter:

so that these four cause concurring, the admiration of ancient authors, the hate of the schoolmen, the exact study of languages, and the efficacy of preaching, did bring in an affectionate study of eloquence and copie of speech which then began to flourish. This grew speedily to an excess; for men began to hunt more after words than matter; more after the choiceness of the phrase, and the round and clean composition of the sentence, and the sweet falling of the clauses, and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention, or depth of judgment . . . .

(Advancement I 26)
Arthur Johnston asserts in notes to this passage that even while Bacon very much admires Cicero and also imitates his use of rhetorical figures, he condemns "those fanatics who slavishly confined themselves to Ciceronian vocabulary, rhythms, and figures" and for whom the purity of Latin is more important than its matter (225). As noted earlier, the humanist movement is far more interested in an intellectual life than the kind of preoccupation with adornment and style over substance and content for which Bacon attacked them. We might, nevertheless, continue to read closely Bacon's complaint here. Bacon attacks those who practiced Ciceronian imitation to excess. He continues by naming specific persons he finds to be particularly guilty of this distemper, and asserts that these scholars spend "infinite and curious pains upon Cicero the Orator . . ." and that they "with their lectures and writings almost deify Cicero . . ." (Advancement I 26). Bacon denounces those scholars who are concerned with style for its own sake and who confine their studies to the imitation of Ciceronian figures. These scholars, he suggests, have caused an affectation detrimental to the advancement of learning.

While humanism may not have deserved the harsh criticism it receives from Bacon for being interested only in style and decoration, the movement, admittedly, was not generally interested in pursuing science or the study of nature. The humanists tended toward skepticism concerning the ability of the scholastic method or of deductive logic to come to any satisfactory conclusions. And they doubted whether any universal knowledge could be attained. The humanists were concerned "predominately with texts, language, style, and correct reading and annotation of authors" (Johnston 91) and were thus less involved with the investigation of nature that Bacon advocated. They confined their study to the arts and to human nature. Paolo Rossi asserts that the humanist ideals and form of education were, then, "diametrically opposed to Bacon's own principles" (59). Bacon rejected their skepticism and argued that natural science and a new inductive logic would
create the necessary conditions to secure the experimental knowledge toward which Bacon aspired.

**The Attack Against Scholasticism**

The most important and most severe of Bacon's criticism is pointed at "contentious learning," by which he means scholasticism and its Aristotelian tradition. He asserts that "vain matter is worse than vain words" (Advancement I 27) and generally prefers the humanists' skepticism to the scholastics' dogmatism. He refers here to the "kind of degenerate learning" that
did chiefly reign amongst the schoolmen: who having sharp and strong wits, and abundance of leisure, and small variety of reading, but their wits being shut up in the cells of a few authors (chiefly Aristotle their dictator) . . . and knowing little history, either of nature or time, did out of no great quantity of matter and infinite agitation of wit spin out unto us those laborious webs of learning which are extant in their books. (Advancement I 27-8)

Margery Purver observes that well into the sixteenth century Aristotelian science still conditioned the academic approach to the exploration of nature; further "it constituted a fundamental obstruction to future development in that it provided the only system of sciences that there was" (33). Bacon criticizes "Aristotelian" science as it had been handed down from the Schoolmen "for whom it had acquired an authoritarianism never claimed by Aristotle himself" (Purver 26). As Rossi notes, this "distemper of learning" necessarily spreads beyond medieval scholasticism, farther into the past. Bacon condemned scholastic learning because it relied upon authority from the ancients, and he thus links his attacks of scholasticism with attacks against Aristotelian philosophy.
A. Rupert Hall in documenting "the formation of the modern scientific mind" notes that Thomas Aquinas in the thirteenth century was, perhaps, the foremost proponent of Aristotelianism, which in medieval Europe was reconciled with and thus transformed by Catholic theology. He argues, as well, that despite Aquinas' study of Aristotle's work, "he utterly failed to understand the true spirit and methods of natural science" (5). Bacon denounces scholasticism, then, for endangering natural science by incorporating Aristotle's philosophy into religion:

But as in the inquiry of the divine truth, their pride inclined to leave the oracle of God's word, and to vanish in the mixture of their own inventions; so in the inquisition of nature, they ever left the oracle of God's works, and adored the deceiving and deformed images which the unequal mirror of their own minds, or a few received authors or principles, did represent unto them. (Advancement I 29)

Bacon suggests that as the scholastics succeeded in distorting Aristotle's philosophy and thus the status of scientific theory, they succeeded in distorting nature and, ironically, Scripture, as well. In a debased form, then, Aristotle was made the master of medieval thinking.

Bacon considered the orthodox Aristotelian tradition of the scholastics a great hindrance to the advancement of learning because it was content with abstract speculations and produced no practical results. He accuses Aristotle of beginning philosophy with few inquiries and reaching conclusions, thus turning from just a few findings to an all-inclusive theory. And he proceeds then to be most critical in his objection to the scholastics as they followed Aristotle's logical method in starting from first principles and proceeding by deduction to general truths. He describes the scholastic method of study by disputation: "upon every particular position or assertion to frame objections, and to those objections, solutions; which solutions were for the most part not confutations, but distinctions" and to
suggest that this approach unsatisfactory because it “rests not so much upon evidence of truth proved by arguments, authorities, similitudes, examples, as upon particular confutations and solutions of every scruple, cavillation, and objection; breeding for the most part one question as fast as it solveth another” so that it ends with “monstrous altercations and barking questions” (Advancement I 28-29). Bacon finds scholastic inquiries to be thus subjected to a kind of refutation that resulted in little other than an endless to-and-fro debate concerning already familiar assumptions. He asserts that this kind of deductive, syllogistic reasoning only extricates what has already been received on authority and cannot provide any new knowledge.

Bacon sees the medieval scholars, then, as orderers of authoritatively received learning rather than as creators of genuinely new knowledge. He maintains that because syllogistic logic accepted traditional theories and precluded invention or discovery, it had no legitimate place in science. Further, he argues that the scholastics did much harm to learning by seeking truth solely through operations of logic and disputation rather than from direct observation of nature. He thus uses his attacks against scholasticism and its Aristotelian influence to call learning back from sheer operations of the intellect alone, detached from the material world, and to emphasize the fruits of inquiry derived additionally from direct contact with nature.

Attack Against All Concerning Deceit or Untruth

The third distemper of learning is the uncritical dissemination and acceptance of dubious learning. Bacon warns here of the “accepting or admitting things weakly authorized or warranted” (Advancement I 30). He distinguishes, then, between two kinds of credulity: one regarding history, both ecclesiastical and natural, and the other regarding arts and sciences. In discussing credulity in matters regarding arts and sciences, Bacon complains again that ancient authors have been given too much credit: “And as for the
overmuch credit that hath been given unto authors in sciences, in making them dictators, that in their words should stand, and not consuls to give advice; the damage is infinite that sciences have received thereby, as the principal cause that hath kept them low at a stay without growth or advancement" (*Advancement* I 31). Bacon's dissatisfaction with ancient authors is made explicit in his comparison between the "mechanical" or productive arts, which with practice have progressed in time, and the arts of philosophy and science propounded by Aristotle and Plato, which by uncritical acceptance have only stagnated and become corrupt. Philosophers and scientists have accepted Aristotle as their dictator and have done little more than record commentaries on his work. In so doing, however, "they have rather depraved than illustrated" his method:

> For as water will not ascend higher than the level of the first springhead from whence it descendeth, so knowledge derived from Aristotle, and exempt from liberty and examination, will not rise again higher than the knowledge of Aristotle... for disciples do owe to masters only a temporary belief and suspension of their own judgement till they be fully instructed, and not an absolute resignation or perpetual captivity... . . .

(*Advancement* I 33)

The arts and sciences will be free of their imprisonment by dogmatic Aristotelian science only when artists and scientists begin to subject Aristotelian method to examination and criticism.

Bacon's argument here is an important one. He critiques the uncritical acceptance of opinion and advocates instead the critical pursuit of arts and sciences. Neal Gilbert notes that the Renaissance respect for antiquity is one of the factors that lead seventeenth-century science, especially in its early formation, to turn predominantly critical (xvii). Renaissance scientists found themselves at every step confronted with the avowed merits of Aristotle and his followers. Bacon argues that scientists must now be ready to subject Aristotle to
external criticism and even to attempt major revisions or to reject these theories, if they are “further and further to discover truth” (Advancement I 32). Scientists must attempt investigation so as to accept or reject theories as valid based on a degree of observational and experimental evidence rather than on the dictates of dogmatic conviction. It is this critical aspect, then, that predominates much of Bacon’s work.

The remaining errors and vanities of learning that Bacon identifies in Book I tend to reflect the complaints against Humanism and Scholasticism already articulated. The chief among the remaining errors is, again, admiration for antiquity. Bacon complains further that an affection for antiquity looks only backward for new knowledge and does so without re-examination. Closely related to this error is the second, that being a “distrust that anything should be now to be found out, which the world should have missed and passed over so long time” (Advancement I 33). And the third is, as well, tied to the second: “a conceit that of former opinions and sects after variety and examination the best hath still prevailed and suppressed the rest; so as if a man should begin the labour of a new search, he were but like to light upon somewhat formerly rejected” (Advancement I 33). Bacon is here speaking of the despair in believing that the best knowledge had come from antiquity and there was thus nothing left to discover. Such despair discourages any search for new learning. Another error, Bacon argues, is “too great a reverance, and a kind of adoration of the mind and understanding of man; by means whereof, men have withdrawn themselves too much from the contemplation of nature, and the observations of experience, and have tumbled up and down in their own reason and conceits” (Advancement I 34). Bacon here refers to the belief that knowledge is derived entirely from the reasoning action of the intellect. And he admonishes those who turn from observation of nature wholly to pursue, instead, intellectual contemplation. He further articulates the error in the “impatience of doubt, and haste to assertion without due and mature suspension of judgement” (Advancement I 35). And he notes the related error in the manner of the delivery of
knowledge "in a sort as may be soonest believed, and not easiest examined" (Advancement I 35). Bacon is concerned again that science has become too soon satisfied with its opinions and has assumed further inquiry to be unnecessary. And he is worried, as well, that science has delivered itself so as to have its art appear perfect and to make others believe and accept what has been discovered, rather than to "propound things sincerely" (Advancement I 35).

Finally, though, Bacon comes to what he identifies as the greatest of all errors, "the mistaking or misplacing of the last or furtherest end of knowledge" (Advancement I 36). Men have pursued knowledge for differing reasons, sometimes because of natural curiosity, sometimes for entertainment or delight, sometimes for reputation, and sometimes for "lucre and profession" rather than to give a true account of their gift for the benefit of men. He asserts that what will truly dignify and exalt knowledge will be "if contemplation and action may be more nearly and straitly conjoined and united together" (Advancement I 36). Knowledge ought to be sought not for delight in itself, but in the union of contemplation with action for the benefit and use of men.

**Reformation for Advancement**

Scholastic and humanistic philosophies continued to reign as the staple mode of thought in English universities until the end of the sixteenth century so that when Bacon comes to the early seventeenth century "an entire system of sciences, stultified and incapable of growth, still prevailed in the universities" and thus dominated academic learning (Purver 28). It was at this point, argues R. F. Jones, that "scientific progress depended primarily upon a favorable outcome in the controversy between the moderns and the upholders of antiquity, in which science was and continued to be the central issue until the end of the century" (5). Bacon's denouncement of the entire structure of thinking expounded by existing philosophies grows out of this tension. He believed that "progress
in knowledge was possible only when the ground had been completely cleared and a new foundation laid” and that men must begin “from the very foundations and effect a total reconstruction of all sciences” (Jones 11). Bacon’s appraisal of rhetoric must be interpreted in this context as it is complicated by his most significant complaints against received traditions: the extreme reverence for the authority of antiquity and the uncritical acceptance of received learning, the intellectual contemplation of “truth” at the exclusion of active engagement with nature, and the related misplacement of the ends of knowledge. Comments concerning rhetoric which appear here – comments which are often cited to support an interpretation that finds Bacon to limit rhetoric to ornamentation – should be read carefully, in full context, so as to consider the actual state of affairs within which Bacon sought reform. When Bacon is critical of the rhetorical tradition, then, he is concerned with both Medieval rhetoric in its scholastic manifestation as it relies upon authority and is reduced to style, and Renaissance rhetoric in its extreme humanist or Neo-Ciceronian manifestation with its reliance upon classical texts and emphasis upon ornamental presentation. I would argue that Bacon seeks to reform rhetoric by redefining it as an important and serious rational operation.

Bacon was particularly concerned with the conception of rhetoric as ornamentation. He was cautious of knowledge that was communicated so as to be believed entirely and to move men quickly to judgment, rather than to be examined for its weaknesses. Rossi notes that Bacon would have been familiar with the kind of description as to rhetoric’s power to sway judgment, as in this description by Ben Johnson of Bacon himself:

Yet there happened in my time one noble speaker, who was full of gravity in his speaking . . . . His hearers could not cough, or look aside from him, without loss. He commanded where he spoke; and had his judges angry and pleased at his devotion. No man had their affections more in his
power. The fear of every man that heard him, was lest he should make an end. (qtd in Rossi 183)

And he notes that these qualities of oratory are those that Bacon so often opposes. Bacon was cautious of rhetoric reduced to elocution and put to the use of conveying information in a way to be believed rather than examined. He believed that knowledge delivered in such a way inhibits further inquiry. And he asserts that this type of persuasion has no place in the direct investigation of nature.

Wallace and Rossi are right, then, to find in Bacon's appraisal an argument that rhetoric ought not be reduced to style or ornamentation. Rossi's assertion that "Bacon's polemics against a form of knowledge favouring verbosity rather than serious inquiry are radically opposed to an interpretation of rhetoric as mere ornament" (179) seems particularly apt. Bacon, in fact, attacks Plato for his conception of rhetoric "as a voluptuary art" and instead considers it an intellectual art, one "excellent and excellently well laboured" (Advancement I 139-40). But Wallace and Rossi are admittedly conservative in their own estimation of Bacon's final appraisal of rhetoric. They emphasize that Bacon, nevertheless, excludes rhetoric from the rigorous methods of the new science.

I would argue, however, that because Bacon is concerned with the tendency of men to be persuaded by emotion and thus rush too soon to judgment, he is careful in his program for reform to redefine rhetoric as a rational art that works in terms of his faculty psychology to turn men from contemplation toward reasoned action. The appropriate function of rhetoric, to strike the imagination so that the judgments of reason move men to positive actions, becomes immensely important, then, for what Bacon advocates as the furthest ends of knowledge. Bacon emphasizes the proper province of rhetoric, as it works toward the presentation of ideas so as to support and even protect reason and as it is rooted in the sphere of action.
Reformation for the Ends of Knowledge

Gilbert asserts that "Renaissance scientists found themselves in a world already theorized to death, so to speak," and argues that "the seventeenth century had to fight its way back to a fresh view of nature by stripping itself of centuries" of traditional speculation and bookish learning and by dictating a more active scientific method (xvi). Bacon points himself to his "constant and distinct warning that by the methods now in use neither can any great progress be made in the doctrines and contemplative part of sciences, nor can they be carried out to any magnitude of works" (Works VIII 160). Again, for Bacon the greatest injury to the advancement of knowledge is the misplacement of the ends of knowledge and the error in failing to seek an active, utilitarian goal for science. He states:

I would give one general admonition to all; that they consider the true ends of knowledge, and not seek it either for the gratification of the mind, or for contention, or that they may despise others, or for emolument or fame, or power, or such low things; but for the benefit and use of life; and that they perfect and govern in charity (qtd. in Anderson 96)

Bacon's idea of science has traditionally been characterized as extremely practical and regarded as expressly utilitarian.

According to Anderson, in fact, Bacon found the end of the new method to be its operation in use and action. Julian Martin also points to Bacon's argument that delight, contentment, and enlightenment are not the sole ends of inquiry. She suggests that the man of knowledge must accept active responsibility to. in Bacon's words, "endow the life of man with infinite commodities" (66). Jones too finds that Bacon condemns the pursuit of learning for contemplation only and argues at every stage for a progressive seeking of benefits. And Rossi argues, as well, that for Bacon, science is not a luxurious and detached contemplation or aspiring towards truth. He notes, further, that Bacon refuted traditional philosophy as it had "turned man from natural investigations" and "substituted
contemplation for action” (43), and he proposed instead a progressive science based on “the union of knowledge and action” (27).

Medieval opinion, according to Hall, favored a more contemplative than practical view of science. It followed an Aristotelian definition of “knowledge as ‘understanding’ (passive knowledge) rather than ‘power to control’ (active knowledge)” (Hall 163). And Purver says that Bacon believed it was through the split between the intellectual and the utilitarian that science had become sterile, and so “a total reconstruction of the system of sciences must be based on an alliance between these two spheres” (34). Jerry Weinberger asserts too that Bacon prescribes as the ends governing science “the unity of theory and practice, . . . a single method or means for the discovery of all things and the commanding of nature in action” (229).

Bacon does state explicitly that “human knowledge and human power meet in one” (Works VIII 67). He explains further:

> Although the roads to human power and to human knowledge lie close together, and are nearly the same, nevertheless on account of the pernicious and inveterate habit of dwelling on abstractions, it is safer to begin and raise the sciences from those foundations which have relation to practice, and to let the active part itself be as the seal which prints and determines the contemplative counterpart. (Works VIII 169)

As he continues, he sets forth the following “rule or guidance” for both practical operations and contemplative knowledge: “For a true and perfect rule of operation then the direction will be that it be certain, free, and disposing or leading to action” and “for a true and perfect axiom of knowledge then the direction and percept will be, that another nature be discovered which is convertible with the given nature, and yet is a limitation of a more general nature, as of a true and real genus.” He concludes, finally, that “these two directions, the one active and the other contemplative, are one and the same thing; and what
in operation is most useful, that in knowledge is most true" (*Works* VIII 171). Bacon thus conceived of power and knowledge, action and contemplation, as the substance of his new method.

Antonio Perez-Ramos looks closely at the concept of utility in Bacon’s idea of science and at the claim that Bacon advocates useful and practical knowledge rather than theoretical or intellectual inquiry, and he concludes that Bacon’s science, in fact, “was precisely an attempt at integrating the two” (136). Perez-Ramos looks at the term “opus” as it appears in Bacon’s work and to consider further Bacon’s ideas concerning the concept of utility. He notes:

> Bacon repeatedly declares that his aim is neither contemplation (conceptual grasp as in the old Aristotelian *scientia*) nor “res cum principiis consentanea” (a fictionalist or instrumentalist stance mainly connected with astronomical theory), but rather the production of opera, of “works” (in Bacon’s own English), whose goal is “the endowment of man’s life with new commodities.” (136)

He explains that many passages in Bacon’s works indicate that he did have an appreciation for the pursuit of theoretical truth and not merely its utilitarian applications. According to Perez-Ramos, then, Bacon advocates in his conception of science the active engagement of men in the “realm of the doable, the makeable, the constructable” not as a replacement-of but in-addition-to, “over and above the intellectual apprehension of them in the old demonstrative fashion” (143). And he suggests, then, that Bacon celebrates the “equation between *scientia* and *potentia*” (148).

Perez-Ramos continues, then, by noting that Bacon refers to science repeatedly as “the study of Nature with a view to works (ad opera)” (140). And as he considers the accepted use of the term *opera* in the seventeenth century he finds: “*Opera* belongs to the semantic field of doing and making, that is, it refers both to the action to be performed and
to the product of the action performed, both to the act of working and to the result of work” (141). He asserts that the knower in Bacon’s science is conceived ideally as “he who makes, does, or produces” (148). And, finally, he argues that the method of induction establishes opus in Baconian science as “knowledge-in-action” (162).

In conclusion, then, if we note Bacon’s conception of science as “knowledge-in-action” and understand Bacon’s goal to be, as Purver also identifies, in Bacon’s words, “these twin objects, human Knowledge and human Power” which “do really meet in one” (50), we might further follow Purver’s argument that Bacon “never regarded the growth of science as a rigid exercise in which practice and intellect were employed at separate stages” (37). And if, then, we continue by noting rhetoric’s re-defined function in Bacon’s system of faculty psychology as the only art to work on behalf of the reason to move the will to action, we might be poised now to consider a more liberal interpretation of rhetoric’s place and function in Bacon’s new method for the scientific investigation of nature and within his plan for the farthest ends of knowledge.
CHAPTER III. THE FACULTIES AND THE FUNCTION OF RHETORIC

As we conceive of Bacon's aim in the new science to be the unity of knowledge and action, we might turn now to examine more closely Bacon's entire system of faculty psychology, by which individual faculties are employed, as Wallace says, "either as instruments of knowing or as means of action" ("Bacon's Conception" 115). I believe that embedded in Bacon's faculty psychology are implications for the relation between rhetoric and science that have escaped notice in much of the previous scholarship. When Bacon comes to treat the illustration of tradition, or rhetoric, he defines his conception of rhetoric's work in terms of its relation to specific human faculties: "the duty and office of rhetoric is to apply reason to the imagination for the better moving of the will." It is necessary, then, before examining further Bacon's conception of the function of rhetoric, first to consider rhetoric's relation to the faculties of reason and imagination and thus to more explicitly expound the faculty psychology that emerges from Bacon's system.

The Faculties: An Overview

The faculty psychology that informs Bacon's definition of rhetoric is at the foundation of his entire plan for knowledge and learning. Theories of faculty psychology, theories which assumed that the mind could be best understood by dividing it into a number of "faculties," each with its own rational power, were dominant during the period. Bacon comments on these:

The faculties of the soul are well-known; understanding, reason, imagination, memory, appetite, will; in short all with which the logical and ethical sciences deal. But in the doctrine concerning the soul the origins of these faculties ought to be handled, and that physically, as they are innate and inherent in the soul; the uses only and objects of them being deputed to
other arts. In which part nothing of much value (in my opinion) has yet been discovered; though I cannot report it as deficient. (Works IX 51)

While Bacon himself does not present in any one place a unified account of a faculty psychology, as he proceeds in the Advancement to develop a full classification of knowledge, he proceeds, as well, to present an underlying system of psychological faculties, one that Wallace argues is illustrative of the psychology of the time. In Francis Bacon on the Nature of Man, Wallace turns to both Bacon’s own works and the literature of the time to explain Bacon’s faculty psychology for the explicit purpose of better understanding Bacon’s thought and specifically his views of rhetoric. Wallace, Jardine, and Cogan cover well the complexities of Bacon’s theory of faculty psychology; and as these conceptions of Bacon’s psychology inform much of the commentary on Bacon’s rhetorical theory, their explications will prove particularly significant for my purposes here.

Wallace suggests that Bacon’s interest concerning the problem of acquiring and using knowledge leads him to construct his classification in terms of the psychological faculties by which and through which, he believes, man comes to know and act (Nature 55). Bacon’s classification of knowledge into the three most general divisions — History, Poetry, and Philosophy — corresponds to the chief faculties — Memory, Imagination, and Reason: “The parts of human learning have reference to the three parts of man’s understanding, which is the seat of learning: history to his memory, poesy to his imagination, and philosophy to his reason” (Advancement II 67). As these general divisions then give way to further classification, Bacon comes to distinguish between two kinds of man’s faculties, “the one respecting his understanding and reason, and the other his will, appetite, and affection; whereof the former produceth position or decree, the latter action or execution” (Advancement II 116). As all knowledge is further classified then into individual arts and sciences, a complete system based on the six rational faculties — understanding, reason, imagination, memory, will, and appetite — gets articulated.
Wallace notes that Bacon’s division of knowledge and the faculties is based on the relationship of knowledge to action (56). The Intellectual Arts and the corresponding faculties of understanding and reason enable man to know. Wallace points to Bacon’s division of the Intellectual Arts into invention, judgment, memory, and elocution and suggests that Bacon so names the intellectual arts because they involve a given set of human faculties, most notably the understanding and reason, operating concurrently (113). Wallace describes the faculty of understanding in Bacon’s system as the power to abstract and apprehend, activities that enable man to consider and to interpret his experience and form his ideas. The understanding, then, engages in invention as it works to abstract and apprehend from available materials and proceeds to construct ideas. Wallace continues by noting the close relationship that the faculty of understanding shares with that of reason. Bacon, in fact, suggests that the “the same action of the mind which inventeth, judgeth” (Advancement II 124). Wallace argues, though, that while the activities of invention and judgment work in close concert, they are differentiated in that as the mind passes on what it has invented or discovered through the understanding, the validity and truth of the invention is judged by the reason. While the operations of the faculty of understanding thus are interpretive, those of the reason are critical, deliberative and evaluative (117). The reason is responsible for the critical appraisal and rigorous analysis of the results of invention. Further, then, both the understanding and the reason also work in close relation with the faculty of memory, as its power is the recording of experience. The memory receives, records and thus preserves the products of the understanding, the reason — and the imagination, as well (57).

Wallace also notes that Bacon’s conceptions of the faculties of the will and the appetite are distinct from the understanding, the reason, and the memory, in that the powers of the will and the appetite enable a man to act. Wallace notes that Bacon found the two faculties to be “essential to action” (138). The will differs from the appetite, though, in so
much as it yields the conscious power of choice – it yields “the power of saying yes or no prior to action” (135). The will, as distinct from the appetite, acts as the cause of reflective behavior: “a decision by the will was always necessary if rational thought were to result in action” (141). The will is concerned with voluntary and deliberative motion, the kind of motion that allows a man to decide “whether to act or not to act, to believe or not to believe” (135). In order for the will to secure action, however, it had first to be acted upon.

As the imagination works to present the images either of the senses or the reason, it has the force to rouse the affections and move the will. The imagination is, in Jardine’s estimation, “the intermediary both between the earliest intellectual images and the reason, and between rational assessment of a situation and the subsequent (ethical and emotional) decision to act” (91). Wallace too notes that in Bacon’s view the imagination acts as a messenger between the faculties of the reason and the will as it makes images available to reason for contemplation and judgment and available to the will for action (74). Bacon explains:

sense sends all kinds of images over to the imagination for reason to judge of; and reason again when it has made its judgment and selection, sends them over to imagination before the decree be put in execution. For voluntary motion is ever preceded and incited by imagination; so that imagination is as a common instrument to both, – both reason and will.

(Works IX 61)

The imagination transfers sensory images to the reason to be judged, after which they are kept for further contemplation or, once a decision has been made, passed on to the will so that the decision can be executed. The imagination, as Cogan asserts, “stands in the center of all human activities . . . and thus yields an inescapable influence over both thought and action” (216). Without aid of the imagination, Wallace argues, “human reason cannot operate and the human will cannot determine upon a line of action” (Francis Bacon 38). It
is the faculty of the imagination and its operations with reason and the will that illustrate the place rhetoric occupies in the process of action.

**The Function of Rhetoric**

In summary, then, the understanding and reason engage in inventive activities, and the reason then judges the results. Wallace points out that the understanding and reason thus yield contemplative, deliberative knowledge. But this knowledge constitutes only a potential for action (*Nature* 56). To secure action, the understanding and reason need the help of the will, which is moved by the reason’s judgments and in turn moves knowledge to action. Cogan notes that in Bacon’s system the faculties either of reason or the will carry out all intellectual operations. The province of reason claims “all rational determination of what constitutes the better course of action” and the authority of the will claims “every choice or practical judgment as to the actual action to be pursued” (214). And, again, the imagination is pivotal as it acts as a messenger between the understanding and the reason and between the reason and the will.

We might note here the import of rhetoric, as its duty and office is to apply the reason to imagination in order to excite the will, and as it works to bridge the gulf between rational knowledge and the will to apply such knowledge. Cogan observes that “of the rational arts of communication, only rhetoric addresses the imagination; of the arts that address the imagination, only rhetoric is informed by the reason, and only it has as its end the rational management of action” (219). Wallace, too, observes that “rhetoric is the only art, serious in intent, which utilizes the imagination in obedience to the dictates of reason” (*Francis Bacon* 27). While the other logical arts are also tied to reason, they are concerned with speculative and contemplative knowledge – only rhetoric is both tied to reason and positioned to influence action.
Rhetoric’s utility as a source of action is particularly important because in Bacon’s scheme reason alone is not always dependable and cannot work to influence action. Jardine notes that in Bacon’s view, had the mind not been corrupted by the Fall, “an act of will would prompt a man to action whenever reason judged that action to be to his overall good” (94). However, because the faculties of reason and will are naturally limited and are compelled sometimes by the passions, the reason needs help in compelling the will to act. And as Howell notes, learned men are as equally weak in tending toward unreason, emotion, and prejudice as the popular community (Logic 373). Bacon asserts:

If the affections themselves were brought to order, and pliant and obedient to reason, it is true there would be no great use of persuasions and insinuations to give access to the mind, but naked and simple propositions and proofs would be enough. But the affectations do on the contrary make such successions and raise such mutinies and seditions ... that reason would become captive and servile, if eloquence of persuasions did not win the imagination from the affection’s part, and contract a confederacy between the reason and imagination against them. (Advancement II 140-41)

Rhetoric works persuasively “to fill the imagination to second reason, and not to oppress it” (Advancement II 140). Rhetoric strikes otherwise abstract or distant images of the reason vivid and present to the imagination so that the imagination can in turn represent these attractively to the will, which can then move to dictate rational action.

This process works, as Jardine notes, not only in persuading others to act but in one’s own actions as well (94). Cogan argues extensively to make the point that rhetoric’s function is not limited to communication between people, but that it is “evident that the same faculties operate, the same functions occur, and the same requirements exist in the case of each individual” (222). To support his argument Cogan quotes the following statement from Bacon’s De Augmentis:
For as in negotiations with others, men are usually wrought either by cunning, or by importunity, or by vehemency: so likewise in this negotiation within ourselves, we are either undermined by fallacies of arguments, or solicited and importuned by assiduity of impressions and observations, or agitated and transported by violence of passions. (qtd in Cogan 223).

And Cogan explains then that for each individual, the reason stands in need of rhetoric's power to translate its conclusions to the imagination so as to achieve rational control of one's actions (223). He argues further that because the "unaided speculative reason is incapable" of controlling the imagination, unless an individual possesses rhetorical skill, "he or she remains a kind of paraplegic, able to think, but unable to capitalize on the results of this thinking" in action (225). Finally, Cogan concludes that rhetorical knowledge is necessary if action is to be genuinely rational. While Wallace, Jardine, and Cogan limit their assessment of what they find to be Bacon's definition of rhetoric's function and its place in the structure of action to the realm of ethics and personal conduct, I would argue that embedded within Bacon's description of rhetoric's function are implications for rhetoric's place in the new science.

**Rhetorical Action in the New Scientific Method**

James Spedding, in his preface to Bacon's *Novum Organum*, notes that there is "no didactic exposition of [Bacon's] method in the whole of his writings" (*Works* I 155) and that "very few of those who have spoken of Bacon have understood his method, or have even attempted to explain its distinguishing features" (*Works* I 150). And as noted, neither does Bacon present any unified account of faculty psychology or any complete theory of rhetoric. I will conclude here by offering an account of the structure of Bacon's science.
and by explicating the connection I posit exists between his new method, his faculty psychology, and his conception of rhetoric.

Bacon's refutation of received learning involves a complete rejection of all traditional philosophy and its methods and aims—for these traditions are, in Bacon's estimation, "merely systems for the nice ordering and setting forth of things already invented; not methods of invention or directions for further use" (Works VIII 68). Bacon argues that it is "idle to expect any great advancement in science from the superinducing and engrafting of new things upon old," and thus we "must begin anew from the very foundations" (Works VIII 74). As such, Bacon intends to reform entirely all traditional knowledge, including the rhetorical tradition, in terms of his vision for a new science that unites knowledge-in-action.

Bacon's new science is one to be controlled by observation and experimentation and commanded by the twin powers of contemplation and operation. The end purpose of the science is to be the production of works and the promotion of power. Bacon's new method is intended to direct knowledge "which respects the use and objects of the faculties" (Works VIII 60) from its origins in sense-experience through the intellectual faculties—the understanding, the reason, and the will—to a conclusion in the advancement of works. The mind first experiences natural phenomena through the senses and apprehends and abstracts these experiences through the understanding. The initial impressions are then transmitted and stored in the memory. These mental images are sent over by way of the imagination to the reason for judgment. And once a decision has been made, the imagination sends the decision over to the will so that voluntary action can take place. The new method is designed to direct the faculties of the scientist from the observation of particulars to further experimentation and finally to the formulation of general universal axioms. By way of this method only, "may we hope well of the sciences, when in a just scale of ascent, and by successive steps not interrupted or broken, we rise from particulars
to lesser axioms; and then to middle axioms, one above the other; and last of all to the most general" (Works VIII 137-38). The method must be used, though, not just for proving or discovering first principles, but also for producing works.

The goal of the new science, a new assurance of works and powers (Works VIII 113), cannot be too much emphasized. An individual must pursue through the understanding inventive acts and then employ the imagination to turn these over to the reason for judgment. At this point, however, reasoned speculation in itself does not meet the requirements advanced by Bacon for his new science. Bacon, as noted, asserts that one rule or guidance for the new science is that it dispose or lead to action (Works VIII 170). Bacon also says that "the imagination is as it were the director and driver" of voluntary action, "insomuch that when the image which is the object of the motion is withdrawn the motion itself is immediately interrupted and stopped (as in walking, if you begin to think eagerly and fixedly of something else, you immediately stand still)" (Works IX 55). Thus the imagination must be employed again to address the dictates of the reason to the will and thus to make further active experimentation possible and in turn give rise to other discoveries and lead to practical works.

As Bacon states that human knowledge and human power, or contemplation and works, are one in his theory of science, so too the faculties of the intellect and the will are in his words "twins by birth," as one procures truth and the other actions (Works IX 60). And as the faculties of the understanding, the reason, and the will correspond in Bacon's system to the intellectual arts of invention, judgment, and elocution, the real significance of rhetoric's position in the new science becomes more readily apparent. Bacon finds Aristotle to be right to "place rhetoric as between logic on the one side, and moral or civil knowledge on the other, as participating in both" (Advancement II 141). Bacon himself both calls rhetoric an intellectual art and situates it uniquely to influence the will. Rhetoric works to reinstate the reason by freeing it from the seditions of the affections and "well-
graced forms” and by using the force of persuasion to create images so that “upon the revolt of the imagination reason prevaleth” (Advancement II 141). The enlistment of rhetoric is thus integral to Bacon’s system of scientific invention, as rhetoric alone is situated precisely to utilize the imagination on behalf of the reason and generate an image so as to prompt the will and procure the desired voluntary motion. If knowledge is to be capitalized upon in the realm of a new active science, the individual must be aided by rhetoric to determine the best line of action for further investigation and experimentation.

The specific function Bacon assigns to rhetoric within his system and his definition of the art in terms of his faculty psychology reveals for us a more complex conception of rhetoric’s operation than the scholarship has allowed. Rhetoric stands at the center of Bacon’s faculty psychology between speculative thought and practical action and thus serves an essential function in the method of scientific investigation and the invention of knowledge. Wallace asserts repeatedly that in Bacon’s system the mind employs faculties so as to perceive and understand, infer and determine, picture and remember, desire and will, “all with the purpose of allowing man either to know or to act” (Francis Bacon 7). I would argue, then, that because Bacon’s plan for a reconstruction of science is based on a union between these two operations (to know and to act), it requires an alliance between the faculties of the understanding, the reason, and the will.

Even while Wallace at one point argues that Bacon posits a separation between the faculties that operate to produce true knowledge in the realm of science and those that operate to secure good actions in the realm of ethics (Nature 19), he recognizes later that Bacon conceives of the individual as a “unit or whole engaged in conduct that demands his entire being, not a segment or single faculty thereof” (20). I would argue that the faculties and their operations are closely linked and mutually dependent and that Bacon’s system of sciences depends upon a close working relationship between the understanding and reason, which produce “position or decree” and the will, which produces “action or execution.”
Because the aim of Bacon’s new science requires a unity of contemplative, theoretical study and its practical, active consequences, and because rhetoric alone works within Bacon’s system of faculty psychology to render knowledge effective for rational action, I would argue finally that rhetoric occupies a central stage in Bacon’s plan for the development of science and the advancement of learning.
CONCLUSION

Bacon’s philosophical writings proposed a reform for existing universities by setting forth a new method by which knowledge would be increased both in theory and in use through continuous investigation and experimentation. His design for this reform was to be set out in a sixfold plan for the Great Instauration. As Anderson points out, however, the “writings Bacon leaves in representation of his Great Instauration are not many; and none of them is both complete and adequate” (34). He notes:

Not a few of the writings are begun and then suddenly suspended, sometimes to be incorporated into later documents. Most of the earlier pieces are tentative in character; hardly any are complete. When considered together, they are seen to abound in cross-reference and repetition.

And...the author, because of public duties, physical infirmity, and anxiety to publish some pieces in representation of parts of the Instauration, finds it necessary to amend or combine for publication earlier writings in lieu of more satisfactory works. (38)

Any attempt to determine the specific nature of Bacon’s scheme must recognize that Bacon’s works do not present a systematic method or final philosophy. Neither do the works provide a developed, systematic theory of rhetoric. Wallace states that while there are multitudes of suggestions as to the nature of Bacon’s conception of rhetoric scattered throughout the works, as it becomes apparent that Bacon’s various remarks do not present a complete rhetorical theory, scholars must try to present an orderly picture by selecting “what appears to be the proper point of emphasis, and must arrange relevantly about it a background that shows some balance, harmony, and perspective” (3). Bacon’s conception of rhetoric, because it is ambiguous and sketchy at best, is susceptible to many
readings. Any attempt to evaluate the function rhetoric performs in Bacon’s plan, then, remains necessarily suggestive.

I have proceeded with cautious optimism in this study to explore yet another reading of Bacon’s view of rhetoric, one that elevates the status of rhetoric in Bacon’s scheme. My primary concern in exploring an alternate reading has been to argue that rhetoric’s function in Bacon’s plan should be conceived not merely as ornamental nor solely as a moral and ethical, but should be seen, rather, as central to scientific invention. I have argued that Bacon recognizes the limitations of rhetoric conceived of as merely style and ornamentation and that he therefore re-defines rhetoric as an operation vital to securing knowledge-in-action. I have asserted, further, that the concept of action is essential to Bacon’s definition of science and that rhetoric’s operation to secure action is thus vital to ongoing scientific invention. I am acutely aware that my own reading can be but suggestive, as it too is inextricably bound to the ambiguity that emerges from Bacon’s works. However, I believe that my interpretations and conclusions concerning Bacon’s view of rhetoric hold some value for viewing the present status of the rhetoric and the relation between rhetoric and the sciences in our universities.

Since the turn of this century higher education has accepted the idea of the German university, yielded to a dominant interest in science and technology, and revised the curriculum to advance an elective system that has facilitated departmentalization and specialization. As Albert Kitzhaber has documented, rhetoric during this period declined steadily as it became more isolated and restricted – and it has never fully recovered its status in relation to other arts and sciences. The foundation of disciplines of knowledge and the related rigid specialization in research have impinged upon us decisions about the prestige and status of knowledge that continue to contribute to disciplinary conflicts and territorial disputes as departments continue to compete in harsh economic conditions for students and resources. Such divisive educational practices are inevitably impoverishing.
My argument in this study is finally one of emphasis. The existing scholarship has emphasized the distinctions Bacon makes between various arts in his scheme. It asserts repeatedly that Bacon sees science and rhetoric as separate activities and assigns the methodology of science and the art of rhetoric each to its own province, set off from the other by its own particular function. I would argue that the treatment of rhetoric as an activity isolated from science has effectively left it in a fallout, struggling for some narrow space within the ranks of arts and sciences in the university hierarchy. And I believe that the discipline of rhetoric might best benefit if we now re-view Bacon’s conception of rhetoric and work to emphasize the interrelatedness of the arts. I would argue, finally, that if we act with an accurate understanding of Bacon’s position, we might stress the links between rhetoric and science.

Wormald says that “Bacon embraced and maintained the position that no field of study . . . could successfully be investigated in isolation” (40). According to Bacon, the means for greatest discovery requires the strength of a perfect unity of all the arts and sciences. He insisted that narrow specialization would hinder discovery’s progress. Purver notes too that Bacon believed “there should be no artificial division between any of the branches of knowledge themselves, for the arrangement of knowledge into arts and sciences was merely a convenient way of organizing what was in fact related” (51). Bacon directed much of his criticism against the barriers that are often erected between the sciences. He states that he finds it a great impediment towards the advancement and further invention of knowledge, that particular arts and sciences have been “severed and cut off from the stem” of general knowledge (Works VIII 140). He refers specifically to Cicero’s complaint against Socrates that he was the first to separate philosophy and rhetoric and thus leave rhetoric “an empty and verbal art.” And he asserts, rather: “generally let this be the rule, that all partitions of knowledge be accepted rather for lines and veins, than for
sections and separations" if "the continuance and entireness of knowledge be preserved"
(Advancement II 102).
Works Cited


