THE PLIGHT OF THE HUMANISTS: A REINTERPRETATION OF THE
BATTLE BETWEEN THE ANCIENTS AND THE MODERNS

by

Tanya C. Higgins

Thesis submitted to the Faculty of the Virginia Polytechnic Institute and State University in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

in

HISTORY

APPROVED:

Mordechai Feingold, Chairperson
Fredric J. Baumgartner

Michael V.C. Alexander
Neil Larry Shumsky

April, 1993

Blacksburg, Virginia
THE PLIGHT OF THE HUMANISTS: A REINTERPRETATION OF THE
BATTLE BETWEEN THE ANCIENTS AND THE MODERNS

by

Tanya C. Higgins

Committee Chairperson: Mordechai Feingold
The Study of Science in Society

(ABSTRACT)

Historians have traditionally viewed the controversy
between the ancients and moderns within the narrow scope of
the title. However, in the seventeenth century, the issue
of learning and knowledge was a significant issue in the
controversy.

By 1600, the humanists were well established in the
universities and applied the classical world view as an
ideal for life. The humanists' emphasis on the classic
world view along with their compatibility with scientific
investigation strengthened their influence in university
learning, which lasted until the mid-seventeenth century.

From the 1640s onward, several groups explicitly
criticized the prominence of humanist ideals in the
universities. The sense of these criticisms and the
humanists' responses indicate that the issue was not simply
ancient against modern, but one world view against another.
During the Civil War and Interregnum, radical puritans
censured the use of human learning in the universities and
alerted the humanists to future attacks on their domination
of learning. After the Restoration of Charles II in 1660,
the new philosophy emerged as a strong force in the quest for knowledge. The new philosophers' vitality encouraged them to denounce human learning and propose the subordination of human learning to the ever-advancing new philosophy. As a result, the humanists staunchly defended Traditional learning and their standing in the universities.

This thesis re-examines the ancient and modern controversy during the seventeenth century and views it as a continuing debate over which knowledge would best benefit English society. In this way, historians can better understand the motivations for the reactions of the humanists to the scientists.

The humanists felt threatened by the proposal of the new philosophers to subordinate the humanist ideal to the scientific ideal. The primary material used in this study consists of published writings of the individuals in the controversy. In examining these sources along with secondary material, I searched for indications that the scientists' words were jeopardizing to the humanist worldview and that the humanists perceived them as such. Consequently, consecutive advances against human learning caused the humanists to respond, rather than a simple adherence to ancient authorities.
Acknowledgements

I would first like to recognize Dr. Michael Alexander for assisting me in my decision to go forward with graduate school and giving me the encouragement and support to succeed. His classes influenced my decision to pursue sixteenth- and seventeenth-century English history.

Many thanks to Dr. Dan Thorp for encouraging, advising, and listening to me. And special thanks to Dr. Kathy Jones for being my female academic role model and my confidante during times of doubt.

Thank you to all my committee members: Dr. Moti Feingold, for encouraging me to take on such a large topic, and for pushing me to do better than my best; and Drs. Alexander, Baumgartner, and Shumsky for their support and encouragement.

My great appreciation and undying friendship goes to Chris Leahy, who listened to my ideas and my complaints, read my rough drafts, and pushed me to attend the UNC-Charlotte conference, where I presented part of my thesis.

I would also like to thank John Aughenbaugh. He was my moral support during this agonizing process and because of his reassurance, I saw an end to the madness.

My everlasting gratitude belongs to my family who has continually supported my academic endeavors, and made me
feel very special in everything I undertake.

This thesis is dedicated to Michelle Boucher, who has encouraged me to be myself and do my best for the past twelve years of our friendship.
Introduction

In 1690, Sir William Temple, in response to Joseph Glanvill's *Plus Ultra* and other related debates,¹ wrote "An Essay upon Ancient and Modern Learning," against the excessive pride of those who supported the new philosophy and modern learning. Four years later, William Wotton rejoined Temple and others with *Reflections upon Ancient and Modern Learning*, which evidenced the superiority of the new philosophy and other modern learning. Whereas Temple's essay championed the superiority of the ancients, Wotton's book asserted that the sixteenth and seventeenth century thinkers successfully rivaled the ancient authorities concerning knowledge. Most historians have viewed these polemics as the culmination of the larger controversy between the ancients and the moderns, or rather, a battle between those who held inflexible beliefs in favor of ancient authority and those who supported more "progressive" attitudes toward knowledge.

While historians have traditionally viewed Temple and

Wotton as the main actors in this controversy, two key individuals should be acknowledged as comprising an equally significant part of the late seventeenth century controversy. Joseph Glanvill instigated the debate with the publication of *Plus Ultra*, a tract that praised the newly established Royal Society and the new experimental philosophy. Meric Casaubon's *A Letter to Peter du Molin* published in 1669 was a direct response to Glanvill's work. In his tract, Casaubon upheld the principles of human learning that he believed were denigrated by the new philosophers, and by Glanvill in particular.²

Historians have neglected an important aspect of the conflict when examining the ancient and modern controversy.³ The "ancient and modern" controversy did exist in England, but was most notable in France as the

²Henry Stubbe articulated many of the same beliefs as Temple and Casaubon against Glanvill. However, Stubbe's attack was more personal in nature than the other two and, therefore, was not used in this thesis.

³Richard Foster Jones, the leading authority on the "battle between the ancients and moderns," focused on the scientific aspect of the debate between the humanists and the scientists in *Ancients and Moderns: A Study of the Rise of the Scientific Movement in Seventeenth-Century England* (St. Louis: Washington University Press, 1961). Joseph M. Levine wrote on the battle in *The Battle of the Books*. Levine discussion centers on the humanist issues of history and literature and how each side debated these two issues. Both are good sources to begin with and to obtain a competent account of the details which comprised the controversy. However, both Levine and Jones overlook the involvement of university learning in the debate.
querelle. 4 And while the English controversy is tangentially related to the continental controversy, there is a nominal difference. The English controversy, with the Temple-Casaubon-Glanvill-Wotton debate, involved the question of which knowledge was more worthy of attention, human learning or the new philosophy.

The controversy concerning knowledge in the universities consisted of successive stages of development. The debate between the humanists and the scientists was only a segment of continuing arguments over the primary perspective toward learning in the universities. In the first stage, the humanist attitudes and ideals were introduced into England in the late fifteenth and early sixteenth centuries. During the sixteenth century, the humanist perspective replaced the scholastic approach to learning in the universities, and by the seventeenth century, humanism held a secure position in both Cambridge and Oxford.

The second stage began with the demand for the subordination of human learning to the Holy Spirit and became explicit during the Civil War and Interregnum. At

---

4 The French querelle has a long history of its own. Some of the actors in this controversy were Charles Perrault with Parallel of the Ancients and Moderns and Sieur de Bernard le Bovier Fontenelle with Digression sur les anciens et les modernes.
this time, radical puritans condemned the use of human learning in the training of ministers for the church. In their denunciation, they branded human learning useless and criticized the general application of human learning to English education. University men responded to these attacks and exposed the falsity of their adversaries' arguments with well-written tracts that defended the established university learning, both in the training of clergymen and in education.

Although the humanists prevailed, a new threat emerged after 1660. The new philosophers followed the radical puritans in the demand for the subordination of human learning to other disciplines. They claimed that the new philosophy should be the prevalent study in the universities, and human learning should simply act as the foundation for advanced learning. This claim of superiority offended the humanists who strongly believed that the ideals of humanism were a way of life. Hence, they addressed the threat to human learning with equal claims to excellence.

The final stage in the controversy during the seventeenth century was the conflict between the humanists and the scientists. It was a literary battle between the humanists and the new philosophers, where the humanists defended the classical world view and their standing in the university against the scientists claim that human learning
should be subordinate to the useful and more practical new experimental philosophy. While the conflict consisted only of paper polemics, humanists had witnessed previous literary strikes against university learning, and associated the scientific writings with the writings of the radical puritans. They feared impending destruction of their learning and their ideals with the advancement and claims of superiority of the new philosophers.
Chapter One: The Influence of Humanism in England

"Well, therefore, has it been said that the first means, the second, and the third means to happiness is right training or education. Sound education is the condition of real wisdom." -- Desiderius Erasmus

The humanist ideals of human excellence and good government that began during the Renaissance became the theoretical basis for an all-encompassing educational regimen in early modern England. The humanists, with their ideals of life and their harmonious co-existence with science, developed a strong and secure position in university learning that lasted long into the seventeenth century.

It is important to note here that the term "humanism" is a relatively recent term applied to the Renaissance movement which focused on human concerns. The humanists called for the reformation of the scholastic attitudes towards education, by increasing the emphasis placed on the liberal arts studied in the universities. This movement can best be described as "a cultural and educational program with a special literary preoccupation, a recapitulation of the ancient studia humanitatis with its particular cycle of disciplines: grammar, rhetoric, history, poetry, and moral

---

philosophy."\(^2\) This attitude became firmly established in sixteenth-century England as an ideal for learning. While the focus of humanist teachings was the humankind, the study of natural philosophy\(^3\), or our present day science, was not neglected by fifteenth(141,151),(828,724)- and sixteenth-century thinkers. Humanist ideals encouraged scientific learning and development during the sixteenth century, thereby aiding the advancement of the science in the seventeenth century.

The introduction of the *studia humanitatis*, or humanism, rearranged and added to the already present liberal arts curriculum. In the Middle Ages, the trivium and quadrivium formed the seven liberal arts, which included logic, grammar, rhetoric, arithmetic, geometry, astronomy, and music. The humanists added history, poetry, and moral philosophy.\(^4\) These changes were significant, altering the focus on each of the liberal arts and creating different attitudes toward the function that education served.

The attitude of the humanists shifted the marrow of


\(^3\)During the seventeenth century, natural philosophy was also termed the new or experimental philosophy.

learning from the scholastic method to human learning\textsuperscript{5}, replacing the medieval tenets found in the universities. Scholasticism centered on logic and metaphysics, forming a narrow structure for examining the Bible through reason and philosophy. Scholastics tried to give evidence that theological matters could be defined in logical, mundane terms. In this way, scholastics sought to explain their faith, but not to provide reason for belief, as belief came only from the soul. The most famous scholastic philosopher, Thomas Aquinas, professed scholastic theology as "speculative rather than practical, because it is more concerned with divine things than human things...."\textsuperscript{6} On the other hand, humanism focused on rhetoric, moral philosophy and a broader and terrestrial interpretation of the liberal arts, yet did not neglect religious studies.\textsuperscript{7} The universities used the scholastic framework to educate

\textsuperscript{5}Many historians have often referred to human learning in the sixteenth century as the new learning. Richard Rex has recently argued that human learning and new learning were two very different terms. The new learning in the sixteenth century alluded to the teachings of the Protestant religion and not to humanist attitudes in education. Richard Rex, "The New Learning," \textit{Journal of Ecclesiastical History} vol. 44, no. 1 (January 1993): 26-44.


students for careers in the higher faculties of medicine, law, and especially theology. Scholasticism was "designed to justify, to order, to inculcate, and to criticize—rather than to investigate—the received doctrine in particular fields of study.\(^8\) Scholasticism emphasized criticism and a narrow method of Biblical scholarship, while humanism concentrated on investigation and the classical world view, establishing a need to mold education to correspond with humanist perspectives.

The humanists considered scholasticism to be too rigid and structured and advocated learning that would open the mind, promote investigation, and discover truth.\(^9\) Concurrent with this attitude, the humanists went back to the original texts and developed philology, not trusting medieval interpretations of documents.\(^10\) The new arrangement of the liberal arts was not the only change

\(^2\) Kelley, Humanism, 6.


\(^10\) Kelley, Humanism, passim; Levine, 90; Philology became highly developed during the Renaissance. Many forged documents were discovered during this period. In the Fourteenth century, Lorenzo Valla proved the Donation of Constantine to be fraudulent. This sort of thorough investigation continued through the Renaissance, and in the Seventeenth century, the Epistles of Phalaris were proved to be false, with the aid of Richard Bentley. The ancientness of Hermeticism was also disclaimed during this period.
advocated by the humanists. Such tenets as the emphasis on the classics, eloquence, ethics, Christianity, civic duty, and utility, formed the basis for the humanists' educational reforms. These tenets of humanism spread to the universities and superseded the heavy reliance on metaphysics and coinciding stress on logic.

Perhaps the most significant way humanism manifested itself in education, especially in England, was a rediscovery of classical literature. Erasmus, Juan Luis Vives, Leonardo Bruni, Sir Thomas More, Sir Thomas Elyot, John Colet, and others strongly advocated the use of classical authors in the educational curriculum. By using classical authorities, the humanists hoped to gain insight into the present. Vives acknowledged the usefulness of the classics, but he also recommended reading them critically: "... it is far more profitable to learning to form a critical judgment on the writings of great authors, than to merely acquiesce in their authority...." Others felt equally strong in not succumbing completely to ancient authority, but rather used the classics as the best guide for learning. Erasmus agreed with Vives and stated, "Times

---


are changed: our instincts, needs, ideas, are not those of Cicero. Let us indeed take example from him."\(^{15}\) He argued that antiquity can only provide guidance, but not indisputable certainties. Humanists felt that while the general theories were applicable to the sixteenth century, the specific observations and commentaries were not. Advocates of the *studia humanitatis* recognized that life in the sixteenth century differed from life in ancient Rome, yet the general maxims concerning morality, politics, happiness, and learning were cogent and timeless. Vives espoused imitation as a process of learning and emphasized the use of method rather than the exact words which, he maintained, would have constituted plagiarism.\(^{14}\) Using the classics as a guide, the humanists also concentrated on other aspects of educational reform.

Eloquence, with the use of rhetoric, was equally emphasized as a fundamental concept of the new learning. Rhetoric was the set of rules for speaking beautifully and eloquence was the practical application of those principles.\(^{15}\) Through the study of rhetoric, the student became elegant in thought and speech. Rhetoric provided a

\(^{13}\) Woodward, *Desiderius*, 53.

\(^{14}\) Vives, *De Tradendis Disciplinis*, 195.

clear distinction between the intelligible and the obscure. Vives contended that, "good and intelligent men [must] cultivate carefully the art of Rhetoric, which holds sway over the mind, so that they may lead others from misdeeds and crimes to at least, some care for virtue." Cicero, whom the humanists revered as the greatest expert on rhetoric, stated in _de Oratorio_ that "eloquence is nothing else than wisdom speaking copiously." Mastering speech through the use of rhetoric was essential to communicate successfully. As Leonardo Bruni stated, rhetoric "enable[s] us to make effectual use of what we know we must add to our knowledge the power of expression." Erasmus, too, thought that eloquence was necessary for the training of a gentleman.

Nevertheless, eloquence had its potential for abuse, and this was recognized by the humanists. While esteeming rhetoric for its many applications, they strongly scorned its abuses. Thomas Elyot stressed caution in its use, and

---

16 Vives, _De Tradendis Disciplinis_, 181.


18 Woodward, _Desiderius_, 77.
warned against employing words without matter or substance. 20 The emphasis on rhetoric superseded the scholastic emphasis on logic, but did not completely eliminate it. Rather, a more flexible, less rigid of logic, dialectics, became the accepted method for polemics.

Another facet of humanism was the focus on ethics. Education should teach the individual virtue. As Vives stated, "... let it be firmly fixed in the boys' minds that what they are going to receive at school is the culture of the mind, i.e. of our better and immortal part; that this culture has been handed down from God to the human race...." 21 To Erasmus, education was the means by which to improve man. In The Education of a Christian Prince, he contended that through education the prince "may be imbued with certain definite moral principles." 22 The purpose of education was not only to improve the mind, but also to make the student upright. Erasmus's work reflects the spirit of the time in its emphasis on the importance of a virtuous education to future rulers.

Civic duty was a key element in the perspective of the

21 Vives, 87.
humanists. Works like The Education of a Christian Prince, The Courtier by Baldesar Castiglione, and A Compleat Gentleman by Henry Peacham, were indicative of the humanist equation of good education and good government. Cicero was one of the leading classic authorities for a life that included civic duty. Erasmus upheld the idea that all men owe allegiance and service to their country and to prepare for this through education: "It is no light task to educate our children aright.... Your children are begotten not to yourself alone, but to your country...."

Human learning incorporated the ideal of civic duty by offering knowledge that adequately prepared students for service to the government.

The emphasis on the classic world view, accentuating social and political values, provided students with the needed education to serve the crown and Commonwealth or to manage the family estate.

Although the concentration on the classics, rhetoric, and civic duty presents a secular pattern for humanism, religion was an integral part of the studia humanitatis. Piety infused humanism and in this sense Christianity and humanism were inseparable. However, humanists realized the need to underscore the individuality of Christianity and

Woodward, Desiderius, 187.

wisdom. John Morgan has recently stated that, "At the centre of the humanist thrust, therefore, stood what has been described as the Renaissance's patient attempt to separate 'wisdom' from Christianity and to restore the former to 'its old autonomy and its purely 'human dignities'".\(^{25}\) In essence, then, the humanists tried to separate knowledge from Christianity, which scholasticism combined as one, while not diminishing the importance of either. Reinforcing this notion, Joan Simon maintains that, "Erasmus set the new learning in the center of the picture, promoting study of the classical tongues and literatures as a means to deeper knowledge, in particular of the scriptures."\(^{26}\) According to the humanists, the arts were impractical without religion, but religion did not create the arts. Religion was the guide employed by the humanists in order to make classical education applicable to life. As Vives stated, "all arts and all learning, without religion, are childish play."\(^{27}\)

The theme that permeated humanists' educational


\(^{26}\)Simon, *Education and Society*, 68.

\(^{27}\)Vives, *De Tradendis Disciplinis*, 19.
writings was that of utility and practicality.\textsuperscript{28} Without application, wisdom was useless. For example, during Queen Elizabeth's reign, Sir Philip Sidney stated that with learning came "... the end of well-doing and not of well-knowing only."\textsuperscript{29} Bruni maintained that if used correctly, rhetoric had a practical application.\textsuperscript{30} The teaching of history demonstrated effective political and civic behavior.\textsuperscript{31} The emphasis on civic duty had an obvious utility to the state. Civic duty directly benefitted the commonwealth by providing learned and well-rounded men to govern or assist in governing. The insistence on utility can be seen throughout the other components of humanism.

These six concepts--classic literature, eloquence, ethics, civic duty, Christianity, and utility--formed the basic structure of humanism and became an integral part of their call for the reformation of education. From the early years of the sixteenth century, the educational ideas of the humanists reached England. For example, in 1548 Hugh Latimer exclaimed, "For the love of God... appoint teachers


\textsuperscript{29}Simon, \textit{Education and Society}, 350.

\textsuperscript{30}Kelley, \textit{Humanism}, 20-25.

\textsuperscript{31}Shapiro, "Early Modern Intellectual Life," 50.
and schoolmasters... that they may bring them [the youth] up in grammar, in logic, in rhetoric, in philosophy, in the civil law, and in that which I cannot leave unspoken of, the word of God." This quotation incorporates the very essence of humanism. Despite some opposition, humanism penetrated the universities and slowly changed the focus of education from a narrow theological and metaphysical program to a broad world view based on the classical ideals of mankind.

Although the prominent model of learning shifted from scholasticism to humanism, it was unnecessary for the statutes to correct the curriculum to accommodate the different perspective. The shift from scholasticism to humanism was in what studies were emphasized and to what purpose they were used, so the basic required studies conformed to both systems of learning. As a result, the statutes at both universities, although more so at Oxford, did not change to meet the rising humanist demands of the students. In 1570, Cambridge marginally altered the curriculum more to fit the changing times, but the changes were minimal. Even the Laudian reformation of the Oxford

---

32 Quoted in Curtis, Oxford and Cambridge, 69.
statutes in 1636 remained essentially medieval in nature. The statues, however, did not accurately reflect the specific curriculum taught at the universities. Other changes, such as the increased enrollment at the universities, the institution of the tutorial system, as well as the appearance of extra-curricular learning, indicated that the students accepted the ideals of human learning.

Although the university statutes did not reflect the ideas of human learning, humanist attitudes pervaded the curriculum. An indication that the new educational ideology of humanism was popular was the extraordinary increase in enrollment between 1550 and 1630. Between 1500 and 1550, the number of students admitted to both Oxford and Cambridge totalled approximately 300 per year. From 1550 to 1590 this number jumped to 700 per year, evidencing a tremendous


interest in the education of the time.\textsuperscript{35} After a recession between 1590 and 1610, enrollment increased to 1,000 a year, totalling 4,000 at Oxford and Cambridge combined, a number which was not exceeded until the 1860s.\textsuperscript{36} This steady expansion in the size of the universities most likely was due to many different factors; however, the popularity of the humanist ideals was definitely a contributing influence.

Extra-statutory education was more reflective of humanistic ideals than the official requirements. As the required curriculum did not meet all the needs of many students, they did not strictly follow all the requirements. The basic curriculum order by the statutes were followed; however, students expanded the scope and added contemporary authors to required disciplines, while they also examined disciplines not referred to in the statutes. An example of the re-ordering of the status quo was the shift from the study of the works of the Schoolmen, another term for the scholastics, to the examination of the classics to fill the requirements of study.\textsuperscript{37} The difficulty in the execution


of the statutes and a broader application of the required curriculum assured the facilitation of a permissive and extensive learning environment. With the tutorial system and the extra-statutory learning, the needs of individual students were better met than with the sole use of the lecturing system. The men received non-regulatory education from either their own tutors or from other men acting as tutors either on or off campus. The formalization of the tutorial system of teaching occurred in the 1570s, making it the main method of bringing humanism to the students.

The idea of the tutorial system, while formalized in the late sixteenth century, began much earlier. In the

1986), 701-702. McConica provides stronger evidence to demonstrate the shift from scholasticism to humanism in the university curriculum. He states that at the undergraduate level there was a definite move from "terminist logic and speculative grammar towards the humanities and arts of persuasion."

Curtis, Oxford and Cambridge, 96; Fletcher, "Faculty of the Arts," 165.

Curtis, Oxford and Cambridge, 138; Michael Van Cleave Alexander, The Growth of English Education 1348-1648 (University Park: The Pennsylvania State University Press, 1990), 168. While some historians including Curtis claim that the lecturing system became obsolete with the advent of the tutorial system, Feingold maintains that students continued to attend lectures on a regular basis. Feingold, 46.

fourteenth century, William of Wykeham introduced *magistri informatores* at New College, Oxford. These *magistri informatores* were graduate students who would instruct new undergraduates. The system enabled the students to study contemporary humanist texts along with classical authors and follow humanist ideals in their education. Previously, the universities relied solely on a lecturing system that enabled the students to learn the required texts. This technique ceased being the exclusive means for the students to receive instruction when the printing press appeared. Although the university did not disband the lecture system, individual studying became more popular than it had been previously. With the age of printing, books became widely available and much cheaper than in Medieval times. 42 As a result, students were able to own copies of texts and, therefore, did not have to attend all lectures to learn the material. 43 The decline in the need for lecturing prompted the tutorial system for teaching and learning, which in turn promoted an open instructional environment, which allowed students to pursue some of their own interests.

---


42 Lawson, *A Social History*, 93.

Both the broad learning environment and the shift away from an emphasis on logic and metaphysics to an emphasis on human excellence and civic duty made education more suitable to the upper classes of English society. Because a majority of the nobility and gentry served the government or managed a family estate, human learning benefitted them by training them in the skills they needed for these positions. While for many students a career in the higher faculties of medicine, law, and especially theology, continued to be the ultimate goal, an increasing number of men also enrolled in the universities to become learned, cultivated men. Education became increasingly necessary and advantageous in all spheres of sixteenth-century English society. Although this was not due solely to the spread of humanism, the concepts of humanism greatly contributed to the process. Humanism promoted the idea of becoming a better Christian and a better man, and more importantly, the notion that education was for all men of a certain class, not only for creating clergymen or professional men.\textsuperscript{44} As men were now attending the university to receive an education for a wider range of reasons, the students were indirectly supporting the principles of humanism.

Effectively, although the higher faculties of divinity,

\textsuperscript{44}Curtis, \textit{Oxford and Cambridge}, 228.
law, and medicine remained the focus of the universities, obtaining a degree was not the end for which some students strived. In fact, historian David Cressy suggests that almost half of the students admitted to universities departed without a degree. Instead, these students hoped to build a foundation for pursuits that at one time did not require any formal education. Two of these pursuits were the management of the family estates and positions in government office. William Fleming told his son to "apply your studies diligently, for now is the time to lay the foundation to all accomplishments thereafter." Sir Francis Knollys and Sir Richard Sackville, both of whom served on Elizabeth's privy council in the beginning of her reign, attended the universities without receiving a degree.

45 Curtis, Oxford and Cambridge, 148. Curtis, in fact, maintains that the higher faculties suffered a decline in the late Sixteenth and early Seventeenth centuries. Along with this decline, the undergraduate arts course increased; McConica addresses the changing social composition of English universities in "Elizabethan Oxford: The Collegiate Society," The History of the University of Oxford volume III, edited by James McConica (Oxford: Clarendon Press, 1986), 666-693. He contends that while the colleges remained clerical societies there was an upward trend in the education of the laity during the Sixteenth and Seventeenth centuries; Alexander, The Growth of English Education, 157.

46 Cressy, Education in Tudor and Stuart England, 10.


48 Curtis, Oxford and Cambridge, 58.
Many men attended the universities for a short time and then proceeded to the Inns of Court to study law. John Savile was tutored until the age of fourteen under a strong humanist program, then matriculated at Brasenose College, Oxford leaving after two years to study law and become a judge. Francis Bacon also followed this course, attending Trinity College, Cambridge for three years leaving to study law at the Inns of Court, eventually becoming Lord Chancellor under James I. 49 Under the influence of humanism, education achieved a broader, more applicable base, preparing men for their participation in the government and civic service. 50 As education was used for more than one specific end, that of educating the clergy, the nobility became more involved in the process of education. The influence of the humanists found its way to the upper classes, and they in turn impressed this new learning upon their sons.

One of the main reasons the nobility matriculated at the university without obtaining a degree was to become cultivated men of the world. 51 Learning to speak

49 Lawson, A Social History, 135-36.

50 Lawson, A Social History, 144.

51 McConica, "Elizabethan Oxford: The Collegiate Society," 695. McConica refers to this type of learning as "advanced schooling" rather than university learning. Nevertheless, the students received relatively the same
adequately and to think clearly enabled the nobility to manage their own affairs more effectively. One tutor during this period, Richard Holdsworth, wrote "Directions for a Student at the Universitie," the purpose of which was to provide a guide for men who had, "come to the university not with intention to make scholarship their profession, but only to get such learning as may serve for delight and ornament and such as the want whereof would speak a defect in breeding rather that in scholarship."52 For a tutor's manual to be written indicates that a need existed. The nobility and gentry began to send their sons to the universities to prepare them for their duties in life.

The nobility's interest in education did not occur suddenly. In 1535, King Henry abolished the study of canon law, thereby significantly decreasing the number of men studying law at the universities rather than at the Inns of Court, which provided the study of common law. The decline in the student body ended in the 1550's, and for the next thirty years a steady increase in the size of the university student body occurred.53

Because Henry VIII wanted only the best men for his education as the majority of the students who continued in the higher faculties.

52 Quoted in Curtis, Oxford and Cambridge, 131.

counsel, he and his court encouraged education, and thus human learning. During his reign, Henry VIII appointed well educated men rather than only members of the aristocracy. Two prime examples of this are Cardinal Wolsey and Thomas Cromwell. Both men came from the lower classes—sons of a butcher and a tanner, respectively—and both served as Henry's chief minister for a time. Another advocate of education, Thomas Cranmer, Archbishop of Canterbury, stated that, "... if the gentleman's son be apt to learning, let him be admitted; if not apt, let the poor man's child apt enter his room." 54 By setting this type of example, Henry and other men in his council encouraged the upper and lower classes to send their children to the universities for an education. Thus, a learned man was becoming more desirable than just one of genteel birth. 55

Henry's daughter, Queen Elizabeth, followed her father's footsteps in this manner. The queen was extremely well educated, especially in the languages including Latin, French, and Greek. Her advisors were also well educated. Historian Wallace MacCaffrey, noted that "they were a very well-educated group; probably for the first time in English history, the Queen's Council was dominated by university-

54 Simon, Education and Society, 185.
55 Spitz, The Renaissance, 156.
trained laymen, products in large part of the new traditions of Renaissance humanist education. Sir William Cecil, Sir Nicholas Bacon, and Sir Walter Mildmay matriculated at Cambridge, while Sir William Petre and John Mason both studied at Oxford. Even those who did not receive degrees, such as Knollys and Sackville, exposed themselves to human learning at the universities for a short time. Elizabeth herself highly encouraged men to become well learned. While visiting Cambridge in 1564, Elizabeth spoke to the students: "This one thing then I would have you all remember, that there will be no director, no fitter course, either to make your fortunes, or to produce the favour of your prince, than, as you have begun to ply your studies diligently." All the Tudor monarchs greatly supported human learning.

Elizabeth's reign also assembled a Parliament that was the most educated in the history of England. In 1563, 67 out of 420 members of the House of commons attended a university. In 1584, these numbers rose to 145 out of 460. The percentage of university men in the House of Commons

57 Curtis, Oxford and Cambridge, 58.
58 Curtis, Oxford and Cambridge, 7.
doubled in only twenty-one years. These numbers do not include the men who studied at the universities without obtaining any degree. Overall, society was beginning to find that education was necessary for political achievement.

The inculcation of humanist attitudes into English education was continually strong throughout the early Seventeenth century. The ideals of humanism, while not the only factor in the improvements of education, had a great impact on the purpose of learning in England. Because humanism was broad and contained many components, it was easily woven into the English educational system. The effects of human learning can be seen through the many gains of education during the sixteenth and early seventeenth centuries, through which learning gained great prestige and recognition and provided prominent social benefit for English society as a whole. Approximately sixty additional grammar schools were established between 1603 and 1640, indicating a growing need for schools and the education they provided. The literacy rate and the availability of books to the general public improved from


the sixteenth to the seventeenth centuries. In 1602, Thomas Bodley restored the Oxford University library and as a result of his many efforts to obtain books, the Bodleian library soon became the greatest library in the kingdom. These and many other developments exemplify the rise of education in the Tudor and Stuart period. Society greatly benefitted from the humanists' encouragement of learning as the pinnacle of wisdom.

Humanist ideals altered the focus and attitude of education away from scholastic doctrine in the universities. Yet, while humanist teachings were vastly different from scholastic doctrine, the humanists did retain ideas from medieval thought. It is impossible for any generation to completely extract itself from the previous period, and this was equally true for the humanists. While they felt that scholastic philosophy was unproductive because it neither

---

Alexander, The Growth of English Education, 233-234. The literacy rate is very difficult to determine during the Seventeenth century because, as Alexander states, statistics were not recorded until much later. Wills have been used in the past to roughly calculate literacy; however, this method is less than satisfactory due to individual's incapacities at the time and the fact that many learned to read and not to write.

Lawson, A Social History, 130; Alexander, The Growth of English Education, 239. In addition to the large benefaction of Thomas Bodley, many other men were munificent to the universities, thereby firmly establishing their ability to interact with society and provide a strong fountain of learning.
emphasized the individual nor focused on the commonwealth, some of their methods and scientific ideas were adopted. For example, humanists only opposed medieval conclusions of logic rather than the methods exercised in polemics.\textsuperscript{63} Humanists continued through the sixteenth and seventeenth centuries to teach dialectics in the university curriculum. The humanist age not only benefitted from the previous era, but also provided encouragement and aid in the transition to the scientific age.

Over half a century ago, historians such as Lynn Thorndike and George Sarton claimed that humanist ideals during the fifteenth and sixteenth centuries and the study of science along with scientific discoveries had very little interaction with each other. They perceived humanism and science as two distinct and separate movements in Renaissance history.\textsuperscript{64} In recent years, historians have disputed this theory, claiming a more interactive and reciprocal relationship between humanism and science. Moreover, the move away from the scholastic interpretation of Aristotle and other classic authors allowed and even


\textsuperscript{64}Eric Cochrane, "Science and Humanism in the Italian Renaissance.".... 1039-1041.
stimulated alternate approaches to natural philosophy.  

Although not the only source of scientific exploration, the universities encouraged and cultivated mathematical and scientific studies. Current historians, in fact, assert that humanist thought provided a fertile intellectual environment for the development of science.

A rise in the number of books published on scientific topics increased during the sixteenth century, evidencing a conspicuous interest in scientific matters during this period. In 1510, only two books were published concerning subjects on science, whereas in 1590 twenty-eight books were published. This 1590 number is comparable to the thirty books produced in 1640. These figures indicate a growth in the study of science during the humanist era that seems to have remained steady through the early seventeenth century, which is considered a scientific decade in England. This growth indicates a compatible relationship between humanist attitudes and scientific endeavors to the advancement of science rather than the its detriment.

---


68 Mclean, Humanism and the Rise of Science, Appendix A.
Mathematics was revived during the humanist movement in the venue of the quadrivium. A university statute entitled the New Mathematical Statute, written in approximately 1500, re-emphasized mathematical lecturing. Furthermore, the Edwardian Statutes of 1549 were notable for the attention placed on mathematics, devoting the first undergraduate year to the quadrivium.\(^6\) Dr. Feingold asserts that the last two years of undergraduate study concentrated on the sciences instead of the first two years.\(^7\) Regardless, clearly science was not neglected in the universities. It should be noted that the line between empirical observation and mathematical calculation and moral truth was not clear to the humanists and many men combined these approaches toward the study of the natural world.\(^8\) Hence, when the natural philosophers of the seventeenth century criticized the humanists for their lack of scientific approach and application, the natural philosophers were applying a new definition of the study of nature.

Although the quadrivium had been present during the


\(^8\) McLean, Humanism and the Rise of Science, 107.
Middle Ages, mathematical lecturers, similar to the humanists in the 'humanities,' in the Renaissance added contemporary authors to the curriculum. Henry Savile, a very well-known mathematician of his day, filled his lectures at Oxford with ancient, Medieval, and contemporary authors. One of the most significant "modern" sources that Savile used was Copernicus. Henry Briggs, an equally renowned mathematician who taught at Cambridge, was the Professor of Geometry at Gresham College, and then the Savilian Professor of Geometry at Oxford, also incorporated up-to-date sources in his lectures.\textsuperscript{72}

Correspondingly, inasmuch as tutors were significant to the advancement of humanist ideals, they were also important to the study of mathematics and science in the universities. As stated above, contemporary authors could be assigned to meet the required curriculum necessary for an undergraduate degree. Many tutors during the late Sixteenth and early Seventeenth centuries showed an avid interest in teaching mathematical sciences. In fact, some parents found it necessary to remind the tutors not to focus entirely on the sciences, but rather concentrate on each discipline equally.\textsuperscript{73}

\textsuperscript{72}Feingold, \textit{The Mathematicians' Apprenticeship}, 47-50.

\textsuperscript{73}Feingold, \textit{The Mathematicians' Apprenticeship}, 61-68.
While no chair of mathematics was established at Cambridge until 1663, a tradition of mathematical lecturers was initiated in 1500. Three men appointed to the position of mathematical lecturer between 1507 and 1514, William Peyton (1507), Henry Bullock (1510-13), and Humphrey Walkden (1512-1524), were close friends of Erasmus, exhibiting a close affiliation between humanism and science. Three well-known Greek professors of the time, Sir John Cheke, Sir Thomas Smith, and Roger Ascham, also promoted the study of science in the universities. Cheke lectured on Greek at St. John's College, Cambridge, and later became tutor to Prince Edward. Smith, who was a lecturer of Greek and became the Regius Professor of Civil Law in 1540, taught Roger Ascham both Greek and mathematics leading him to become a lecturer of mathematics from 1539 to 1541 and tutor to Queen Elizabeth I.

Many colleges at Cambridge, including Gonville and Caius, Peterhouse, Trinity, and King's, supported scientific study. Oxford also had many scholars who were interested in

---

77 Rose, "Erasmians and Mathematicians," 54.
the sciences. Merton College produced mathematicians and scientists who contributed to the advancement of scientific knowledge. Richard of Wallingford constructed an astronomical clock and also, with the aid of John Maudit, anticipated trigonometry. Simon Bredon wrote many mathematical tracts, and William Merle kept the first meteorological record in all of Europe.

The universities during the late sixteenth and early seventeenth centuries certainly were not devoid of scientific and mathematical study. The tendency of current historians to measure the scientific study in Elizabethan universities based on the amount of new science is erroneous. During the Elizabethan period, different standards and values of scientific thought existed than in the late seventeenth century. Evaluating the late sixteenth century with regard to the seventeenth century is anachronistic. The sixteenth century belief in Aristotelian concepts was accepted as scientific development. The Copernican system, while postulated in the early 1500s,

---


79 McLean, Humanism and the Rise of Science, 156.

80 Historians such as Christopher Hill, Charles Webster, and V. Morgan maintain that the universities did little to propagate scientific enquiry. Feingold, however, stipulates that science was abundantly evident in the universities and bases his conclusions largely on primary evidence. Feingold, The Mathematicians' Apprenticeship, 6.
could not be adequately supported until the 1600s with the invention of the telescope and advances in magnetism. Even Francis Bacon was a practicing Aristotelian and rejected the Copernican system. Thus, the study of mathematical sciences was prevalent in the Elizabethan universities, albeit not in the form of the new science.\footnote{Feingold, The Mathematicians' Apprenticeship, 1-22.} Humanist attitudes in education certainly were not the sole reason for scientific advancement, but humanism and science did co-exist in harmony during the sixteenth and early seventeenth centuries.

Early in the seventeenth century, the approach to the study of the natural worlds began to change. Francis Bacon, in his many works about science, introduced rationalism into natural philosophy, becoming the "prophet" of the modern method of science.\footnote{L.C. Knights, Explorations: Essays in Criticism Mainly on the Literature of the Seventeenth Century (New York: New York University Press, 1964), 110. This seems to be a more accurate description of Bacon than "Father of Modern Science" as Bacon was an advocate of science rather than a scientist.} Bacon based his approach to science on observation and experimentation, which became the tenets of later seventeenth century natural philosophers. Another conviction of Bacon's was that science was for the needs of man. Philanthropy was Bacon's main concern and became his
motivation for the promotion of science. Although Bacon himself was certainly not a scientist, he did much to advocate the study of the natural philosophy. Furthermore, with the foundation of the Royal Society during the Restoration, Bacon became almost a hero to the natural philosophers, symbolizing the beginning of a new era and the opposition to the humanist method to the study of natural philosophy in seventeenth Century England.

The improvement of the educational system, the increase of the student population, and the employment of educated government officials continued until the Civil War. Not until the mid-seventeenth century did strong censuring of the educational system commence. With the introduction of the new philosophy and the rise of Puritanism in the seventeenth century, the emphasis on classic authors, literature, rhetoric, and human learning was questioned. Both the scientists and radical puritans reacted against "Humane Learning" in education. Instead, the new philosophers wanted an emphasis on mathematics and science, while the radicals wanted human learning disposed of altogether, with science as a suitable alternative.

---

Chapter Two: A Reason for Fear

The advocacy for educational reform in England did not end with the humanist movement in the sixteenth and seventeenth centuries. The seventeenth century saw many different opponents to the educational system in England. Groups such as the Hartlib Circle, as well as renown members of society including Thomas Hobbes and John Milton, criticized the universities on numerous grounds. The Civil War and Interregnum period, approximately 1640 to 1660, played an important role in the disputes over both education and knowledge. The debate over knowledge centered around the established humanist ideal of education and learning.

Between 1640 and 1660, separatist Puritans, or sectaries, raised objections to training clergymen in the universities in what has come to be known as the Learned Ministry controversy. Moreover, these sectaries were seen by university men as opposing the use of human learning. This contention over knowledge extended to the late seventeenth century with the controversy between the humanists and the new philosophers, and provided the humanists with an additional reason to fear the attacks of the scientists. Consequently, while the Learned Ministry controversy was a segment of the general educational demands of the seventeenth century, it was a pivotal part of the
debate over which knowledge was more significant in the universities.

The Counter-Renaissance, a term describing the movement during the seventeenth century which opposed the emphasis on human learning, gathered strength during the English Civil War and Interregnum. In 1640 the seventh item of the Parliamentary "Root and Branch Petition" cited, "the discouragement of many from bringing up their children in learning; the many schisms, and errors, and strange opinions which are in the Church; great corruptions which are in the Universities."¹ Puritans called for reform of the universities as one of many ways to cleanse the country of the old government and to bring stability to the new. The reforms they initiated, however, did not call for the complete alteration of the universities. Separatist puritans, on the other hand, condemned the universities and demanded drastic alteration to the universities and human learning in general. As the mainstream puritans were settling into their mild reforms, the sectaries cried out against the useless, erroneous, and damaging teachings in the universities and initiated the Learned Ministry controversy.

It is necessary to provide some definitions. The essence of Puritanism is loose and obscure. In the sixteenth century, those who were termed either protestant or puritan believed that the name was both demeaning and inaccurate. Indeed, the term was often used derogatorily, as a means of insulting an opponent or enemy.\(^2\) Furthermore, before 1600, the belief in predestination was representative of most protestants. However, after 1600, predestination was closely associated with puritans.\(^3\) In a recent study, John Morgan attempts a rudimentary explanation of a puritan. Some of their characteristics, he stated, were:

- a dedication to preaching, exceptional hatred of popery, an emphasis on the propagation of the Word... the sanctity of the Sabbath, an abiding despair... at the level of licentious behavior, a passionate willingness to attack any theological innovations that detracted from English Calvinist orthodoxy... and a close alliance between ministers and their lay patrons or protectors.\(^4\)

This list, of course, is not exhaustive, and only covers some of the major points of Puritanism. In addition


\(^3\)Nicholas Tyacke, "Puritanism, Arminianism, and Counter-Revolution," The Origins of the English Civil War, edited by C. Russell, p.120.

to the wide range of puritan beliefs, separatist groups developed who were more fanatical, zealous, and enthusiastic in their religious views than most conservative puritans.  

Radical sects of Puritanism were termed sectaries. Many historians, such as Christopher Hill, Patrick Collinson, and Charles and Katherine George, consider sectaries as a distinct movement apart from Puritanism. Sectaries wanted to completely rid the Church of England of any signs of popery or worship independent of the Established Church, while mainstream puritans opposed general policies of the Church but not to the point of separation. Sectarian groups included Anabaptists, Fifth Monarchists, Brownists, Levellers, and Quakers. Conservative and mainstream puritans viewed these sectaries as enthusiasts, which referred to their inability to control the emotions and the imagination. At this time, the term

---


enthusiasm was derogatory and offensive.\textsuperscript{8} So, although the sectaries held many of the same beliefs as the puritans, they were a distinguishable and separate group.

The main disagreement between sectaries and the universities concerned the education of the clergy. The preaching-minded separatists rebelled against the notion that the clergy must be trained in human learning to be able to understand and preach the word of God. They argued that all that was needed to preach the word of God was the Spirit. Education based on human learning was unnecessary and actually impeded spiritual growth. In contrast, conservative puritans believed strongly that human learning was essential to become a minister. Conservative puritans maintained that learning was a prerequisite for the ministry for three main reasons: to be able to interact with the scholars, to interpret the Scripture, and to fight off the radical enthusiasts who claimed to know the word of God only through the Holy Spirit.

Thé sectaries' attack on the universities indirectly maligned the educational ideology of the puritans. From the middle of the 1640s until 1660, conservative puritans held high positions in the universities. Consequently, when the

\textsuperscript{8} Michael Heyd, "The Reaction to Enthusiasm in the Seventeenth Century: Towards an Integrative Approach," \textit{Journal of Modern History} 53 (June 1981), 265.
sectaries attacked the universities, they attacked the reforms fostered by the conservative puritans. Moreover, many opponents of Puritanism claimed that the mild reformers urged the same changes as the radicals—the complete alteration of the universities. The puritans, in turn, defended what they believed needed correction. As a means of vindicating themselves, the puritans attacked the radicals and all their beliefs. In this manner the puritans disassociated themselves from the radical separatists.\(^9\)

Sectaries urged the reform of both religion and education. As a minister, it was important to emulate Jesus Christ as closely as possible. Many reformers claimed that Jesus was not practiced in secular learning and, therefore, it was unnecessary for preachers to hold such learning. Samuel How wrote that as Jesus Christ did not have any human learning, it was unnecessary to teach the word of God. He stated that Jesus "learned not his wisdome, no more than he did his stature."\(^10\) How went on to claim that neither were Christ's first apostles learned; they were simply fishermen. Yet God chose them to preach and spread His Word. How believed a man was complete without any human learning; all

\(^9\) Morgan, *Godly Learning*, 68.

that was needed was Christ, "he hath given nothing but his Spirit to profit withal, therefore we are compleat by it alone."\textsuperscript{11} Hence, the only knowledge necessary to understand the Lord is revealed by the Lord himself.

Sectaries despised and resented the learned ministers, and did not hesitate to articulate their malice. In The Pollution of Universitie-Learning, Henry Barrow clearly stated his enmity toward the requirements for English clergy. University-learned preachers were, "corrupting the pure Fountaines, and perverting the text itself with their glosse, paraphrases, notes, figures, & c... stirring hereby to uphold Antichrists ruinous kingdome and abominable wares."\textsuperscript{12} From the opposition of university-trained preachers came many criticisms of human learning and the ideals of the humanists.

John Webster believed ministers could not be properly trained through human learning. He believed, as did How, Barrow, and others, that the truth of God came from the Holy Spirit, not from man, and that the powers of the minister, "are not carnal, but spiritual, not mighty through us or our power, but through Christ, not for the elevating and blowing

\textsuperscript{11}How, Sufficiencie, 8.

\textsuperscript{12}Henry Barrow, The Pollution of Universitie-Learning, or, Sciences (Falsly so called), (London, 1642), 1.
up, but for the pulling down of strong hands."\textsuperscript{13} Indeed, only "vanity, uselessness, and hurtfulness" came from the study of school theology.\textsuperscript{14} How, in turn, reiterated Webster's remarks saying, "the wisdome of the flesh is enmity against God, and is ready to butt against the Spirit."\textsuperscript{15} Divinity and humanity did not mix with the sectaries. How and Webster maintained that the union between the ministry and human learning was abhorrent and should be dissolved.

The sectaries' antagonism toward human learning, as well as toward the general ideology of the humanists, as an instrument to teach the word of God was manifest. William Dell declared that "if all Divinity be swaddled in Humane Learning: then I do affirm that all such Divinity hath no great Depth: seeing the bottom of Humane Learning is easily fathomed."\textsuperscript{16} For the sectaries, human learning and divine knowledge were diametrically opposed. Webster listed six evils resulted from the teaching of religion in the universities: it created Doctors and Masters of Theology;


\textsuperscript{14}Webster, Academiarum Examen, 10.

\textsuperscript{15}How, Sufficiencie, preface.

human learning went against God's teaching; universities divided the truth into the definition of theology and definition of God; learned religion was too structured by logic—"it bottled up the water of life"; it created a trap meant to lead people from the Word of God; and if one's belief was based on logic and reason, then it was not based on God and was, therefore, weak. 17 The evils stated by Webster demonstrate a general distaste for the mixing of human learning and religion.

The animosity toward the mixing of God and learning manifested itself in the sectaries' dislike of human learning, separate from their hatred of the learned ministry. Although many opponents of the universities claimed to admire human learning when it was not used for the training of ministers, they all had harsh criticisms of it. Apologies to the reader were stated in the beginning of tracts or before the indictment of human learning. In his "Apologie to the Reader," Dell stated: "I am not against Humane Learning upon all accounts, but do allow Humane Learning (so it be sober and serious) in its own place and sphear... But I do oppose it... as men make it necessary, for the true knowledge of the Scriptures." 18 Thus such

17 Webster, Academiarum Examen, 10-18.

18 Dell, A Plain and Necessary Confutation, Apologie.
writers could disguise themselves as supporters of human learning.

Nevertheless, the facade of benevolence shown by the sectaries was only a mask, disguising their antipathy for human learning. At first, Webster condoned the use of human learning when excluded from divinity, but then proceeded to disparage mercilessly its inadequacy in the university curriculum. Further along in *Examen*, Webster contended that the new ideology of learning should be taught rather than the "old" learning, "that so they [the students] may not be sayers, but doers, not idle speculators, but painful operators." ¹⁹ Here Webster demonstrated his distaste for ideals of humanism and his preference for a new, less contemplative and non-speculative learning.

How stated that human learning was deceptive, almost wanton, "for by faire words and flatteries they [scholars of human learning] deceived the hearts of the simple and with this their craftinesse they lie in wait to deceive." ²⁰ The deception of human learning played a key role in the arguments against it. Was knowledge possible, the sectaries asked rhetorically, if the "truth" of God was neglected; and could the truth be found through learning? Opponents

¹⁹Webster, *Academiarum Examen*, 106.

portrayed humanist learning as an evil that must be eradicated from the universities before the right method for teaching the word of God could be accomplished.

Another criticism of university learning concerned its utter uselessness to society. Although both sectaries and university men agreed that education must be useful to society, their definitions of utility clashed. The latter considered both intellectual and questioning investigation into the human mind and the civic duty of man as useful to society, whereas the sectaries defined utility more concretely. According to the sectaries, observation, demonstration, and experimentation of the natural world, and the teaching of mechanical skills constituted utility for the English people. The universities did not have the proper amount of training for the trades and, consequently, were insufficient and, therefore, human learning was insufficient.

The study of the learned languages—Greek, Latin, and Hebrew—in which humanists took pride, was also subject to attack from the sectaries, who opposed such study as means for a better understanding of scripture. Webster argued that even with the knowledge of Hebrew, Greek, and Latin a literal translation of the Bible was not assured. Indeed, a literal translation did not uncover the mystery of Christ, which could only be revealed through the Spirit. Lastly,
Webster stated that it was impossible to understand the word of God through the learned languages because the seventeenth-century man was "ignorant of the true original tongue, the language of the heavenly Canaan, which no man can understand or speak." Language led only to deception, claiming to find the truth, when, to the sectaries, that was impossible without the grace of God.

The vernacular and contemporary foreign languages were the only languages that the sectaries thought were justified in the schools. This assured proper communication among the English as well as other countries. Otherwise, Webster asserted, the study of languages accomplished nothing except wasted effort: "to spend divers years for some small scantling and smattering in the tongues, having for the most part got no further knowledge, but like Parrots to babble and prattle, that whereby intellect is no way inriched, is but toylsome, and almost lost labour." 

University men ardently disagreed with the claims of the sectaries. They defended learning as essential in enabling the minister to interact with his parishioners, with learned men in general, and with other religions. Without profane learning, one was lost in a world devoted to

---

21Webster, Academiarum, 6-7.

22Webster, Academiarum Examen, 22.
knowledge. Human learning assured competition with the nobility, other countries, and other religions. Henry Thurman asserted that there were many different traits that ministers could have, yet "the gift of the word wisdome, or the word of knowledge, or of a learned tongue is ever required in the ministry, at all times, in all places, in all persons, to all purposes, though in divers measures."^{23} Thurman in his *Defence* cited five reasons why preachers should be educated by the universities: the learned languages were necessary to obtain the most accurate translation of the Bible; a minister should be better educated than the general population; in order to understand the Scriptures; it was recommended in the Bible; and for political reasons.^{24} These reasons were argued by vehement defenders of universities and human learning. And while not all defenders quoted these reasons but gave their own, distinctive justifications for learning, these general defenses are found throughout most texts.

The Christian faith was one of the main focuses of society during the seventeenth century, and the Church found regulation necessary to oversee those preaching and

---

^{23}Henry Thurman, *A Defence of Humane Learning in the Ministry: or, A Treatise Proving that it is necessary a Minister (or preacher) should be skill'd in Humane Learning* (Oxford, 1660), 2.

^{24}Thurman, *A Defence*, 45.
instructing the word of God. To the academics, an unlearned man teaching the Word was like the blind leading the blind. Without learning, a preacher could not accomplish his duties, namely educating the people properly.\textsuperscript{25} Educating people required an educated person. Giving unlearned men the prerogative to control the government was irrational to the university men, as was the thought of allowing unlearned men to govern the Church.

Edward Reynolds contended that the learning of Holy Men was valuable as it created a good and strong reputation for the Christian religion and the Church. Furthermore, learning combatted the senseless writings of the unlearned. For those supporting human learning, the term "unlearned" included men not of the Christian faith, and those protestant ministers without any formal, university training. With secular knowledge, Reynolds claimed, it was easier to reveal true knowledge.\textsuperscript{26} Thurman also argued that learning brought honor and dignity to religion.\textsuperscript{27}

Similarly, Reynolds and Thurman argued that God and


\textsuperscript{26}Edward Reynolds, \textit{A Sermon Touching the Use of Humane Learning} (London, 1658), 16-17.

\textsuperscript{27}Thurman, \textit{A Defence}, 17-18.
learning were dependent upon each other. Reynolds declared, "First, all good Learning and wisdom is per se, and in its own nature stock, as an ornament and perfection to the mind, as a part of that Truth whereof God is the Author."²⁸ This statement was analogous to the humanist tenet of Christianity in that God created knowledge, and through human learning part of the ultimate Truth would be obtained. The importance of religion during this period required the incorporation of God into major aspects of society. The word of God was an element of learning and learning an element of the word of God. Hence, arguing against the opponents, the academics claimed God and learning were intertwined and, therefore, that a learned ministry was indispensable.

The defenders also claimed that their adversaries were disputing the abuse of human learning, rather than the use. Reynolds maintained that the Schoolmen were to blame for the indulgent combination of philosophy and theology.²⁹ Abuse of human learning occurred when the main purpose of education was lost. The humanists bound God and learning together without using secular philosophy and learning to prove the existence of God as the scholastics did.

²⁸Reynolds, Sermon, 12.
²⁹Reynolds, Sermon, 19-20.
Other defenders of university learning maintained similar attitude toward secular learning. Edward Leigh declared that the Scriptures and God were the "highest excellency" and that abuse occurred when this was not acknowledged. He continued by stating that the end of learning was for faith, not vain-glory, as the opponents charged, and moderation was necessary.  

The issue of language was equally important to the advocates as to the challengers. The foremost argument for the use of language was that it was necessary to translate and understand the original meaning of the Scriptures and other ancient texts. Humanists had begun to use the study of philology as a tool to expose fraudulent and erroneous documents. The Scriptures should be read in the original languages of Greek and Hebrew to be properly understood. Leigh claimed that to become a divine, it was necessary to know at least three learned languages, Latin, Greek, and Hebrew. Otherwise, accurately teaching and spreading the word of God would be impossible.

The university men vehemently censured those opposing human learning. They were offended by the sectaries'  


attack, and denounced their writings as meaningless and ignorant. Ward declared the attack unreasonable and insulting, "indeed Sir, somewhat Puerilely, in insulting over us without cause, Tetrically striking at us without any occasion, Unreasonably, in charging us with some things we are not guilty of and condemning us of other, without convincing us of any fault."\textsuperscript{32} Thurman concurred: "My reason presently condemned the haters of humane learning as irrational, brutish and irreligious persons; that took their rise either from the ignorance... or from malice... or lastly from avarice."\textsuperscript{33} The opponents of a learned ministry, and therefore human learning, were despised by academics. The sectaries' lack of learning secured the defenders antipathy toward them. In the eyes of the proponents of the universities, ignorance, hate, and envy were what motivated the foes of learning. Because of these characteristics, and the other arguments for learning, the claims of the sectaries were discounted as fanatical and groundless.

The Interregnum assaults on the universities and the defense that followed were part of the larger controversy between the humanists and the new philosophers. While the

\textsuperscript{32} Wilkins and Ward, \textit{Vindiciae Academiarum}, 53.

\textsuperscript{33} Thurman, \textit{A Defence}, epistle dedicatory.
sectaries and the new philosophers were not motivated by the same rationality, they both opposed university learning and both disagreed with the station human learning held in the universities. Most importantly, the universities viewed both attacks as efforts to destroy the importance of the classics and the learning the humanists most valued. Nonetheless, the sectaries and new philosophers differed on a significant point, that of the importance of the new philosophy. For the scientists, the new philosophy was their primary concern, while the sectaries simply used it to counteract human learning.

With the ardent criticisms of the universities and human learning, came what historians have interpreted as an explicit endorsement of the new scientific movement. The preference of scientific learning over human learning was an ancillary and subsequent concern of the sectaries. They were first and foremost opponents of human learning and the training of ministers. As the new philosophy was based primarily on physical observation and experimentation, it concurred with the sectaries' trade oriented attitudes toward education and learning. They advocated an education that emphasized practical application rather than intellectual enterprise, which could be supplied by the study of the new philosophy. Nor did the new philosophy claim to be necessary for the training of the ministry.

55
Thus, appreciation of the new philosophy fell in line with the sectaries' general opposition to the ideals of the humanists in the universities.

The categorization of the sectarian movement with the scientific movement is tenuous because many of the defenders of the universities and human learning during the Interregnum encouraged the study of science. The academics were not simply guardians of the ancients. They defended university learning not only because they were dons, but because they realized the necessity of human learning. Seth Ward was appointed as the Salvinian professor of Astronomy at Oxford during the Puritan reformation of the universities.34 Ward was also a distinguished supporter of the new philosophy. He believed in the ideology of experimentation and utility advocated by both the sectaries and the scientists. Yet he vigorously opposed what Webster and others said about the state of the universities. Ward did not consider Webster a new philosopher, but an occultist, and strongly disagreed with the accusation from Webster that the universities had no interest in the sciences. Throughout his tract, Ward defended the amount of science in the university and the study of human learning. He regarded the use of human learning in the universities as

34 Conant, "Puritan Advancement," 23.
worth while and necessary.

John Wilkins, co-author with Ward of Vindiciæ Academiæ, was the leader of the philosophical society at Oxford, and after the Restoration became an important member of the Royal Society. He was known for his many writings on scientific matters, including Discovery of a World in the Moone (1638) and Mathematical Magick (1648), as well as his defense of the Copernican system.\(^{35}\) Both Ward and Wilkins were unreserved advocates of the new science, and yet they opposed the sectaries' attacks on the universities and human learning. This indicates that no definitive line existed between humanists and scientists during this period.

The Learned Ministry controversy stimulated arguments against human learning and questioned the ideology of the humanists in the search for knowledge in the universities. The sectaries, while opposing a learned ministry, also fundamentally opposed human learning in general. The perceptions of the proponents of university learning give evidence of this. The immediate reaction to the attack on humanism in the universities demonstrate the contemporary acknowledgement of a real threat. It was this threat that paved the way for the scientists to attack university

learning after 1660. The humanists' defense of the learning in the universities was not simply a reaction to the new philosophy representing progress. Rather, the humanists had observed the attack on the universities and human learning during the Interregnum, and feared the complete destruction of the knowledge they most trusted, admired, and advocated. It was the Interregnum attack which strengthened the humanists' fear of the destruction of their learning.
Chapter Three: The Culmination of the Knowledge Controversy

The Learned Ministry controversy left a lasting impression on the understanding of university men concerning any criticism of learning. Humanists were now wary of any denigrations of university learning. The rise of scientific interest aided by the creation of the Royal Society, along with the scientists’ remonstration that science should be foremost in learning, led to the apprehension of the humanists concerning their standing in what was now regarded as Traditional learning. The humanists feared that the scientists meant to displace human learning and make it subordinate to scientific learning and responded with rigor to the writing of new philosophers and the strong desire to save human learning from the harm intended by the scientists.

This chapter will look at what other historians have called the culmination of the "battle between the ancients and moderns." While historians such as Jones and Levine¹

have considered this controversy as one between the old method and the new, it is rather the humanists' fight to retain control of their perspective of life and of learning and keep it in the vanguard of university learning. The humanists were not opposed to progress brought forth through scientific enterprise. They were not against science in the universities. They were, however, against their own eclipse and the advancement and domination of university learning by the new philosophers. Through an examination of both scientific writings and humanist writings between 1660 and 1700, I intend to demonstrate that the words of the new philosophers against Traditional learning were threatening and that the humanists acted in the manner they thought appropriate.

Only a few men were involved in the intellectual conflict concerning which form of knowledge should take precedence in the universities. For this reason I will only discuss two central characters on each side of the debate. These men were the core of the debate and spurred on many peripheral polemics, though most went unwritten. Because I have chosen to examine a select number of men in this chapter, the structure will be different from the previous one in that I will discuss the men and their writings individually, rather than grouping similar ideas together. Each one employed quite different methods to reach his goal;
therefore, each deserve separate recognition and attention. I will consider scientists and their arguments first, and then move to the defense offered by the humanists.

The popular regard in English society for scientific exploration truly began with the establishment of the Royal Society. The first informal meeting of the Royal Society occurred on November 28, 1660, at Gresham College, an institution established in 1596 for the sole purpose of scientific study. After the Restoration, Charles II formally established the society and instituted the second charter on April 22, 1663. Altogether 115 fellows comprised the society in May, 1663, indicating that the new philosophy indeed had a popular following at this time.

Along with the serious pursuants of new philosophy were the amateurs, or the virtuosi. These men held a wide variety of occupations other than those of scientific basis, and yet they expressed an eagerness for the subject. The most famous virtuoso was the king himself. Charles had a laboratory at Whitehall, staffed by a chemist and several

---


3 Webster, Great Instauration, 88.
assistants to conduct experiments. The virtuosi conducted experiments and actively participated in scientific endeavors and provided significant observations which often led more knowledgeable scientists toward discoveries. The Restoration witnessed a surge in the popularity of science and with it came the forceful promoters and advocates of the new philosophy.

The first major champion of the Royal Society and the new philosophy was Thomas Sprat, who published the history of the Royal Society. In his book he included an overview of experiments conducted by the members of the Society, as well as the general goals and purposes of experimental philosophy. Michael Hunter has commented that Sprat's History "is as much a confession of faith as a factual record." Sprat’s book is most notably a defense of the Royal Society and the new, experimental philosophy and their role in society and the universities rather than a factual book that documented the accomplishments of the members.

In the third part of the History, Sprat expounded on

---


the role of the new philosophy in education. He maintained that the incorporation of the new philosophy into the universities would not change Traditional learning; however, Sprat is far from convincing. As R.F. Jones noted, his defense "is half-hearted for the simple reason that in his own mind he favored a radical change in the traditional methods of education." His fervent support of the new philosophy and its incorporation into the universities led other advocates of science to write similar tracts.

In 1668, Joseph Glanvill published a tract entitled *Plus Ultra*, which concerned "the progress and advancement of knowledge since the days of Aristotle." Glanvill intended the book to discuss the advancement of learning; however, his notion of learning greatly differed from the learning taught in the universities. By the "advancement of learning" he meant the development and progress of the new philosophy. With this perception of learning, Glanvill

---


7 Jones, *Ancients and Moderns*, 228.

8 Joseph Glanvill, *Plus Ultra*: or, the Progress and Advancement of Knowledge Since the Days of Aristotle. In an Account of some of the most Remarkable Late Improvements of Practical, Useful Learning: To Encourage Philosophical Endeavours. Occasioned By a Conference with one of the Notional Way (London, 1668).
maintained that he wrote Plus Ultra "to encourage freer and better disposed Spirits, to vigour and endeavor in the pursuits and knowledge; and to raise the capable and ingenious, from a dull and drowsie acquiescence in the Discoveries of Former Times." He disagreed with the emphasis placed on classical learning and advocated learning based on recent discoveries and experiments. To accomplish this, Glanvill focused the book on the promotion of the new philosophy and the Royal Society and incorporated all other arguments into these two purposes. With the adulation of the Royal Society and the new, experimental philosophy, Glanvill implicitly and explicitly maligned human learning.

Although Plus Ultra is the most renowned of Glanvill's writings and was the most significant in the learning controversy, yet it was not the first book he wrote on the new philosophy. In 1661, he wrote Vanity of Dogmatizing, which attacked Aristotelianism and praised the ideas of Descartes. Vanity received recognition and praise from the Royal Society and other noted scientists. In 1664, he

---

9 Glanvill, Plus Ultra, preface (emphasis mine).

10 Stephen Medcalf, in the critical introduction of the 1970 reprinted edition of Vanity of Dogmatizing, xix. A contemporary of Glanvill, Dr. John Worthington, commented to Samuel Hartlib, "He is a young man, and abating some juvenile heat, there are good matters in his book. As one said of the parts of pregnant young men, we may guess what the wine will be; and it will taste better when broach'd some years hence."; Jackson I. Cope, Joseph Glanvill:
wrote Scepsis Scientifica, a revised edition of Vanity, and dedicated it to the Royal Society. In his dedication, Glanvill censured human learning and asserted that its purpose was, "to hunt Chimaeras by the rules of Art, or to dress up Ignorance in words of bulk and sound, which shall stop the mouth of enquiry, and make learned fools seem Oracles among the populace." After the members had read the book, they elected him into the Royal Society. Glanvill's celebrity and his membership in the Royal Society indicate that he was regarded as a prominent advocate for the new philosophy and that his ideas were worthy of attention.

For Glanvill as well as most other scientists, the Royal Society was inextricably connected with the new philosophy. For this reason, Plus Ultra not only praised the virtues of experimental philosophy but also those of the Royal Society. Throughout the book, Glanvill mentioned the Royal Society and portrayed it as the backbone of the new philosophy. He defended the Society from attacks, "how ignorant those rash and inconsiderate people talk, who speak of this Assembly as a company of men whose only aim is to set up some new Theories and Notions in Philosophy."11 On the contrary, he pointed out, the Society's members meant to

---


11 Glanvill, Plus Ultra, 88.
discover things concerning fact alone, and not to conjure theories and wild speculation from their experiments. Following this defense of the Society, Glanvill argued the purpose of the organization was to "erect a well-grounded Natural history, which takes off the heats of Wanton Phansie, hinders its extravagant excursions, and ties it down to sober realities." In emphasizing the Society and its important purpose, he implicitly asserted that only the physical realm matters and the imagination counted for little in reference to knowledge. Glanvill did not hold a high regard for Traditional learning. He insisted that the Society acknowledged the ability of the ancient thinkers; however, the Society believed that the ancients should not "have an absolute Empire over the Reasons of Mankind: as their means to knowledge were only notional and, therefore, useless. Useful knowledge, for Glanvill, came from practical and mechanical studies. Glanvill disagreed with the classical

---

12 Glanvill, Plus Ultra, 90.

13 For more information concerning the attitude toward imagination, poetry, and literature in the seventeenth century, see Basil Willey, The Seventeenth Century Background: Studies in the Thought of the Age in Relation to Poetry and Religion (Great Britain: Chatto and Windus Ltd., 1937; reprint, New York: Columbia University Press, 1977).

14 Glanvill, Plus Ultra, 6-7.
and Traditional approach to knowledge and stated that, "there is more published by those Disputing Men [the ancient authors] on some paltry trifling Question... then hath been written by their whole number upon all the vast and useful parts of mathematicks and mechanicks." Glanvill and many other new scientists did not completely disregard the ancients, but recommended a place, albeit small, for the classics in learning. The sentiments expressed by the scientists toward human learning, while not purposely intended to intimidate the humanists, do present a condescending attitude toward human learning.

The next major theme for Glanvill was the promotion and unreserved praise of the new philosophy. He executed this theme in two ways: by describing the advantages of the experimental method and by claiming its usefulness to mankind. First, Glanvill asserted that the advancement of useful knowledge would come from a broad history of things (natural history), and "by improving intercourse and communications." The new philosophy offered the means to accomplish both these objectives. The arts of chemistry, anatomy, and mathematics provided strong facilities for increasing the knowledge of natural history, and instruments

---

16 Glanvill, Plus Ultra, 9.
such as the microscope, telescope, thermometer, barometer, and the air-pump provided ways of achieving intercourse and communications. The advantages of the new philosophy were, Glanvill declared, "most useful and proper help in the affairs of Philosophy and Life."\(^{17}\)

Similarly, Glanvill emphasized the usefulness and practicality of the new philosophy. Early in the book, he stated that the new methods, "are Designs of making Knowledge Practical, and accommodating Mankind in the things of Universal Benefit."\(^{18}\) Indeed, most new philosophers after 1660 greatly stressed the utility of their subject. Michael Hunter maintains that the elevation of utility was usually overemphasized and did not always suggest "utilitarian applications." Certainly, the assertion that the new philosophy was useful and practical often referred to the improvement of natural knowledge.\(^{19}\) Nevertheless, Glanvill stated quite clearly that the new science best fostered the advancement of knowledge and universal advantage to society. While the emphasis on usefulness might have been a device to foster science, it in fact succeeded in posing a threatening advance on the arena of


\(^{19}\)Hunter, *Science and Society*, 89-90.
the humanists.

By emphasizing the usefulness of the new philosophy, Glanvill thereby alienated the humanists and depreciated human learning both implicitly and, at the end of the book, explicitly. The majority of *Plus Ultra* only implied that any knowledge other than the new philosophy was useless and unbenevolent to humankind. At the end of the book, however, Glanvill was much more aggressive and direct. In his conclusion, he stated that the "Free and Real Philosophy makes men deeply sensible of the infirmities of humane Intellect, and our manifold hazards of mistaking." Glanvill implicitly declared that human learning had been unable to succeed in detecting flaws within the human mind, but that new philosophy could accomplish just that. With this statement, he moved closer to a direct attack on human learning. He went further in his rebuke of "notional" philosophy, a derogatory term for the purpose of human learning, claiming that the new philosophy corrects the wrongs of the old, "Thus the Experimental Learning rectifies the grand abuse which the notional Knowledge hath so long foster'd and promoted, to the hindrance of science, and the disturbance of the world and the prejudice of the Christian

---

Faith. In addition to this censure of the notional philosophy, promoted by humanist ideals, Glanvill denigrated the universities. He maintained that the universities were stagnant because they did not want to improve learning by using the new philosophy. He believed the universities were "the great Enemies of the useful, experimental methods of Philosophy: They [the humanists] take it ill that nay thing should be accounted valuable in which they are uninstructed." Glanvill reached a direct level of abusiveness toward the humanists and became extreme and erroneous in his claims.

Glanvill’s claim that humanist attitudes were a "hindrance to science" is inaccurate, while the claim that human learning was a "disturbance of the world" is simply a rhetorical exaggeration. As stated in chapter one, science did exist in the universities in the seventeenth century. The universities encouraged scientific development and taught new advancements, such as the Copernican theory in


astronomy. Humanist scholars in the universities were amenable to including the new philosophy in university learning. In fact, the universities aided the movement of the virtuosi. Many virtuosi were university graduates and received much encouragement for their pursuits during their academic years. Many members of the Royal Society, as well as the virtuosi, were educated at Oxford or Cambridge. Science peaked in the universities during the 1650s, so the Commonwealth and the Protectorate saw a great many new philosophers in the universities. The universities had new philosophers in positions of power, such as Seth Ward and John Wilkins. It was partly due to the encouragement given to science by the universities that Restoration science was so outstanding and celebrated. Thus, Glanvill's claim that science was inhibited by the universities was simply not true.

---


28 Webster, Great Instauration, 80-85.
With his assertion that the new or experimental philosophy was more useful and advantageous than human learning, Glanvill, along with other advocates of science, thought that humanistic studies should be subordinate to the sciences. He claimed that the human learning "raise, quicken, and whet the understanding, and on that account may not be altogether unprofitable, with respect to the more useful Inquisitions." 29 Glanvill explicitly argued that experimental philosophy should take the place of humanistic ideals in learning. Although he did not advocate a total annihilation of these studies, he believed the humanist ideology of learning did not aid the advancement of knowledge. Rather, Glanvill intimated, the new philosophy should hold supremacy in the universities, while human learning should be subordinate.

William Wotton, who wrote his Reflections upon Ancient and Modern Learning in 1694, suggested the same solution to the domination of the universities by humanist attitudes—subordination to the new philosophy. His book was organized very differently from Glanvill's. Whereas Glanvill focused primarily on the Royal Society and the new philosophy, Wotton wrote his book as a comparison between the ancients and the moderns. He construed the ancients to be both Roman

29Glanvill, Plus Ultra, 127.
and Greek authors and contemporary scholars who studied classical authors and followed humanist ideals. Moderns, on the other hand, were those men who pursued the study of the new philosophy.

Wotton began his book by declaring his impartiality in presenting both sides of the conflict. Within the structure of comparison, Wotton posited three questions that he would answer throughout the text: (1) were ancients greater because of their intelligence and their better understanding of the world, or because they were born first? (2) were there any arts or sciences at which the ancients surpassed the moderns? (3) and were there things which moderns were simply better at? These questions are resolved in his book.

Although Wotton declared himself unbiased in his attempt to compare the ancients and the moderns, the tract supported the claim that there was no comparison—the moderns were far superior to the ancients. My own intention in this chapter is not to disprove the scientists and claim a victory for the humanists. I only propose to demonstrate that the fear of the humanists was justifiable when the words of the new philosophers are examined. With this in mind, how well Wotton proved his point is not as important

---

as how threatening his actual words were to the humanists. Moreover, it is important that he granted little expertise to the humanists or the ancients, and that when he did the moderns were portrayed with equal expertise. Wotton’s belittling of ancient achievement and knowledge jeopardized the humanist world view, as was Wotton’s promotion of the new philosophy in the universities rather than humanist attitudes.

Wotton answered his first query quickly, maintaining that the ancients were not better because they were more brilliant. Their language, learning, and the role of the government supported the importance of oratory and, therefore, had a great influence on the ancient writing style. The ancients’ style enticed the humanists to respect ancients ideas, thereby, according to Wotton, leading to their supposed superiority within the universities.

Wotton devoted a small portion to answering his second question, only one-fifth, did the ancients excel at anything more than the moderns? In this section of the book, he acknowledged that the ancients held skill in such arts as rhetoric, poetry, and oratory. Nevertheless, Wotton asserted that the moderns “have equalled them at least, if not out-done them, setting aside any particular Graces, which might as well be owing to the Languages in which they
wrote, as to the writers themselves." While admitting the ancients proficiency in some arts, Wotton did not hesitate to recognize the adeptness of the moderns. Furthermore, he denounced the belief that the ancients were masters at all and claimed that the scholar who believed such a notion would spend all his time studying and imitating ancient works rather than cultivating his own. Hence, Wotton succeeded in praising and denigrating ancient authors simultaneously.

In answer to his last question, Wotton spent the remaining text scorning the humanist study of the ancients in the fields of physics, mathematics, and sciences, or what is now termed as the hard sciences. In these comparisons, Wotton contended, "Thus, it seems to me to be very evident, that the Ancient Knowledge in all matters relating to Mathematicks and Physicks was incomparably inferior to that of the moderns." Wotton did concede the fact that the ancients aided the advancement of science and mathematics, yet he made trivial those contributions.

At one point he quotes the mathematician, John Craig, saying "It is true, they [the ancients] have given us many excellent and useful Theorems concerning the Properties of

---

31 Wotton, Reflections, 45.
these others [straight lines, circles, and conic sections]; but far short of what has been discovered since." In examining the mathematical contributions of the ancients Egyptians, Wotton, although admitting that they laid the foundations, declared, "The Question therefore is, how far they went." Wotton discredited the ancients' achievements because they did not measure up to the accomplishments of modern times.

Again, in assessing the contributions to geography of Pythagoras, an ancient philosopher highly respected by most humanists, Wotton claimed that he held limited wisdom in civil prudence, rather than any in geometry. For this reason, Wotton held, Pythagoras should not have been taught in the schools, as his contributions to mathematics were irrelevant. Furthermore, Wotton claimed that the reason for Pythagoras's reputation as a mathematician stemmed largely from the fact that he settled in an ignorant land, "[Pythagoras] was desirous to establish to himself a lasting Reputation for wisdom and learning amongst the ignorant Inhabitants of Magna Graeca."

As is evident from Wotton's attack on ancient learning,

---

33 Wotton, Reflections, 160-161 (emphasis mine).
34 Wotton, Reflections, 112.
35 Wotton, Reflections, 95-96.
Wotton had much praise for the new philosophy. Indeed, the new philosophy produced the "Real Knowledge," or natural knowledge. Defining knowledge in terms of the natural world, Wotton disregarded many of the subjects highly esteemed by the humanists, including rhetoric, grammar, languages, and poetry. Even though he employed the term "universal learning" several times, there was still the implication that he meant natural knowledge through the study of mathematics and science.\footnote{Wotton, Reflections, 80.} Because natural knowledge was, according to Wotton, the "real" and "universal" knowledge, science was the best method for learning. The new philosophy produced fact alone, and "these are Things which have no Dependence upon the opinions of men for their Truth"\footnote{Wotton, Reflections, 78.} All other learning was useless for this purpose as it depended on men’s minds.

Wotton’s organization of Reflections, although very different from Glanvill’s Plus Ultra, produced the same conclusions and posed the same threat to the humanists. Their ardor for the new philosophy along with the Royal Society, and their criticism of human learning with the suggestion for its subordination, indicated to the humanists that a danger existed to their world view, and therefore, to
their importance in the university. The humanists' reactions to the new philosophy writings indicate their acknowledgment of a threat and their attempt to thwart the new philosophers from diminishing the humanist perspective from the universities.

In 1669, Meric Casaubon received a copy of Glanvill's *Plus Ultra* from his friend, Peter du Moulin. As a result, he wrote a letter to du Moulin expressing his extreme dissatisfaction with the book and the author. While some historians view this letter as simply another work defending the ancients, Casaubon's tract cannot be categorized as a defense of relying solely on the ancients. Casaubon did not criticize the new philosophy but protested Glanvill's notion that all learning other than experimental philosophy was useless and impractical. He was defending humanist methods as an important and necessary aspect of learning rather than defending all the faults of the university system. Casaubon was willing to allow the new philosophers their own place in the universities, as long as his own was not destroyed.

Casaubon began his critique of *Plus Ultra* by stating that he was not attacking the Royal Society, to which Glanvill belonged, but only a few men in that organization. He also wrote that he was not attacking Charles II, the founder of the Society. In fact, Casaubon contended "That his majesty would so far encourage any kind of learning, as
not only to be the FOUNDER, but style Himself the Patron also of such a Society, is an act well becoming the magnanimity of a great king.” Casaubon clearly argued that the learning attained through the new philosophy was beneficial, and his grievances concerned the attitudes of a few, not the Society as a whole. His perspective indicates two things: Casaubon appreciated the purpose and works of the Royal Society concerning the new philosophy with regard to learning; however, he strongly disagreed with some of the opinions exhibited by members of the Royal Society as to how that learning should be conducted in the universities. As M.R.G. Spiller contends, “Casaubon’s criticism [is] not of science itself, nor of the betterment of our physical state that it can bring, but of the temper of mind which seeks to make scientific exploration the paradigm of all kinds of understanding.”

Casaubon’s criticism concentrated on Joseph Glanvill. He was insulted by the treatment of all learning, excepting natural or experimental philosophy, in *Plus Ultra*. He declared that the purpose of Glanvill’s book was to “cry

---


down all other studies and learning, ordinarily comprehended under the title of humane learning, to be umbratrick things, verbal things, of little or no use, since this new light of true real knowledge especially. The term of "true real knowledge" for the new philosophy greatly disturbed Casaubon. This terminology clearly excluded human learning as useful and profitable to mankind. Casaubon denounced these threatening advances of Glanvill and others.

In his letter, Casaubon upheld the humanist position with two primary arguments, the first being Religion and the second, usefulness. Analogous to the Interregnum defenders of human learning, he argued that the classics gave men a better understanding of the scriptures. Casaubon stated, "[Homer] doth not onely very much condue to the right understanding of many obscure places in Scripture, but also may be some confirmation to the antiquity, and by consequent, in some degree to the truth of the same." The knowledge and comprehension of the Bible was indirectly aided by the reading of ancient texts. Understanding the ancient texts, with their culture and language, led to a better understanding of the meaning, culture, and language of scripture. The history of the ancients, according to

---

40 Casaubon, A Letter, 5.

41 Casaubon, A Letter, 16.
Casaubon, also established outlines of history during Biblical times and supported the stories contained in the Old and New Testaments.

Along with Homer, Casaubon contended that Aristotle gave light to the scriptures and even unknowingly summarized the First Psalm in *Ethicks*. While claims that ancient texts supported and interpreted the Bible might have been slight exaggerations, Casaubon saw them as necessary arguments in the preservation of human learning in the universities. Casaubon employed religious reasoning not only because Christianity was a significant part of seventeenth-century society, but also because Glanvill attacked the study of ancient authors as jeopardizing Religion. For this reason, it was imperative for Casaubon to convince his readers otherwise, by any method he deemed necessary.

In his argument regarding usefulness, Casaubon combatted Glanvill’s censures of human learning. Casaubon insisted that human learning was both useful and propitious to mankind. He wrote that between the soul and the body, the soul was more significant concerning the welfare of society; it lasted longer than the body, therefore, more consideration should be spent on the care and improvement of

---

the soul. Casaubon contended, "had Aristotle never written anything but his Ethicks, (that incomparable piece) he deserved the thanks of all ages."\textsuperscript{43} In answering the accusations of the new philosophers concerning the study of classical literature, Casaubon stated, "I... am very confident that where the reading of such authors is out of fashion, barbarism and grossest ignorance will quickly follow."\textsuperscript{44}

Furthermore, Casaubon stated that studying the liberal arts was more useful in the universities for the purpose of becoming wise than, "attending on furnaces, or raking into the entrails of men, or beasts, to find somewhat, which it may be will never make them much wiser when they know it, nor ever prove any great use."\textsuperscript{45} In order to save a world view, Casaubon utilized the same extreme, aggressive accusations as Glanvill. At one point, Casaubon turned the situation around and contended the study of science, "to have much more of pleasure and curiosity in it then use and profit."\textsuperscript{46} Nonetheless, Casaubon still recognized the usefulness of science, as long as human learning was not

\textsuperscript{43}Casaubon, \textit{A Letter}, 6.
\textsuperscript{44}Casaubon, \textit{A Letter}, 15.
\textsuperscript{45}Casaubon, \textit{A Letter}, 24.
\textsuperscript{46}Casaubon, \textit{A Letter}, 31.
neglected, "Hitherto nothing hath been said to impair the credit or usefulness of Natural or Experimental Philosophy: but that we would not allow it to usurp upon all other learnings as not considerable in comparison."47

Most historians have neatly pegged Meric Casaubon as a category of defender of the Traditional system of learning, along with other "ancients." Here it is clear that Casaubon was willing to co-exist with the philosophy, but not to the detriment of human learning. His tendency to argue the extreme case was used as a device to combat the exaggerated and erroneous claims of the new philosophers, and should be viewed as such.

Sir William Temple in his essay An Essay upon Ancient and Modern Learning (1690) was an extremist in his defense of human learning, more so than Casaubon. The structure of Temple’s essay, while not a strict comparison of the old and the new like Wotton’s book, contrasts ancient and modern learning. Most of the essay was devoted to evidence in support of the usefulness, genius, and superiority of the ancient authors. His, like Casaubon’s, was a response to Glanvill’s Plus Ultra. Rather than arguing like Casaubon that the new philosophy was beneficial and equal to human learning, Temple immoderately contested that ancient

47Casaubon, A Letter, 30.
learning was indeed superior to modern learning.

Samuel Monk and other historians have been quick to point out Temple's ignorance of and indifference to scientific matters. However, it is important here to remember that Temple, as a humanist, was attempting to safeguard the ideals of humanism in the universities, and in doing so it was unnecessary for him to be knowledgeable in the details of scientific endeavors. Although his methods of defending the humanists' standing in the universities were ill-conceived and at times even erroneous, he recognized the threat that the new philosophy posed to human learning and attempted to fight for his learning and ideals.

Temple posed two main arguments in his essay. First, he denied that knowledge accumulated with time and therefore men of the seventeenth century were necessarily more knowledgeable than their predecessors; and second, he contended that detriments to modern learning existed in his society.

Temple began his work by disputing the current contention that the moderns had more knowledge because their knowledge was effectively the ancient and modern combined. He asserted, "but I cannot tell why we should conclude that

---

the ancient writers had not as much advantage from the knowledge of others that were ancient to them, as we have from those that are ancient to us."49 He believed that the classical authors had just as much combined knowledge from their predecessors as the moderns of his time did.

A common analogy during the seventeenth century was to portray the moderns as a dwarf standing on a giant's (i.e. the ancients') shoulders. As the dwarfs saw farther than the giants, so did the moderns know more than the ancients. But Temple maintained that "if we are dwarfs, we are still so though we stand upon a giant's shoulders."50 Simply because the dwarf was taller than the giant, being on his shoulders did not indicate that the dwarf necessarily viewed what the giant did or interpret objects in the same manner. While the moderns had access to ancient knowledge and all later knowledge, they were not more intelligent or superior to the ancient and their learning.

Yet another example of Temple's insistence that the moderns were certainly not superior to ancient learning the

49William Temple, "An Essay upon Ancient and Modern Learning" (1690), in Five Miscellaneous Essays by Sir William Temple edited by Samuel Holt Monk (Ann Arbor: The University of Michigan Press, 1963), 38. Temple also reiterated this point throughout the text: "the advantages we have from those we call the ancients may not be greater than what they had from those that were so to them," 49.

difference in time. The ancients existed centuries ago and their learning and knowledge was still respected and taught, while the moderns had been in existence for only a relatively short period. Who could say, Temple queried, if the moderns’ learning would be respected many centuries later? As Temple stated, "A boy at fifteen is wiser than his father at forty... and the modern scholars, because they have, for a hundred years past, learned their lesson pretty well, are much more knowing than the ancients their masters." 51

Temple’s second argument against the intrusion of the new philosophy into the academic world concerned the damage modern learning inflicted on traditional learning. His first criticism was of pedantic men. Temple claimed that their "sufficiency," or arrogance, injured scholarship by turning men against learning in general.52 Temple despised the arrogance of the moderns, and their assumption that human learning should be subordinate to the new philosophy. Temple stated that the new philosophers’ beliefs of superiority came from their own ignorance, "when he has looked about him as far as he can, he concludes there is no more to be seen; when he is at the end of his line, he is at

the bottom of the ocean; when he has shot his best, he is sure, none ever did nor ever can shoot better or beyond it."

Another hindrance to learning, Temple maintained, was the failure of most monarchs to encourage true learning. Temple claimed that "in the beginning" learning was championed by Henry VII, Charles V, and Francis I. These were the kings when the ideals of humanism first became strong in the universities. Temple opposed what Casaubon thought was admirable—King Charles II's establishment of the Royal Society. Temple felt it was more commendable to contribute to human learning than to promote the new philosophy and modern learning.

Lastly, Temple censured the new philosophers for not achieving more with the knowledge they had access to. While the loadstone was the greatest invention in recent centuries, and the greatest improvements had come in the field of navigation, he claimed that the moderns had not made nearly as much progress as they should have with the compass. The ancients excelled in navigation, although not to the contemporary extent, and they only had the use of the stars. Temple asserted that since the restoration of the

---


arts and human learning, the moderns had failed to make exceptional additions to the knowledge of the ancients. As a result, modern knowledge and learning was essentially inferior to that of classical, traditional learning.

Although Temple was not thoroughly correct in his analogies nor in his claims that the new philosophers were inherently inferior to the ancient authors, he was adamant about both issues and about defending human learning in the universities. Because the new philosophers claimed superiority over traditional learning, the humanists thought it essential to refute scientific preeminence and maintain their own dominance. Temple's essay indicates a strong desire to preserve human learning and the humanist attitudes in the universities.

From 1660 to 1700, the learning controversy culminated in a battle between the new scientists and the humanists. During this period the humanists responded to what they viewed as deleterious advances by the scientists to subordinate human learning to the new philosophy. Their arguments of usefulness and superiority were meant to counterbalance the scientists' charges of the worthlessness and vanity of human learning and their own superiority in the search for the "real knowledge." The arguments of Temple and Casaubon were somewhat defensive and poorly stated at times, as were the contentions of the scientists.
This late seventeenth century controversy was not simply a matter of the ancients versus the moderns. It was the disputation over which position should command the universities.
Conclusion

The close of the seventeenth century did not bring the end of either the ancient and modern controversy or the issues debated in the Temple-Casaubon-Glanvill Wotton controversy. Jonathan Swift, a protege of Sir William Temple, continued the polemics into the eighteenth century with A Tale of a Tub and Battle of the Books. Both works were satires directed at the perceived threat of the new philosophy toward ancient scholarship. The controversy never completely ceased, and in some ways still continues today between the liberal arts and the hard sciences.

The conflict between the humanists and the scientists from 1660 to 1700 was a segment of the ancient and modern dispute. More importantly, the debate concerned the humanists' defense and protection of their world view. Whether the new philosophers and their advocates meant to intimidate the humanists or threaten their way of life, the humanists viewed the tracts in that manner. They associated the scientists' writings with the Interregnum attacks on learning by the radical puritans. Consequently, the humanist and scientist controversy is more than simply ancient versus modern; it was a continued response to the attack on learning that began in 1640.

This different approach to the seventeenth century
controversy allows historians to view the humanists in a more amenable light. The humanists' advocacy of ancient authority had begun, at least with Temple, to lean toward an extreme reverence. Nevertheless, their world view based on the classical model set by Cicero and others and the ideals central in the studia humanitatis were not detrimental to society or education. The humanists, as many historians have opined, did not oppose the new philosophy simply because it brought advancement to knowledge. In fact, the humanists questioned if the new philosophy actually did bring elevation of knowledge. Instead, the humanists contested the alleged merit of the new philosophy because they felt threatened by the claims of superiority of the scientists. Each group considered their knowledge better and more worthy of attention in the universities than the other. In this way, then, the controversy should not be termed "ancient versus modern," but rather "the classical world view versus the new experimental world view."
BIBLIOGRAPHY

PRIMARY SOURCES


Barrow, Henry. Pollution of Universitie-- Learning, or, Sciences (Falsly so called). London, 1642.


Glanvill, Joseph. *Plus Ultra: or, the Progress and Advancement of Knowledge Since the Days of Aristotle. In an Account of some of the most Remarkable Late Improvements of Practical, Useful Learning: To Encourage Philosophical Endeavours. Occasioned by a Conference with one of the Notional Way.* London, 1668.


Stubbe, Henry. *Legends no Histories: or, A specimen of Some Animadversions upon the History of the Royal Society... Together with the Plus Ultra of Mr. Joseph Glanvill reduced to a non-plus, etc.* London, 1670.


Thurman], Henry]. A Defence of Humane Learning in the Ministry: or, A Treatise Proving that it is Necessary a Minister (or Preacher) Should be Skill'd in Humane Learning. Oxford, 1660.


SECONDARY SOURCES


ARTICLES


Korsten, F.J.M. "Thomas Baker's Reflections Upon Learning."


Long, Pamela O. "Humanism and Science."


________. "Humanism and Scholasticism in the Italian Renaissance."
Vita

Tanya Christine Higgins was born on November 2, 1969, in New York City, New York. After moving many times, her family settled in Burke, Virginia, in 1983. Tanya entered Virginia Polytechnic Institute and State University (Virginia Tech) in 1987 and received her B.A. in history in May, 1991. She then entered the history graduate program at Virginia Tech in August of 1991 and completed the course requirements for the M.A. in April, 1993.

Tanya served as vice-president of the history honor society, Phi Alpha Theta, during her senior year, and president during her first year of graduate school. Under her administration, the Virginia Tech chapter won the Best Chapter Award 1991-92 from the National Chapter.

She has attended two conferences as a graduate student—Phi Alpha Theta Regional Conference and UNC-Charlotte Graduate History Association Annual Conference. At both conferences, Tanya presented the second chapter of her master's thesis.

In the Fall of 1993, Tanya will attend Ohio State University to work toward a doctoral degree in history.

[Signature]