Although the story of seventeenth century Cambridge is that of scholasticism—its flourishing, decline, and fall—the subject has been sadly overlooked and misunderstood.

The present study, therefore, tries to fill this gap by helping the reader to understand the actual temper of Cambridge academic living in the early seventeenth century. How useless were scholastic speculations? Were the students mere verbalizers? Do syllogizing and formal logic imply sophistry? Is the adverse criticism of Bacon, Milton, John Hall, and others as to the adequacy of the education offered at Cambridge representative and well-grounded? Had scholasticism at that time no champions? Is it true that “the philosophy taught at Oxford and Cambridge lifted itself no higher than that lowest step of formalism—a pseudo-Aristotelian logic”? What was a disputation like? What was a clerum?

In order to answer such questions fully, the author has gone directly to the students’ notebooks, commonplace books, tutors’ directions, thesis broadsides, commencement verse—in short, he has dis-
The Scholastic curriculum at Early Seventeenth-Century Cambridge

Books will be issued only on presentation of library card.
Please report lost cards and change of residence promptly.
Card holders are responsible for all books, records, films, pictures or other library materials checked out on their cards.
The

Scholastic Curriculum

at

Early Seventeenth-Century

Cambridge
The
Scholastic Curriculum
at
Early Seventeenth-Century
Cambridge

WILLIAM T. COSTELLO, S.J.
GONZAGA UNIVERSITY

HARVARD UNIVERSITY PRESS
Cambridge, Massachusetts
1958
For Bartley and Catherine Costello
I feel an immense debt of gratitude to the many people who share in the making of this book, particularly to my good teachers, in grade school and high school, in the Society of Jesus and outside it. I thank especially John F. Dempsey, S.J., who first encouraged me in English studies, and my professors at Harvard, who, like Howard Mumford Jones and George Sherburn, generously did not confine their teaching to the classroom. I shall always be grateful to Master Welbourne and the Fellows of Emmanuel for their gracious hospitality, and to the administrators of the Fulbright Program, which made possible the research. I thank Miss Kay Bolton of Newnham College, Cambridge, and the librarians of the University Library, Cambridge, and of the College libraries, especially Mr. H. S. Bennett of Emmanuel. My superiors in the Society of Jesus generously allowed me time and provided the opportunity to do the work: I thank here William G. Elliott, S.J., Leo J. Robinson, S.J., Harold O. Small, S.J., Henry J. Schultheis, S.J., and especially Francis E. Corkery, S.J., who pushed the work to publication. Mrs. Florence O'Brien of Gonzaga gave valuable assistance on the manuscript. Lastly, I thank my esteemed masters, Professor Douglas Bush for his encouragement and patient sympathy with my mistakes, and, above all, Professor Perry Miller, whom I acknowledge with humility and affection as my pater academicus.

W. T. C., S.J.
In the year of our Lord, 1600, when Elizabeth I was reigning and waning upon the throne of England, when Shakespeare was mulling over Hamlet, and when Jacobean pessimism, at least according to later weather analysts, was the forecast for the London area and Southeast England (with light to moderate hopes of a brave new world), the university at Cambridge snuggled comfortably along the Cam as she had since the far-off days of Henry III.

At the beginning of the seventeenth century, Cambridge could not have thought of herself as medieval, for everything she was and taught was part and parcel of a way of thinking and living that had been going on for centuries. By 1600, of course, the Reformation was a fact in England, but the trouble between the London Court and the Pope, while it had Cambridge theologians fighting over new terminology and ancient doctrines, had destroyed some of her very oldest foundations, and was keeping the members of certain families from coming up to the University, seemed not to disturb the philosophical and literary traditions which lay outside the fields of dogma and canon law. Popular historians, like Lytton Strachey, imply that the great change in English thought occurred with the Reformation. From our point of view, the significance of Henry's break with Rome and the gradual sundering of the Northern Island once again from Latin Europe would become apparent at Cambridge only during the course of the century just beginning in 1600.

The hundred years that span the gorge between the medieval world of St. Thomas and the modern world of Newton richly repay study from almost any point of view. Professor E. A. Burtt, for example, in The Metaphysical Foundations of Modern Physical Science (1925), Abraham Wolf in his A History of Science, Technology, and Philosophy in the 16th and 17th Centuries (1950), and, more generally, Meyrick Carré in Phases of Thought in England (1949) and Samuel L. Bethell in The Cultural Revolution of
the Seventeenth Century (1951) clarify the astonishing evolution of scientific thought which took place during the period. In the first volume of The New England Mind (1939), Perry Miller has re-created the fascinating spectacle of an entire intellectual culture in transplantation; Douglas Bush, with his usual wit and erudition, tells in his English Literature in the Earlier 17th Century (1945) the definitive story of the changes occurring in literature, while Richard Foster Jones in Ancients and Moderns (1936) gathers astonishingly diverse passages from the writings of the time to illustrate how mad could be the caperings of fools in the forest. Wilbur Howell (Logic and Rhetoric in England, 1500–1700 [1956]) brilliantly records two phases of the change. Basil Willey, finally, pondering in The Seventeenth Century Background (1934) the philosophical crosscurrents which buffeted letters, further points up the influence which changing ideas had upon events. These and others insist that the way of a man's thinking is the key to his action, that ideas are prior to politics, economics, and religious synod in explaining the course of events in this century of change.

The most important market of ideas is the university. To study intellectual change one turns instinctively to the institution, which, if not the sole manufacturer of ideas, is at least the most important distributor. Or, as Basil Willey puts it, our entire approach to reality "... depends upon our presuppositions, which in turn depend upon our training...." The history of a curriculum may be dull in comparison with the detailing of events in the forum or in the field, but these events, from the Middle Ages on, are largely shaped by men who have themselves been formed in the microcosm of the university.

Both English universities were profoundly affected by the changing ideas of the late sixteenth and early seventeenth century, though Cambridge seems to have been more disturbed than Oxford by the activities of those who had been her own undergraduates — of Isaac Barrow, Ralph Cudworth, Henry More, and Sir Isaac Newton — in the direction of change. It would be a mistake, however, to emphasize too much the difference between the two universities, either earlier or later in the century. In 1577, William Harrison treated the two universities as a unit, and, in 1602, Nicholas Fitzherbert could write that Oxford "... so resembles Cambridge in the method of instruction that the two universities may reasonably be rivals." As for later in the century, Oxford felt the kickings of her own infants and bore a Glanvill and a Locke as contemporaries of their revolutionary cousins in Cambridgeshire.
In general, however, Oxford seems to have left the scholastic world behind more gradually than did Cambridge.

Although the story of seventeenth-century Cambridge is that of scholasticism — of its flourishing, decline, and fall — there has been, except for Samuel Eliot Morison's brilliant chapters in The Founding of Harvard College (1935), no specific study of scholasticism at Cambridge. Explorations have been made, of course, into the area. In addition to such contemporary critical estimates as John Hall's An Humble Motion . . . (1649), John Webster's Academiarum Examen (1654), Seth Ward's Vindiciae Academiarum (1654) and Meric Casaubon's A Letter of Meric Casaubon . . . to Peter du Moulin (1669), there is Thomas Fuller's The History of the University of Cambridge, Since the Conquest (1655). Fuller's account is invaluable, since he writes from within the milieu, as anti-Aristotelian and sympathetic to the changes which he recognizes as taking place about him.

In the nineteenth century, George Dyer wrote his engaging History of the University and Colleges of Cambridge (1814), while Thomas Baker collected an immense amount of pertinent material in his meticulously copied MSS. Baker, preserved partly in the University Library, Cambridge, and partly in the British Museum. Building largely upon the Baker manuscripts, Charles Cooper in his Annals of Cambridge (1842–53) put together a sourcebook, which must remain the guide of stumbling steps. George Peacock, in his Observations on the Statutes of . . . Cambridge (1841), has documented his materials invaluably. Bishop Christopher Wordsworth's works on eighteenth-century Cambridge include much valuable seventeenth-century material.

Aside from recent histories of individual colleges, such as Master George M. Trevelyan's Trinity College: An Historical Sketch (1943) and A. L. Attwater's Pembroke College: A Short History (1956), little attention has been paid seventeenth-century Cambridge since J. B. Mullinger's Cambridge Characteristics in the Seventeenth Century (1867). When it is realized that Mullinger's little work was originally a prize undergraduate essay, his accomplishment is little short of astounding. The work, however, as Mullinger himself realized in writing his three-volume History of the University of Cambridge (1888), needed much revision and supplementation. Writing without the advantage of the intense medieval researches of the past seventy-five years, researches which he himself enthusiastically furthered in later life, he tends in his earlier work to look upon the Middle Ages as a cultural bell jar,
with scholasticism the evil force at the pump. Were he writing today, he probably would be among the last to assert that no good could come out of Stagira or to have looked down his nose upon pre-Cartesian philosophy as "... the barren employment on which for twenty centuries the human intellect expended its highest powers ..." 5

However barren scholasticism may have seemed to Mullinger — sometimes even in his later and larger history of the University — it was the pattern according to which young minds were shaped. Unless scholasticism is appreciated as the pattern of undergraduate (and postgraduate) thinking, it is impossible to understand seventeenth-century Cambridge or what came out of it. *Paradise Lost*, for example, can only be a half-opened book to someone who has not mastered the system of theology and philosophy which obtained at Cambridge during the first four decades of the seventeenth century, and which only little by little, *sensim sine sensu*, was left behind as decade piled upon decade.

It is difficult, however, to speak in terms of decades. Bits of Platonism appear while scholasticism flourishes, and salients of orthodox scholastic doctrine extend into the eighteenth century. Despite this, it is safe enough to say that, by 1640, hidden flaws in the scholastic structure had become gaping cracks: academic acts and exercises were not as well performed as forty years before, manuals had progressively replaced the guidance of the lecturer, and, finally, because of several outbreaks of the plague and the generally "troubled state of public affairs," 6 grace after grace was passed by the University Senate, canceling commencements and relaxing the obligation of attendance at scholastic functions. Next, under the pressure of the New Science, Cartesianism, and Neo-Platonism, coupled with the failure of any scholastic to arise and resynthesize the old with the new, Cambridge found herself toying with various compromises. Newer and even more radical departures demanded hearing, until, by 1700, little of the old scholastic core had been left untouched. By the turn of the century, the comfortable old world of qualities had been left behind for Newton's new world of quantity and Locke's new regimentation of mind. Another twenty years or so, and John Clarke would seriously advise his students that they need not go back beyond John Huss in their study of history. 7

Such a forgetfulness and misunderstanding of the Middle Ages, for which we have only begun to do penance, would not have been possible in the seventeenth century. The seventeenth-century
Cantabrigian knew, even if he disliked, his tradition. Certainly, he would not have been guilty of such innocent enthusiasm as one used to find for the "spirit of enquiry and wonder breathed by the Renaissance" into minds which had supposedly been blacked out for the centuries between Plotinus and Galileo. Neither would a seventeenth-century Cantabrigian have agreed unreservedly with Rudolph Metz's vision of Bacon as a St. George successfully fighting "... against the verbal controversies of scholasticism and its useless speculations, against the sophistries of the syllogism and of formal logic ...".

How verbal were these controversies? Were all scholastic speculations useless? Do syllogizing and formal logic imply sophistry? Is the adverse criticism of Bacon, Milton, John Hall, and others as to the adequacy of the education offered at Cambridge representative and well grounded? Had scholasticism at that time no champions? Should, or should not, a distinction be drawn between a quibbling methodology and a substantial doctrine, between degenerate commentators of the fifteenth and sixteenth centuries and the classic commentators of the thirteenth? Was ipsedixitism the prevailing vice, and is it true, as V. A. Huber, the historian of the English universities, charges, that "... the philosophy taught at Oxford and Cambridge lifted itself no higher than that lowest step of formalism — a pseudo-Aristotelian logic"?

In order to answer such questions fairly, an attempt is here made to look at scholasticism as it was actually practiced — the word is used advisedly — at Cambridge. Effort has been expended to ferret out and review the very concrete details as presented in students' notebooks, commonplace books, tutors' directions, thesis broadsides, and commencement verse; in short, for this work it was necessary to pick over the miscellaneous contents of the seventeenth-century student's wastebasket. Since special effort was made to concentrate on manuscript materials, there will be a corresponding neglect of many seventeenth-century figures — Bacon, for example, whose comments on the university curriculum are well known to the reader.

The contents of the seventeenth-century student's wastebasket were often fragmentary, nondescript, odd scribbles (literally scribbles!), demanding much sorting and further throwing away. Yet, out of these scraps a pattern begins to appear, and by a critical and interpretative résumé of these materials we may form some idea of the seventeenth-century mind as it was being shaped at the university.
In the pages following, therefore, a review will be offered of the forms and content of the scholastic curriculum at Cambridge, both undergraduate and graduate. A continuation of this study, it is hoped, will turn to the decay of this curriculum and to the compromises with the New Philosophy, to the ever newer and more radical departures, and finally, to the passing of scholasticism, when the system, which had maintained itself for so many centuries, is at last destroyed and all but forgotten.
I

THE FRAMEWORK
OF SCHOLASTICISM

The seventeenth century opened with Cambridge, inhabited by some two thousand students,¹ a fixed little star in a tight little scholastic cosmos. It was too soon, in 1600, for the discoveries of Kepler and Galileo, with their profoundly revolutionary philosophical implications, to have influenced the course of study established by the prudentia majorum nostrorum. If anything, the traditional scholastic framework was more firmly constituted by rigid² statute than ever, because, perhaps, as other traditions had been let go, academic traditions were a safe and uncontroversial link with the past.

How traditional was this scholastic learning, with its peculiar, all-pervading methodology, it is difficult now to appreciate. No system of thought had held its patent of monopoly for so long. Having taken birth and name from the Carolingian schools (ca. 800), whose first masters were Alcuin, Rhabanus Maurus, and Fredegis of Tours, scholasticism had come to maturity in the thirteenth century, had enjoyed four hundred years of affluent dominance, and was now settled to a respectable old age as the seventeenth century opened. For eight centuries it had been the learning of Europe, the mens franca joining Cambridge and Oxford to Salamanca, Alcala, Padua, and Paris in a republic of thought. Nothing would ever replace it, so it seemed, nor should anything be allowed to change the status quo.

That the scholastic status quo at Cambridge was undisturbed by the activities of the nonscholastic world, and that scholastic traditions were jealously to be guarded, is evidenced by the reform statutes of Elizabeth and James and by the directives of the University itself. In a petition for the reformation of St. John's Col-
lege (1588) there is renewed insistence on the performance of scholastic exercise by all "... in yr own persons... Because it is best for increase of learning, for the greater good of youth, for the state and benefit of the Coll..." In October of 1601, Cecil, an extraordinarily active chancellor, ordered the Vice-Chancellor to see to it that "... all dueties and exercises of learninge be dili-gently and duely performed accordinge to the Statutes & Orders of the Universitie..." specifying, "(1) In publique Sermons in S Maries Church. (2) In Lectures and Disputations in publique Schooles. (3) In diligent frequenting the same." In 1619, King James himself insisted on the status quo: "We commaund that no new erected Lectures or Sermons be permitted... to withdrawe Scholars from their attendance on the exercises of Learning, Lectures, Disputations, Determinations or Declarations, either publique or private." These reform decrees, far from showing a departure from scholastic traditions, demonstrate clearly that the authorities at Cambridge were to concern themselves not at all in changing a subscript iota of tradition but solely in improving the breed scholastic.

A system of thought with an eight-hundred-years-old name might be expected to have developed a special character. While historians of philosophy may disagree on the primary characteristic, all will concede that scholasticism, as received by the seventeenth century, retained three distinguishing marks: it was dialectical, Aristotelian, and highly systematized.

The dialectical character of scholasticism, that is, its concern with logic and logical formalities, its disputatiousness, was its most obvious — and, to its critics, most irritating — quality. This dialectical bent was due to the fact that the early schoolmen had at hand only the De Interpretatione of Aristotle, to which were added Boethius' translation of the Categoriae in the tenth century, and in the twelfth century the first book of the Prior Analytics, the Topics, and the De Sophisticis Elenchis. Thus, until the end of the twelfth century, the logical tractates were practically all that were known of the Philosopher's writings. Further, the struggles between the various strains of early medieval philosophy over the solution to the problem of the universal idea, the struggles, namely, between the exaggerated realism of the medieval Platonists, the nominalism of Occam, and the conceptualism of William of Champeaux (to which should be added the attacks of the Scotists upon Aquinas on ontological issues), had established a tradition of dispute. The typical scholastic was not
likely to be a sensitive thinker, pouring out his thoughts onto pages for others to read or not as they chose. He was rather a proselytizer for his own opinions, eager "to divide truth from error," to best his adversary here and now, to secure acceptance of his ideas by his disciples and contemporaries. He had a passion for enunciation, was forever expounding, defining, distinguishing, and disputing. The scholastics were before all else teachers, and their philosophy was intended to live, not in the library, but in the hurly-burly of the schools.

The second characteristic of early seventeenth-century scholasticism was the predominance of Aristotle. Even as late as the 1650's, James Duport was telling his students: "If at any time in your disputation you use the Authority of Aristotle, be sure you bring his owne words & in his owne language. In your answering reject not lightly the Authority of Aristotle, if his owne words will permitt of a favourable, and a sure interpretation." 7 Aristotelianism, however, was an acquired characteristic, and the early scholastics had raised many questions before Aristotle was available for the answers. Peter Lombard's *Four Books of Sentences* loom large in the history of scholasticism, not alone because they contain a sturdy marshaling of patristic opinion on dogma, but because in his explanations and comments he raised many problems of metaphysics and psychology, which began to flesh the dialectical skeleton. With the crystallizing synthesis of Aquinas, Aristotle's ideas of substance, accident, potency, act, nature, mode, motion, soul, matter, and form were absorbed into a philosophical system that, taking over the dialectical findings of the previous generations on the problem of universals, formulated a theory of ontology and of knowledge in new Aristotelian terms. This basic Aristotelianism received renewed emphasis at Cambridge in the reforms of Henry VIII. In 1535, in what amounts to the first rudimentary syllabus of study, the King ordered that the students of the arts be given the elements of dialectics, rhetoric, arithmetic, geography, and music "ex purissimis earum artium scriptoribus," admonishing Cambridge lecturers to use Aristotle primarily, and after him the new German scholastics, Rudolph Agricola, Philip Melanchthon, "... and men of this stamp." 8 By the same token they were to guard their students "... from the darkness worse than chimaera, from the frivolous 'quaestiuuncula,' and from the blind and obscure glosses of Scotus, Burleius, Anthony Trombeta, Thomas Bricot, [George of] Brussels and others of that pack." 9 Aristotle's premier dukedom was confirmed, in effect, by Elizabeth
in 1570, though she does allow earldoms to Plato, and even Pliny in ethics, and to Cicero as an alternate in dialectics. Aristotelianism, then, had become, and was still, the heart of the scholastic method and doctrine at the beginning of the seventeenth century.

The third trait of scholasticism was its cohesive systematization. Perhaps the greatest triumph of scholasticism was its welding of eclectic borrowings from Greek, Alexandrian, patristic, and Arabian sources into a whole, a summa, which could comfortably embrace philosophy, where reason was autonomous, and theology, where revelation was the norm. The systematic harmonizing of faith and reason avoided the pitfalls of fideism on the one hand, and the shackling of rationalism on the other. Where Francis Bacon separated reason from religion, and put the latter beyond the bounds of rational inquiry, the scholastics, notably St. Thomas, had pulled dogma into harmony with philosophical terms. The role of philosophy was to light the path for theology and, while cooperating, to maintain its independence. The hegemony exercised by revelation over reason during the Middle Ages was, in the main, beneficent: it warned philosophy where not to go. Revelation, for example, warned philosophy not to identify nature with person, while philosophy provided precise terms in which the concepts of nature and person might be expressed.

But this systematizing went further. Scholasticism, dialectical and highly logical in character, and cued by Aristotle, who was himself an eclectic, unified not only the two orders of faith and reason, but the several disciplines which make up the science of the two orders. As Nicholas Fitzherbert wrote (1602) in describing English university education: “It was a rule of our Ancestors, not to separate the Arts, which reason, nature and the general feeling had united . . .” The arts of rhetoric, logic, and ethics were harmonized with the sciences of metaphysics, physics, mathematics (including music), and law, while from the fonts of Scripture, the Fathers, and the Councils an organic theology was developed.

The fault of scholasticism lay not in its building so towering a skyscraper, complete to the last bit of wiring and plumbing, but in its failure during the fifteenth, sixteenth, and early seventeenth centuries to produce teachers who could maintain the structure as a totality and forbear tinkering with the details. Instead of busying themselves in absorbing new evidence, in reexplaining old findings, and in thinking out a larger synthesis, which could embrace the discoveries of the new learning and harmonize it all
with Aristotelian physics and, where necessary, with theology, the scholastics tragically entangled themselves in splicing wires and complicating circuits within the building. As a consequence, the seventeenth-century mind was heir to a system so oversystematized that its only escape was either to attempt a new synthesis by incorporating the new discoveries, to give up the struggle, or to branch off in a new direction. Some, like Suarez, did attempt restatement, but the result was only further bickering and confounded confusion. Others simply gave up and allowed scholasticism to become an empty form. A few branched out in new directions and found themselves in the modern world.

Before considering the doctrinal content of the scholastic system, we must look at the mechanical, formal part. Scholasticism cannot, of course, be understood without knowledge of its teaching, but it is the methodology, the external forms and practices which prima facie identify it.

THE LECTURE

The dialectical origins of scholasticism, the necessity of organizing the Aristotelian canon into manageable sections, and the aim of "cohesive systematizing" dictated the external forms of the scholastic method. The three chief scholastic exercises were lectures, disputations, and declamations.

Various scholastics had formed their lectures according to various moulds. Whereas Peter Lombard had used "books," "sentences," and "distinctions"; Aquinas "parts," "questions," "articles"; Scotus "parts," "distinctions," and "questions," all broke their treatises down to some final unit upon a specific phase of the subject. Aquinas, for example, begins Pars Prima of his Summa Theologica with "Question One. On the Science of Theology Itself." This question is divided into ten lectures, called articles, on such subjects as: "Article One. Whether in addition to the other sciences theological doctrine be necessary? Article Two. Whether it is a science? Article Three. Whether it is one science or many?"

The casting of the proposition into question form was not mere posing; the dialectician is always attacking a problem. Further, the demands of logic and the need of giving the student, who must get it all by ear, a retainable unit, requires subdividing on the part of the lecturer. Finally, the act of subdividing implies the showing of relationships, or of systematizing. Thus, the very shape of the lectures grows out of the scholastic temper.
This logical method continued in the lectures given at seventeenth-century Cambridge. Nicholas Felton, for example, divides his lectures (disputationes — ca. 1590) into questions and articles, logically organizing his year's work and passing from part to part with easy transition. John Balderston's notebook (ca. 1660) does not specify question and article, but the same kind of organization is evident, with each day's lecture centered about a specific phase of a larger, already organized, generic concept. In the ethical consideration of virtue, for instance, virtue is identified as coming under the category of quality, is divided according to its "subject," or the faculty (intellect, will, sensitive appetite) in which it inheres, and according to its object, or the direction of its operation (God, fellow man, the community at large). Each of these considerations suggests further subdividing, but always as controlled by a hierarchy of ideas.

This kind of organization, particularly on the part of an uninterested (and uninteresting!) lecturer, is likely to become wooden and crushingly boring. And there is evidence of neglect on the part of some lecturers at the turn of the century, who, "laying yr dutyes upon others, grow themselves to be idle, & gyven to play and pleasure, become factyous & busye in by matters . . . ." On May 19, 1602, Cecil, the Chancellor, sent up to the University a document pertaining to "Disorders in the University, contrary to the Statutes, & tendinge to the decay of learninge . . . ." in which he notes: "In the Universitie of Cambridge it is required by Statute, that the Lecturers in Schooles should reade fowre times every weeke in Terme. Some of them reade not fowre times in the yere, as it is said." How widespread was this neglect on the part of delinquent readers, we do not know. Both these criticisms are contained in documents demanding reform, a fact which suggests that, while there was neglect on the part of some, or even many, the institution of the lecture itself was still considered essential and worth preserving.

Still, it was almost inevitable that there should have been a falling off of fervor. The to-have-and-hold wedding of mechanical organization to traditional content had come to admit of serious impediment. With the invention of printing and the consequent proliferation of texts and commentaries, students no longer felt the old need of the master in the schools, who alone was in possession of the text, and who alone was able to expound meaning and relate context to context. It was no longer necessary to flock to St. Thomas at Paris or follow Abelard to Corbeil. Even more
recent masters were available in print, and to prepare oneself for
the disputations, it was simpler and more comfortable to repair
to a tutor's chambers and borrow his marked copy. Briefly, as
scholasticism, the philosophy of the schools, became more and
more the philosophy of the library, the lecturer in the schools
became correspondingly outmoded.

The lectures themselves were either public or private. The
public lectures (in scholis) were held under the auspices of the
University in the Old Schools, a series of buildings near the pres-
ent Senate House. Private lectures were those held by the college
in the dining hall, the chapel, or in a tutor's rooms. There were
by statute four public lectures a week in theology, civil law, medi-
cine, and mathematics, while lecturers in language, philosophy,
dialectics, and rhetoric were held to five lectures, "unless a feast
day intervene." 17 The lectures ran for an hour, from seven until
eight in the morning. Anyone who has experienced the damp cold
of a winter's morning at Cambridge will not want to look further
than to the early hour of the exercise, held in an unheated and
gloomy barn, for the falling off of attendance and "the uncumly
Hemminge & hauking at publick lectures . . ." 18 These early
morning faces had to show somehow how unwillingly they had
crept to the schools.

In the will (1611) of John Cowell, Master of Trinity Hall, there
is provision "towards the perpetuall maintenance of an logic lect-
ure . . ." 19 in his college. The will is important for two reasons:
first, an experienced and very able master expresses his faith in
the lecture system, and, secondly, he gives the details of its ideal
operation. Cowell's logic lecture was to be read "fower dayes every
week at the least in Term time, and two hours every day viz:
from six to eight in the morning . . ." The first hour "I will to
be bestowed in the examining the former days lecture, & in in-
structing the auditors, how to make use of logique by objecting
& answering one the other." This "repetitio," as it was called,
was to be followed by a "praelectio," that is, a second hour " . . . to
be bestowed in delivering a new lecture, in such deliberate man-
ner, that the auditors may take it by yr penn from his mouth . . ."
Extending the lecture to two hours and joining it to the repetition
was a step in the right direction, for heretofore student participa-
tion seems to have been largely confined to separate disputations
and discussions with one's tutor or chamber-fellow.

When Cowell speaks of taking down the lecture by "penn from
his mouth" he is describing the practice called "diting." The ad-
visability of taking literal notes had long been discussed. At vari-
ous times it had been both recommended and forbidden at the
University of Paris, and, in 1593, Father Possevinus, the authori-
tative Jesuit commentator on his Order's famous Ratio Studiorum
(Plan of Studies), had frankly discussed the disadvantages, though it was a prescribed practice among the Jesuits. On the
English side of the water, and particularly in Scotland, the slav-
ish copying of notes was looked upon with disfavor. In 1648, the
Commissioners of the Scottish universities, meeting in Aberdeen
to suggest reforms, condemned diting and recommended changes
in the direction indicated in John Cowell's will, that is, toward
LESS lecturing and more repetition. They ordered that "... un-
profitable and noxious paines in writeing be shunned... and
that the Regents spend not too much time in dyteing of their
nots... that everie student have the text of Aristotill in Greek,
and that the Regent first analyse the text viva voce." Further,
they insisted that no new lesson be taught until the previous les-
on had been examined and repeated. Their solution to diting,
however, was merely a printed set of notes: "It is fund necessar
that ther be a cursus philosophicus drawin up be the four Univer-
SITIES and printed..." Thus, the change in lecture method
is linked with the availability of printing, and the time is at hand
when the lecturer will comment upon the cursus or manual rather
than upon the text of the Philosopher.

THE DISPUTATION

More peculiar to scholasticism than the lecture was the dis-
putation, a debate between students on the matter learned in the
lectures or privately from tutors. Like the lectures, the dispu-
tations were either public, in the schools, or private, within the
colleges. Within the colleges, disputations were held frequently
and informally (sineulla praefatione). At Trinity College, for
example, disputations were held thrice weekly in chapel, on Mon-
day, Wednesday, and Friday, either in Philosophy or Theology.
Sophisters (those who had not reached bachelorhood) disputed
on rhetoric, dialectics, and the problems of Aristotle. In com-
parison with the public disputations, which will be described
presently, the college disputations were friendly little affairs,
where, if the student had stuck at a problem, the moderator first
asked about among the students for a solution, then answered
himself: Quod si Respondens argumentum dissolvere nequit, tum
Moderator requirat eius solutionem ab altero vel tertio. Quod si
As for University requirements, the student had to appear four times in the schools during his four years as an undergraduate, twice as answerer or defendant, twice as objector. These statutory appearances, called *quadragesimals*, were made in Lent: "From Ash-Wednesday, unto the said Thursday, all the Commencers (except some few whom the father shall think fit to dispence with) are to come to the Schools upon every Monday, Tuesday, Wednesday, Thursday & Friday, at one of the Clock in the Afternoon, & to bring thither with them every one a Sophister." These sessions lasted for four hours, "from one of the Clock until 5 in every of the said Days: during all which time the said commencers are there to be ready to defend 2 or 3 Theses, which they themselves shall make choice of, & deliver unto those Bachelors of Arts, not of the same College, who shall think fit to come thither to reply upon them."  

English education was as sensible then as it is now, for modern tea at Cambridge had a sanctioned ancestor during these disputations, when "[e]very Day at 3 of the clock all the Bachelors & Sophisters may goe out till 4, & refresh & recreate themselves." At four o'clock the Proctors checked them in again. Presently, while "[t]he Commencers & their Sophisters are disputing & wrangling there . . . the clock strikes 5, & then they knock off & goe to their several Colleges."  

To call these disputations merely debates between students—as we have done—is like describing a Spanish bullfight as the killing of a cow. To the twentieth century the disputation is as exotic a performance as a bullfight to a non-Spaniard. The maneuvers of the disputants were as technical as the veronica and half-veronica; the audience was as critically appreciative; the ceremonial was as elaborate. And success as sought for! Fame and fortune often depended upon the disputants' skill, as when Lancelot Andrewes was launched upon his career by beating a colleague to a Pembroke fellowship.  

Particularly is this true of the disputations held on the eve of Commencement Day and on Commencement Day itself (*in vespéris comitiorum* and *in comitiis*), or upon special occasions. An elaborate ceremonial surrounded these events. The esquire be-dells, university functionaries who still attend the Vice-Chancellor, carry the maces, and act as masters of ceremonies in top hat and gown, formed a procession to conduct the Professor and his disputaturient students from the college to the schools. As Es-
quire Bedell Stokeys describes the rubric: “At on of the Clocke att after none the Bell Rynger shall ryng to the Dysputatyon (out of Lent) & in Lent at ix. of Clocke in the morning the Bedyll shall sett the Doctour to the Scholys, hys Responsall [the defendant] & the Opposers going as is before sayde . . .” 81 that is, “. . . the Bedellys going before hym, & his Responsall next him barehede, & all other Opposars folowing after there senyoryte.” After this dignified procession had wound its way down Petty Cury and across Market Square, or perhaps from St. John’s along Trinity Street, or from Peterhouse along King’s Parade, there was a pause at the doors of the schools, “. . . when . . . the Be-dellys shall say, Nouter Segnour Doctour, bona nova, bona nova [good news, good news] . . .” 82 The several actors now proceed to their places and “. . . whan the Doctour is enteryde the chayer, the Responsall shall enter hys stall . . . & make Cursy to hym, & after turne them to the Responsall, & make Cursy to hym, sayng, Gratias ago vobis.” 83 The bows and formalities were an essential part of the liturgy, and notice is taken at Oxford, in 1592, of “. . . one Mr. Sidney,” who in the heat of disputation before the Queen, “. . . forgat his conges [the three customary bows], used no speech at all to hir Maj. 84, but dealt with the Answerer, as though hir Maj. 84 had not been there.” 85 The incident shows, beyond the need of comment, how formal these affairs could be and how seriously the disputants took them.

The bowing and curtsying over, and “all beeing thus placed Mr. Vice-chancellor (if hee bee a divine) doth moderate this divinitye Act, & begineth with a prayer . . .” and after the prayer “. . . he maketh a short speech . . .” 85 The moderator of the disputation was an autocratic umpire. In Bishop Overall’s own hand there is an account of his resentment at what he thought a high-handed interruption of his disputation: the moderator not only interrupted, but injected his own opinions into the matter and promised to back them in a disputation of his own. Overall is furious when he writes: “[Hic] moderator (Dr. Playfere) abruptit orationem mea in hunc modum; Habenda est mihi ratio non solum temporis sed etiam Caritatis Dei, nam quae a te dicta sunt nullo modo probari possunt, nec velim probari gravissimis hisce viris, nam aperte repugnat verbo Dei, et virtuti sicut postea in determinatione mea (Deo volente) demonstrabo . . .” 86 No translating can convey Dr. Playfere’s righteous indignation or young Master Overall’s angry account.

The moderator’s speech was supposed to provide a kind of elu-
cidation of the question under dispute. These speeches and the speeches of "Fathers" (patrons of the defendant, who customarily gave preliminary treatments of the question) abound in manuscript in the Cambridge University Library and in various college libraries. Typical of these moderator's speeches is one found in a student's notebook preserved in St. John's College. The occasion (September 24, 1629) is special, a philosophical disputation held in honor of the Earls of Holland, Warwick, and Montgomery, who were present. The moderator (one Master L.fove) begins his address with flowery references to his distinguished audience (the Earl of Holland is Chancellor at the time), and at last comes to the point by announcing to "their highnesses" that the respondent will defend the following three positions: the production of the rational soul involves a new creation, the origin of well-water is the sea, and an hereditary monarchy is better than an elective one. Master Love's formal and uninspired speech becomes fatuous when, with respect to wells, he remarks that no question can be deeper or more liquid. After this bit of joviality, he observes that he seems to be going on too long, for "he who would rightly rule others (say the Stoics) must first rule himself, and I who must moderate others today, must first of all keep myself in hand." It may be noted here that the moderator in these formal disputations was always a don, though in the schools during Lent the moderator needed to be only an academic grade above the disputants: "... any Bachelor or Commencer may moderate whilst 2 Sophisters dispute. And any Bachelor may moderate while any Commencer disputeth." At any rate, after the moderator has had his say, "... hee de-syreth the Father to beginn ... ." The Father, or academic patron, makes a short speech on his pupil's behalf, then "... calleth up the Answerer [his pupil], who after his prayer readeth his position." During this very brief statement on the side of the question he will defend, "the Bedles do deliver his verses to the Vicechanc. — Noblemen, all brs [bachelors] & to Oxford men et." These verses, whose intent is to give a literary introduction to the question, are usually good, solid, workmanlike Latin hexameters or elegiac distichs. Printed on broadside, most often in pairs corresponding to the two questions normally defended, the verses provide an excellent record of the problems disputed, even if Vergilian diction and references to Ovid considerably obscure exactness of thought. Readers familiar with Milton's Latin
verse, with his "Naturam non pati senium" (That Nature is Not Subject to Old Age) or his "De Idea Platonica quemadmodum Aristotelis intellexit" (On the Platonic Idea as Understood by Aristotle) in particular, will form an immediate idea as to the length and style of these efforts. The Milton scholar will remember that on July 2, 1628, writing to Alexander Gill and sniffing disdainfully at the recollection, the poet records that he had turned out some verses for a fellow student. Milton writes that "... a certain Fellow of our College who had to act as Respondent in the philosophical disputation in this Commencement chanced to entrust to my puerility the composition of the verses which annual custom requires to be written on the questions, being himself already long past the age for trifles of that sort, and more intent on serious things." These verses in their printed form Milton says he encloses with the letter.

A pair of verses that date about this time (ca. 1628), the text of which appears below, are particularly worth noting. First, they are one of the rare examples of Neoplatonism among these early seventeenth-century verses, and, secondly, they are written in a style and on philosophic positions not unlike Milton's own. In the first, on the thesis that all men naturally desire knowledge (Omnes Homines Naturaliter Scire Desiderant), the answerer runs through the classical commonplaces of the search for knowledge. "Who would not seek the Grecian springs, the streams of Apollo, or the honey to be found on the Hyblaean ridge?" he asks. Similarly, he continues, in our very bones there is this desire of wisdom. Atlas' shoulders ached as he sweated under the burden undertaken to learn of the ethereal poles. Icarus, Phaethon, Prometheus, Tantalus are symbols of the thirst which Nature plants in the human breast. The verses conclude with the customary restatement of the thesis. The second set of verses, distinctly Neoplatonic, adopts the position that truth is conformity of the thing with the mind. That the writer understands this in the Neoplatonic sense is clear from lines 19–20, where he states that God has hidden the ideas of things in the depths of the mind, and, with things as the measure, these germinating truths unfold (Ideas rerum Deus alta mente recondit, His quasi mensuris germina vera patent). Hence, he concludes, the Archetype (the universal form or original pattern) is the father of things, and beings his offspring; true progeny ought to relate to their Father.

Milton, writing (ca. 1628) on the Platonic Idea and satirizing Aristotle's understanding of it, says among other things: "Or
perhaps the human archetype is a huge giant, a tremendous figure in some remote region of the earth who lifts his head higher than the star-bearer, Atlas, to terrify the gods.” 45 The similarity between Milton and our student in ideas and reference may be only coincidental, but to find Neoplatonism (still not too common), expressed in better than average verse, offers a fascinating possibility.

But to return to the disputation itself. When the verses, such as we have just described, have been distributed and the answerer has delivered his brief introductory oration, “... the Father doth usually confute it, but very briefly: & then hee disputeth upon his sonne, who after he hath repeated his first syllogisme, doth endeavor to answer the objections the father used against it.” 46 This is still only preliminary skirmishing, the purpose being to put the answerer at ease and heighten the anticipation of the battle to follow.

In the only transcript of a complete Cambridge disputation as yet to come to light, one in which a certain Mr. Boyes was defendant late in the reign of Elizabeth,47 we possess the actual lines of the actors. The importance of the manuscript cannot be overstressed, since many references in Esquire Bedell Buck’s account are clarified by turning to it, where the words and technical maneuverings of the participants at last come to life.

In the first half of the disputation Mr. Boyes defends the thesis that threat of punishment is a sufficient deterrent of crime (Sufficit in rebus humanis scire locum esse in carcere). The Father, addressing his son as “doctissime Bois,” apologizes first that in the brief half-hour allotted to this first question (in hoc brevi semihorae curriculo quo circumscribimur) no one can expect him to enter into any profound refutation of so learned a son’s position. However, he does have one or two objections to the thesis which he wishes the learned Bois to dispose of. These objections he presents in strict syllogistic form, and, after Boyes’s cautious and inconclusive answers, the moderator calls the first opponent. The opponent gives a rather long, but excellent, Latin speech, followed by a series of syllogisms, to which Boyes replies one by one. The second opponent is then called up by the moderator, who in his turn engages in a long syllogistic scuffle as had the first opponent.

Before going through a point-by-point description of one of the lines of syllogisms in the Boyes disputation, we must digress briefly to gloss the chief terms and tactics used in these exchanges,
for here, in the logical thrusts and parries of Answerer and Opponent, is the heart of the disputation.

In every case, the opponent follows a carefully plotted line of syllogisms designed to trap the answerer into a position where he may be logically forced, step by step, into admitting the exact opposite of his thesis. The syllogistic presentation is mandatory, as James Duport says in his rules for students: "Dispute always Syllogistically, at least Enthemematically and as much as you can Categorically." But, the syllogistic attack was not to produce a cut-and-dried crop of logical forms. "When you dispute," admonishes Duport, "be sure you get the Arguments perfectly by heart, & take heede of that dull, cold, idle, way of reading Syllogismes out of a paper, for so one can never dispute with life and courage." Indeed, the "life and courage" which should characterize the good disputant demands that "... you ... thinke it not enough barely to pronounce, & propound your arguments, but presse them, and urge them, & call upon your adversary for an answer, and leave him not till you have one," though, "If your Antagonist answer right, say you are satisfied, and so passe on to another Argument." There was no disgrace in admitting that the answerer had stood firm against one line of attack, and the opponent could shift to another simply by announcing: "Arguo ex alio capite." Duport finally recommends, as befits a good Aristotelian, a middle way between timidity and heat: "In your disputations, be not too cold, & faint, nor yet too hot, & fiery, fierce, and wrangling ... a sober, calme, sedate deportment of speech, is best even in disputing."

When the opponent had soberly and calmly proposed his first syllogism, the respondent was supposed to repeat it exactly, a feat of memory and training which becomes automatic: "When you are Respondent, ever more repeat the syllogisme before you answer." Repeating the syllogism fixes the argument in the minds of the audience, makes sure the answerer has the point, and, incidentally, gives him a moment to think of a reply, which may be along one of several possible lines. The respondent may deny outright a premise, which the opponent will then have to prove — this was a delaying action sometimes used, though quite legitimate and sometimes necessary. Another — and by far the commonest — reply was to distinguish the meaning of any one of the terms (subject or predicate of a premise) of the syllogism in such a manner as to show that the conclusion of the syllogism invalidly follows from the premises or is harmless to the an-
swerer's position. Or, the answerer might retort, that is, turn the conclusion of the opponent's syllogism into a proof of his thesis. *In extremis,* the answerer sometimes got away with a "*Nego argumentum.*"

The usual course, as we have said, was to distinguish according to a prescribed form. "If you answer by distinguishing, propound both members of the distinction and then apply it." 50 For example, should the opponent propose the syllogism:

The good man is rewarded on earth.
But reward on earth makes eternal reward unnecessary.
Therefore eternal reward is unnecessary for the good man,

the answerer, having repeated the syllogism, might elect to distinguish the term "reward." He would say: "Adequately and inadequately. The good man is rewarded inadequately on earth, I concede. Adequately, I deny." He will then "counterdistinguish" 51 the term "reward" as it occurs in the minor premise, and conclude: "Under the above distinction I deny the consequent and the consequence"; that is, the conclusion of the opponent and the logical illation, or connection, of the argument.

After this very superficial summary of technique, we may turn back to the line of the second opponent in the Boyes disputation. The exchange is worth careful observation, not only because it shows in detail the method in operation, but also because the text, unique in itself, demonstrates how agile the actors could be. One can almost feel the tension of the disputants at certain points and fill in the murmurous applause of the audience.

The opponent begins, "soberly and sedately" enough, with the syllogism (we are translating freely):

Where knowledge of a thing suffices, experience of the thing ought more than suffice.
But even the experience of punishment is not sufficient deterrent.
Therefore, much less the threat of punishment.

The argument, an "*a minori*" or "*a fortiori,*" is answered by Boyes's denying the consequence of the major premise, that is, he denies that where threat is sufficient, experience ought to be more sufficient.

The opponent, held now to prove his major premise, rejoins with an enthymeme based upon a scholastic axiom: "The end of contemplation is action. Therefore, experience exceeds knowledge
The validity of the axiom, in general, Boyes admits, but he maintains that it holds only in matters "per se" (in themselves) laudable. The opponent immediately seizes upon the admission by asserting that punishment is "per se" laudable. "Not 'per se,'" insists Boyes. The opponent will prove now that punishment is "per se" praiseworthy.

Whatever is conducive to virtue is per se praiseworthy.
But punishment conduces to virtue.
Therefore, it is per se praiseworthy.

Boyes distinguishes, asserting that punishment deters from crime but does not conduce to virtue, an apparent quibble, but not so in fact. With a shout of glee, the opponent taunts: "I will slit your throat with your own sword (Tuo gladio jugulabo!)."

The audience grows tense. "Punishment," the opponent argues, "deters from crime. Therefore, it conduces to virtue." This argument, as the opponent expects, will be denied, because, as Boyes again insists, it is one thing to do good, another to avoid evil. The opponent now attempts to prove that the avoidance of evil is precisely conducive to virtue. For his proof he turns to Aristotle, not as an ipse dicens, but for a universally admitted logical axiom. "Probabo ex ipso Philosopho. The destruction of one contrary rears up its opposite. Therefore, what deters from crime conduces to virtue." The audience must have applauded the point.

But Boyes, too, has read Aristotle, and gets out of the corner by calling attention to the fact that, while the principle is true with regard to immediate contraries, good and evil are not immediately contrary, implying the doctrine that some things are morally indifferent (bonum et malum sunt quaeaeam αναφορά).

The opponent has reached the logical end of the avenue, but with a great show of "life and courage" he continues. "I progress thus (Progredior isto modo). The threat of punishment does not make for the happy man (homo sufficiens)." Boyes replies sharply, surely to the joy of the audience, "You are not progressing, but using another argument (Non progredieris, sed alia ratione uteris). Still, I deny the antecedent [statement]."

A series of syllogisms now attempts to show that fear of punishment destroys human happiness, because it destroys innate liberty. Boyes neatly defends his wicket, but finally the opponent bowls:
Natural liberty, say the philosophers, is to live as one pleases [the date, be it noted, is pre-Hobbsian].

But this liberty is bridled by the threat of punishment. Therefore, the threat of punishment is a bridle of natural liberty.

The syllogism has substance and Boyes has to distinguish the major premise. "I confess," he says, "that it puts a bridle on corrupt nature, but we are not disputing about that. I am talking about natura integra et incorrupta [human nature before the fall of man] as being in need of your bridle. The good hate sin out of the love of virtue. The evil hate it out of fear of pain."

Boyes has just made use of his prerogative of explaining a distinction. Sometimes, the answerer on his own initiative expounded the meaning of his distinction; sometimes, the moderator (never the opponent) would interject, "Explica!" if he thought the answerer was using an unusual distinction or one he (the answerer) did not understand.

But Boyes's opponent is a bulldog and will not be shaken off by a distinction on the various states of nature. He presses Boyes, affirming that any nature, corrupt or incorrupt, has appetites, and is, therefore, in need of bridle. Boyes blocks the punch by admitting that, "although there is no nature entirely lacking in appetite, still there are in human society those sterling characters who are strengthened in innate virtue by fear of punishment."

The opponent sees an opening and pounces: "Therefore, the good do not hate sin for fear of punishment!" "Nego argumentum," says Boyes.

Boyes is now getting into difficulty, for the opponent has a neat syllogism at hand.

Where several causes concur in an effect, the effect cannot be attributed to any one in particular.

But in all virtuous actions several causes concur.

Therefore, in these actions the effect cannot be attributed to any one in particular [i.e., to fear of punishment].

Boyes is being closed in. "But neither do I affirm," he says, "that virtue is to be attributed to a single cause."

"Therefore," the opponent immediately shoots back, "in human affairs the threat of punishment does not suffice."

Boyes clinches with a "Nego argumentum" (another denial of a subsumed premise, that is, a statement for which proof will be offered). The opponent hits with another enthymeme: "Besides the threat of punishment, natural goodness is required. There-
fore, the threat of punishment does not suffice.” Boyes’s answer that he puts natural goodness down as the foundation, while fear of punishment is related to those things which rest upon the foundation, is broken off by the moderator. The half-hour is up, and the account ends: “The thread of the argument being cut off, the moderator calls up the father to dispute on the second question.”

After the disputation upon the second question, the moderator would have dismissed the disputants with a “dismissal speech,” favorable, we are sure, to Mr. Boyes. Unfortunately, we do not have Boyes’s dismissal, but a contemporary dismissal speech, badly copied, will give us an idea of what the moderator would have said.

Mr. Chase die comitiorum 1628
Doctissime Resp. satis [disputatum] est. Macte pugiliatus [tuae potestatis], cuis specimina non vulgaria in hac celeberrima palaestra, hodierna: cù tot ac tantis athletis congressu praebuisti, exhibuisti. Te laudá tuarum legítima corona [ornatum?] dimitimus, liberamus.52

“Dismissed, freed,” Boyes would now treat all participants to supper.53

One may dislike the idea of training toward expert contentiousness—Lord Herbert of Cherbury in his Autobiography felt that the system “enables [students] for little more than to be excellent wranglers, which art, though it may be tolerable in a mercenary lawyer, I can by no means commend in a sober and well governed gentleman.” 54 Be this as it may, the disputation (always on a serious problem, such as that of Boyes) tried a student’s mettle far better than a written examination, gave the youth of the period a maturity and poise frequently remarked in seventeenth-century biography, called for the active participation of the student in the learning process, and, on occasion, provided superb entertainment.

In fact, the disputation was always the heart of official academic entertainment. The most celebrated such special performance took place in 1614, before James I. The King, who had been hunting at Newmarket, thirteen miles away, had progressed to Cambridge where a series of disputations had been arranged for him. Describing the acts, which were held in St. Mary’s, the University church, John Chamberlain wrote to Sir Dudley Carleton: “. . . the divinity act was performed reasonably well, but not an-
swerable to the expectation; the law and physic acts stark naught; but the philosophy act made amends, and indeed was very excellent.”

The answerer in the disputation on philosophy was Matthew Wren, uncle of Sir Christopher Wren and later Bishop of Ely, an extremely able student. Gossip around the screens, however, had picked John Preston of Emmanuel, the Admireable Crichton of his times, for the honor of defending before the King. When Preston was picked merely as first opponent, all Cambridge knew a battle royal was in store.

The question, “Whether dogs can make syllogismes,” sounds like an absurd scholastic quibble, until we remember that modern psychology laboratories are full of white rats in mazes. The disputants, however, took the matter seriously and Preston’s “... great and first Care was to bring his argument unto a head, without Affronts and Interruptions from the Answerer, and so made all his Major Propositions plausible and firm, that his Adversary might neither be willing nor able to enter there, and the Minor still was backed by other Syllogismes, and so the Argument went on unto the Issue ...” What is meant, of course, is that Preston used axioms or self-evident propositions for his major premises, and, in case Wren should not distinguish a minor premise, but elect to deny it, he had supplied himself with syllogistic proofs which would force Wren back onto the line he wished to be pursued.

But Wren was an able and honest respondent. For, though “... in disputations of Consequence, the Answerers are many times so fearful of the event, that they slur and trouble the opponents all they can, and deny things evident,” Wren met each argument head-on. Wren’s forthrightness and Preston’s skill had awakened the King’s interest, which had been flagging during the previous acts, where “... there was such wrangling about their Syllogismes, that sullied and clouded the Debates extreamly, and put the King’s acumen into straits.”

Finally, Preston got to his key syllogism. “An Enthimeme (said he) is a lawful and real Syllogisme, but Dogs can make them.” This was a “dead soldier” and Preston knew Wren would deny the minor premise. In proof of the minor, “He instanced in an Hound who had the major Proposition in his mind, namely: The Hare is gone either this or that way; smels out the minor with his Nose; namely, She is not gon that way, and follows the Conclusion, Ergo this way with open mouth.” We can imagine
how “[t]he instance suited with the Auditory, and was applauded, and put the Answerer to his distinctions, that Dogs might have sagacity, but not sapience, in things especially of Prey, and that did concern their Belly, might be nasutili, but non logicì; had much in their Mouthes, little in their Minds; that their lips were larger than their Understandings.” In other words, Wren was frantically scratching up dust like a hen in a chicken run.

Now occurs something quite unusual, when “... the Moderator began to be afraid, and to think how troublesome a pack of Hounds, well followed and Applauded, at last might prove, and so came in into the Answerer’s aid, and told the Opponent that his Dogs, he did believe, were very weary, and desired him to take them off, and start another Argument ...” Preston, however, knowing the moderator was unjustifiably interfering in the affair and smarting under his having been passed over in favor of Wren, “... would not yield, but hallooed still and put them on.” Whereupon, the moderator silenced him.

The King, however, who “... in his conceit was all the time upon New-Market Heath,” had become very much interested, stood up and told the moderator that he was not at all satisfied, since he had a hound at Newmarket which, having routed a hare and realizing it needed help, set up a baying which called the rest of the pack. The King wanted to know “... how this could be contrived and carried on without the use and exercise of understanding ...”

Preston, apparently, started to say something, but Wren beat him to the floor by protesting “... that his Majesties Dogs were always to be excepted, who hunted not by Common Law, but by Prerogative.”

Wren obviously had the last word and the whole affair ended gracefully when “... the Moderator [did] acknowledge ... that whereas in the morning the Reverend and Grave Divines could not make Syllogisms, the Lawyers could not, nor the Physicians, now every Dog could, especially his Majesties.” A footnote to this disputation is provided in a letter among the Hardwicke papers, which says that the Bishop of Ely, Lancelot Andrewes, was so delighted with the show that “... the same day ... [he] ... sent the moderator, the answerer, the varier or prevaricator, and one of the repliers, that were of his house [Pembroke College] twenty angels [gold coins] apiece.”

Andrewes, be it noted, included the varier among his bene-
ficiaries. The varier or prevaricator, as he was sometimes called, was an official humorist introduced into the philosophy disputation immediately after the "father’s" speech. The varier’s function was to play verbally upon the question under dispute. The product of these student punsters is usually shoddy, and, like undergraduate humor today, apt to stray beyond the bounds of decency. Another mark of these variers’ speeches, also common with modern undergraduate pronouncements, is the cruel disrespect paid to an unpopular don. Time and again official protests curb the enthusiasm of the varier. On May 8, 1628, for example, the Vice-Chancellor and heads of colleges, interpreting the statute “De Modestia,” decreed that “. . . prevaricators, tripuses, and other disputants should thereafter abstain from mimic salutations and gesticulations, ridiculous jokes and scurrilous jeers, at the laws, statutes or ordinances of the University, or the magistrates, professors or graduates.”

Examples of prevarication humor abound. One source is a manuscript in the University Library, Cambridge, in which is found the punning of one Mr. Vintner on the question “Whether celestial bodies are the causes of human actions.” In this typical varier’s speech, Vintner offers a completely inconsequential syllogism, puns on Aristotle’s being a star because of his De Coelo, calls Aquinas a meteor, and allows that the dons present may also be called stars, since, as the stars are the denser part of the heavens, so may they be called the denser part of the academic world. In contrast to such insulse and heavy-handed humor, we find in the same manuscript an excellent prevarication, headed: “Oratio habita a Domino Fuller Praevaricatore Cantab. Quaestio. An anima hominis sit rasa tabula.” Toward the end of his speech, the author inserts some delightful verses in medieval Latin, wherein he pretends that love is the only proper logic, cosmography, poetics, physics, and mathematics. The verse is graceful, whimsical, with only a breath of the risqué, which evaporates in the translating. The Latin is Fuller’s text.

<table>
<thead>
<tr>
<th>Sileant Thomistae</th>
<th>Silent, Thomists!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taceant Scotistae</td>
<td>Quiet, Scotists!</td>
</tr>
<tr>
<td>Scholastica turba</td>
<td>Mob scholastic</td>
</tr>
<tr>
<td>Nil dat nisi verba</td>
<td>Paraphrastic</td>
</tr>
<tr>
<td>Umbratiles quidditates</td>
<td>Words, nought else, can proffer.</td>
</tr>
<tr>
<td>Nec non et leves haecceiates [sic!]</td>
<td>Wet and shindy quiddities</td>
</tr>
<tr>
<td>Haecceitas [sic!] grata</td>
<td>Empty, light haecceities</td>
</tr>
<tr>
<td>Est uxor parata</td>
<td>These alone can offer.</td>
</tr>
</tbody>
</table>
Matrimonii per conjugata
Hic e logica vera
Et plusquam chimaera

The "thisness" which a student pleases
Is a wife, not barren theses;
This is logic true,
Not to fancy due.

Heliconem vocare
Mortuum mare
Non dubitarem
Nisi hic quasi spuma
Sit mihi Venus orta
Quam merito amare
Nos pegasii taderaet
Nisi alas praebereat
In negotiis procandi
Et arte amandi
Amasiam fingiare
Ad nullam attingere
Cosmographia e vera
Et plusquam chimaera

I would call the Dead Sea's barren
Wastes a Helicon, if thereon
Rose a Venus from the wave
(Provided I might be her slave).
To tour with Pegasus would bore me
Except the god with wings restore me
With a skill in trifling's kisses
And in art of loving's blisses
Why, I'd pretend the town Amasia
Had no coordinates in Asia!
Such cosmography is true,
And not to fancy due.

Lineas amoris
In centro cordis
Descriptas habere
Amicam in presente
Amplexus circumferentem
Semper retinere
Stillantibus verbis
Donec salvatur
Et bene molliatur
Roris instar in herbis
Hic poesis vera
Et plusquam chimaera

Poetic lines on love to keep
Delineated in the deep
And central heart, or to retain
Forever in embrace's chain
The present sweetling, till she be
Refreshed with whispers, endlessly
Rained down, and softened, as at dawn
The dew has drenched the yielding lawn.
Here is poetry and true,
Not to fancy due.

Est mihi domi
Filia promi
Philosophia naturalis
Hoc [sic!] e realis
Mea speculatio
Et contemplatio
Haec e physica vera
Et plusquam chimaera

I have at home a maiden fair,
Mistress of our frigidaire;
She, the only real to me
Natural philosophy.
She my sternest speculation
She my only contemplation.
This is physics true,
Not to fancy due.
Not all variers were as nimble as Fuller in gracefully "railing upon the point," and a final example from an eminent source shows a more typical heavy-handedness. The prevarication belongs to the worthy James Duport, who plays upon the subject: "Gold can be produced by chemical art." Duport qualifies as discreetly ribald when he begins: "Salvete . . . vos qui propter gravitatem videmini Patres, et vos qui propter levitatem estis . . ." Then, punning upon the Aristotelian principles of origin, that is, generation, corruption, and privation, Duport says that, while meretricious gold is produced by the act of generation, such gold is spurious and adulterate. Next, a pseudocitation from Aristotle: "... from the 100th Book of Meteorominerals, the chapter next after the last," is followed by a dig at the medical profession in syllogistic form: "Gold is produced either by art or by science. Yet, not by science, for it is easily produced without science, as in the case of a doctor, who, if he have practice, can produce gold without science. Therefore, it remains that gold is produced by art."

Another locus communis for the prevaricator's humor was papistry. Duport describes a series of experiments for the easy production of gold, the first being: "Let a man take a grain of merits, ten ounces of absolutions, six pounds of indulgences, together with a fascicle of reliquaries, oil, salt, saliva, well-mixt, and let all be poured upon the hair of a Cardinal and cooked together in holy water upon the fire of purgatory, which is kept going by the incendiary Jesuits by their spirit of sedition, and so boiled until reduced to nothing. Then will be extracted the finest gold by the art of chemistry." Finally, prevarication humor turned often enough upon the other university. On July 10, 1652, Master Morland of Wadham College, Oxford, turning the other's cheekiness, says: "The Cantabrigians call us Oxonians boys: we gener-
ously confess that the Cantabrigians are senile old men to rave so madly." 68

One last point concerning the disputations: the origin of the questions. Though nothing was fixed by statute, the custom had grown up of listing fifteen or sixteen questions for the quadragesimals, the privilege remaining with the student to choose either side: "Memri du yt ye Answerers have usually the Favour granted ym to choose ther position questions." 69 Sometimes, the students seem to have been free to choose even the topics themselves, as is suggested by an order of the Vice-Chancellor and Heads in 1614: "... Questionists and Sophisters have warninge to provide themselves of disputable and decent questions ..." 70 Indeed, how wide a latitude was enjoyed in electing a position to defend is best shown in the notebook of Lawrence Bretton (ca. 1605). Among a score of Aristotelian theses memorialized, there suddenly occurs the classically Platonic: "Animus cuiusque quisque" (The soul of the man is the man). But more startling than the enunciation of a Platonic thesis in a strictly Aristotelian environment is the forthright statement in the introduction: "That men are nothing else than their souls, only Plato among all the philosophers dared assert. This opinion is acceptable to me, not because Platonic, though Plato's authority carries more weight with me than that of any other philosopher, but because his opinion seems to me to approach nearer the truth ..." 71 Here is a student who not only eschews an authoritarian attitude, but is well enough aware of the implications of Aristotelian and Platonic differences to make a considered choice.

On occasion, the choice of questions, particularly at the ceremonial disputations, was dictated by external circumstance. For the bachelor's commencement of 1594, for example, "My L: of Essex [the Chancellor] sent down Philosophy Questions, written with his own hand, the wch were disputed at ye severall tymes." 72 The most dramatic external circumstance, however, occurred in 1615. On May 13 of that year, "certain Jesuits or priests, being to be conveyed from London to Wisbich castle," 73 happened to be lodged overnight in the prison atop Castle Hill in Cambridge. Word of their presence had swept through the colleges, whereat the undergraduates flocked across the river. It was a ticklish situation, which the Vice-Chancellor met by sending "all such young students as he saw there" back to their colleges, but not before the Jesuits had proposed a disputation on the three propositions (which they would, of course, oppose by upholding the negative):
(1) “The Protestant Church is the true Church of Christ”; (2) “There is no external and infallible judge in matters of faith”; and (3) “Faith cannot exist without charity, without which, however, Faith is the adequate cause of justification.”

The Vice-Chancellor replied to the Jesuits that he had no power from His Majesty to give leave for a disputation, “... which might give them occasion of stay, and cause a meeting of the students ...” But the wily Jesuits would not be put off. That night “they writ divers copies of the questions, and fastened them to boughs, and the next morning as they went to take boat for Wisbich, they threw them over Magdalen College walls ...” The upshot was that at the King’s coming to Cambridge the three questions, so curiously proposed, were disputed before him.

Such was the disputation, a strictly stylized and technical exercise, which grew out of the dialectical character of medieval scholasticism. So natural was it to the age, that it had found its way into literature under the medieval form of the imaginatio, or imaginary disputation, which might be described as a Platonic dialogue reduced to scholastic forms. The terms and practices of the disputation crop up again and again in Elizabethan literature, as, for example, in Greene’s The Honorable History of Friar Bacon and Friar Bungay. In Scene 9, Bungay, crestfallen, has just admitted that he is no match for Vandermast. Friar Bacon enters:

All hail to this royal company,
That sit to hear and see this strange dispute!
Bungay, how stand’st thou as a man amaz’d?
What, hath the German acted more than thou?

VANDERMAST: What art thou that question’st thus?

Much of John Heywood’s The Spider and the Fly (1562) is scholastic disputation. As for Shakespeare, the gravediggers’ scene in Hamlet, V, 1, is an expert literary adaptation of a scholastic prevarication, as is Touchstonian logic in As You Like It.

THE DECLAMATION

However dominant the disputation among scholastic exercises, there is a third exercise which was not dialectical, the declamation. Like the lecture and the disputation, the declamation was either public or private, held either in the university schools or in the colleges. The private declamation is the progenitor of the weekly essay now read to the supervisor in his rooms at both Cambridge and Oxford.
In essence, the declamation was a set speech, designed to show rhetorical and literary proficiency. It varied in length from two hundred words to several thousand, and might be on any subject from the meretriciousness of Penelope to the rumored suspension of Mohammed's corpse between two magnets. Most of the undergraduate subjects, usually enunciated in question form, are taken from classical antiquity, though one might declaim on some such question as whether or not spring be the most pleasant season of the year. But even in such a subject as the last, the student was supposed to parade his knowledge of the Latin and Greek poets, of Plutarch and Livy, Demosthenes and Cicero, Aristotle, Plato, Boethius, Pliny, Mela, et al. From such as these the student would have gathered suitable quotations into his commonplace book and arranged them under such headings as music, peace, war, potency, act, death, sin, virtue. In his gathering, the diligent seventeenth-century student was supposed to be a literary bee, for, as Holdsworth advises: "The reading of these [classical] books will furnish you with quaint and handsome expressions for your Acts to qualifie the harshness, & barbarisme of Philosophical termes." Commonplace books abound in the Cambridge libraries, some fully and carefully done, others perfunctorily and with scarcely more than the headings. Many a street in hell was paved with such good intentions as Simonds D'Ewes owns to: "... I spent a great part of this month (July, 1620) amongst other private studies in framing several scholastic heads, as physics, ethics, politics, economics, and the like, and inserting them into two great commonplace books I had newly caused to be bound up in folio; but this cost and labour, by my sudden departure from the University, was in a manner lost, those paper books remaining still by me with little or nothing inserted into them." A student who had faithfully filled his commonplace book, however, possessed a rich store when he went down from the university, and the allusiveness of seventeenth-century style is owed directly to his commonplace borrowing.

In the declamation, style was the important thing. Duport lists the qualities a good declaimer should have. "When you write Latine, let your stile be clear, & perspicuous, smooth, & plaine, & full, not darke, & clowdy, curt, crabb'd, & ragged, and let your stile be nervous, & vivid, & masculine, not inert, flat & languid." It would be difficult to select a better set of adjectives to describe good style, whether in Latin or English, in the seventeenth cen-
tury or the twentieth. And while the undergraduate efforts of Duport's students may seem awkward, stilted, and full of Ciceroonian tags, still, if one compares the earlier flights of the notebooks with the fluent performances of bachelors of divinity, one is bound to conclude that constant practice in declamation achieved its end.

The attitude of the declamer was quite different from that of the disputant. In the disputation, the student was an Ajax, ready to do battle with any who should challenge, while in the declamation he was the judicious and deliberate Nestor. "In your Declamations," warns Duport, "have a care you fly not out into the praises or dispraises of vertues or vices, or persons, knowing that when you declaime you are not in genere demonstrativo dicendi, but either in judiciali or deliberativo." 82 This, of course, does not mean that the student will not have organized his reasons in the most persuasive order possible. In another rule for the declamation, Duport says: "Let your Declamations, be filled, and condenset with Arguments, thick and threefold, and objections answered as fast as you can." 83 Milton's classically rhetorical Areopagitica, midway between an attack and an objective treatise, is a good (if long) example of a declamation. If Milton sometimes departs from Duport's recommended judiciousness and deliberation, he is simply ceasing for the moment to declaim.

A highly specialized declamation was the Clerum (concio ad clerum or discourse to the clergy). The Clerum was a formal sermon preached to the clergy on set occasions, as, for example, "upon Jan. 12, being Pridie Termini," 84 on Ash Wednesday, and "upon the Tuesday Se'nnight after Easter Day." 85 The sermon, "... usually performed by one that intendeth to commence Bac: or Dr. in Divinity," 86 was in Latin, though by 1620, Jeremiah Dyke, who had taken his degree from Sidney Sussex College, could boast: "Our language is now growne so learned, that a man may Clerum in English." 87 In content, the Clerum regularly expressed the speaker's love and gratitude toward the University and exhorited the hearers to piety and learning in a tone much like that of the baccalaureate sermon in American universities. Indeed, the baccalaureate sermon at Harvard seems to have grown directly from the Clerums preached by commencing bachelors at Cambridge.

With the Clerum, mention should be made here of the "sermons," which are always listed in official documents along with lectures, disputations, and declamations as among the obligatory
"academic acts and exercises." In the context, "sermons" refer to those preached on feast days, anniversaries, on the death of royalty (oratio funebris), and so on, by one of the twelve University preachers annually chosen by grace (special decree): "Placeat vobis ut ii omnes, quorum nomina sunt infra scripta, sint 12 Praedicatorum hoc anno per Academiam emittendi . . ." Although there is nothing peculiarly scholastic about the sermons, and although, like the Clerum, they can hardly be numbered among the students' "acts," still they were considered an important part of Cambridge education in that theological age, and it is thanks to obligatory attendance and the practice on the part of the students of taking down the preacher's discourse word-for-word that early seventeenth-century sermons are still coming to light.

OTHER EXERCISES

In addition to the chief exercises: lectures, disputations, and declamations (to which we have annexed Clerums and sermons), reference is often made to two other statutable acts, the priorums and posteriorums. By our time these had degenerated into mere forms, though originally they had been serious oral examinations on Aristotle's Prior and Posterior Analytics. Cambridge seems to have borrowed these examinations in logic from the University of Paris, for in Bedell Stokey's Book the rubrical summons to these exercises began: "Alons, Alons, goe Mrs. goe, goe . . ." According to Bedell Buck's Book, the Father, usually one of the senior proctors, herded his questionists into the schools on a day appointed between admission and the following Ash Wednesday. The Father made a speech, at the end of which he asked of each questionist three or four perfunctory questions in logic. Having thus "entered his priorums or posteriorums," the student was able in good conscience to take the required oath that he had performed all and every exercise and act which the ancient statutes demanded. Strangely enough, the perfunctoriness of the priorums and posteriorums resulted from an excess rather than a defect of learning, for the seventeenth-century student had been drilled so thoroughly in logic that there was no need, except to satisfy the statutes, for a formal examination.

The rest of the scholastic acts sometimes met with in seventeenth-century studies are no more than matters of terminology. "Sophomes" refer to the disputations of sophisters, that is, undergraduates who had not yet commenced as bachelors. "Inceptions"
were specifically bachelors' disputations, just as "determinations" refer specifically to the disputations of the masters. "Quadragesimals," as we have said before, were simply the disputations held during Lent in the schools.

If the understanding of scholasticism were merely a matter of understanding a strange set of technical terms and a peculiar series of technical exercises, there would be no need, beyond mere antiquarianism, thus to have stressed mechanical forms. In addition, however, it is necessary to appreciate these forms as a vital influence on the scholastic mind itself, sharing importance with the doctrinal content, which we shall study in the following chapter. Lectures, declamations, and, particularly, disputations had been serious occupations of the university student, and it is impossible to understand such a phenomenon as, for example, the mid-seventeenth-century pamphlet war without understanding the mechanical workings of the mind which had been trained to insist on an answer to an answer of an answer. For, the pamphleteer of later life, who was so seriously disputatious in keeping his brother, had been told as a student: "Slubber not over your exercises in a slight and careless perfunctory manner, as if you performed them per formam only, et dieis [sic!] causa, but take paines about them, and doe them exactly both for your owne credit & good example of others." 90
After more than twenty years' experience with undergraduates at Cambridge, Richard Holdsworth sadly remarks that he has seen too many students "... grow remiss and careless in their studies, following them as it were but the half part, because they are ignorant how great a task they have, how many leaves and volumes to be turned over before they can justly deserve the name of scholar or a degree in the universities." ¹ Such students, he continues, "... linger and loiter like wanderers in a misty wilderness that know they have somewhither to go, but neither know whither nor how far nor to what purpose."

The direction, extent, and aim, the "whither, how far and to what purpose" of the curriculum, while dismayingly complex at the beginning of the journey, become clear as the journey progresses. The confusing jungle of logic, rhetoric, ethics, of metaphysics, physics, mathematics, and cosmography orders itself to a neat plantation, to the seventeenth-century student as to us, when the trees are looked at one row at a time and from the proper angle.

"Mental acts of whatever kind," says Newman, "presuppose their object." ² As the acts and exercises of scholasticism had been adapted by a mind that was logical, Aristotelian, and systematic, so the content of the scholastic curriculum, presupposed in treating the acts, shows the same logical, Aristotelian, and systematic mental habits at work.

The organization of the curriculum was basically logical, proceeding outward from the mind rather than ontologically from...
things first. In other words, the primary division of the curriculum into arts and sciences, and the subdividing of the disciplines into smaller and smaller fields—climbing down, not up, the Pythagorean Tree—resulted from a natural looking out and down from the knowledge process itself, rather than inward and upward from the world of things. This did not imply artificiality, since, according to the scholastics, the mind truly mirrors what exists outside itself: analysis and synthesis, they would agree, "... differ only as the road by which we ascend from a valley to a mountain does from that by which we descend from the mountain to the valley, which is no difference of road, but only a difference in the going." Hence, to have divided the curriculum primarily according to the mind's understanding of things, rather than according to things themselves, was only, but characteristically, a matter of method.

And not only was the curriculum a logical construct, but the connections for the construct came out of Aristotle as clearly as the doctrines themselves. Aristotle had ground the gears of the various disciplines to mesh long since, linking, for example, metaphysics, the science of being qua being, to physics, the science of movable being, to mathematics, the science of unmovable being, until, as the fifteenth and sixteenth centuries followed upon the thirteenth and fourteenth, the scholastic could feel that "reason, nature and the general feeling," thanks to Aristotle, had fitted together a comfortable and articulated whole.

Though beginners might be dismayed and some might linger and loiter too long as wanderers in a misty wilderness, most seem to have got the hang of the articulated whole. John Cole, in a student's notebook (mid-seventeenth century), preserved in the British Museum, shows the systematic nature of the curriculum. "The disciplines," begins John Cole, "which dispose man toward the understanding of things are two-fold: objective and directive." The primary division of disciplines, be it noted, concerns the disposition of the mind toward things, not of things toward the mind. His use of the terms "objective" and "directive" is based upon Aristotle as received through St. Thomas: objective, referring to science, and directive, referring to art. This scholastic division of the curriculum into the arts and sciences had been carefully rationalized. The arts, rectae rationes factibilium, were the right ordering of activity, or the right conception of things to be made, whether these were liberal, involving solely the mind, for example, logic, the "making" of demonstrations, or servile, involving the
body and ordained, as St. Thomas says, *ad opus corporis*. The servile arts, which were concerned with the operation of the body, were of two kinds: practical and fine, according as they were directed toward the production of the useful (agriculture, cooking, wine-making) or toward the production of the beautiful (sculpture, painting, illumination). The Middle Ages, however, drew not so fine a line, even theoretically, as we between the practical and the fine. A beautiful *operimentum* on a baptismal font performed a useful function, and a book of hours designed for daily use was beautifully illuminated.

As distinguished from the arts, which have to do with *action*, the sciences have to do with *knowledge*, the understanding of things through the discovery, analysis, and demonstration of their causes, reasons, principles, laws, and effects. "Scientia est conclusionum," says Aquinas. Thus, the object of theology or jurisprudence was not to do but to know, though these sciences might have application in the art of directing a penitent or securing a piece of land. And, while the art of logic necessarily involved a science of its operations, and the science of medicine was always ordained toward the art of curing, the distinction of the curriculum into activity and knowledge was a cherished dichotomy that the seventeenth century preserved.

Having divided the disciplines into objective and directive, sciences and arts, Cole treats first of the sciences. These objective disciplines, "which treat of things as we find them in nature, in so far as these things are the objects of understanding" (note the logical emphasis on things in so far as they are "the objects of understanding"), are principally four: theology, jurisprudence, medicine, and philosophy. Philosophy Cole subdivides into metaphysics, physics, mathematics (under which he includes the medieval quadrivium of arithmetic, geometry, astronomy, and music, plus optics), and finally, ethics. The inclusion of ethics among the sciences is not arbitrary with Cole, since he stresses the knowledge content of the subject. Ethics not only embraces the general considerations of virtue, happiness, justice, and so forth, but, following Aristotle's distinction in Book I of the *Política*, also considers the principles of government, whether domestic (*Oeconomica*) or public (*Política*). This last subdivision of ethics, politics, includes history, both military and diplomatic.

The directive disciplines, the arts, do not inform the intellect, says Cole, but "prepare its operation" and direct it according to certain norms. "Directivae autem sunt quae nó tractant res ipsas
cognoscendas, nec hōmis intellectum rebus ipsis informant et perficiunt, sed eius operationem quamdā praeparent, certis normis et instrumentis dirigunt et ordinant." When Cole speaks of the arts as providing a "preparation of the intellect," he is merely expressing the universally held belief in the transfer of training, that is, that training or habituating the intellect along one line of operation will carry over into other lines of operation. Simply, an intellect trained to think logically will attack anything in a logical manner, from a language or a branch of mathematics to a court case or a new disease. The point here, regardless of whether or not we agree with such an educational psychology, is the fact that to Cole and his contemporaries the received curriculum was a marvel of integration.

After giving us his definition of the arts, Cole lists the principal operations of man which may be considered directive disciplines. These fall under two categories: significatio (communication) and intellectio (reasoning). Cole, citing specifically Aristotle's De interpretatione, cap. 1, says that the communication of ideas (cognitionum significatio), occurring through the mediums of speech and the written word, is directed by the disciplines of grammar, rhetoric, and poetry. These three disciplines, as we shall have reason to note later, were often enough fused, together with history, cosmography, and other nonphilosophical sciences, into a general study called "rhetoric." Rhetoric, the art of eloquent communication, included, informally, history, poetry, drama, epistolary prose, classical geography, ethical dialogues, and readings in sacred scripture, in so far as these were the sources of ideas and the models of the phraseology which the eloquent man must master.

In contrast to communication, cognitionum significatio, is reasoning or intellectio, "that divine mistress, logic, which deriving its very name from intellect or reason (ἁποτο κοιλογιον), guides this highest operation of man and directs it against error, just as the art of woodworking guides the hand in producing its work." How this logic, or the art of reasoning, fits with the other arts and sciences we may best see by reducing Cole's tract to a diagram (p. 40).

Cole's view of the curriculum, logical in conception, Aristotelian and closely articulated, can be supplemented from many other sources: the University and College statutes, the directions of such tutors as Holdsworth, Duport, or Barnes, the personal memoirs of a D'Ewes or a Roger North, or such a comprehensive textbook as
Disciplines

Arts
(directive)

- Grammar
- Rhetoric
- Poetry

Sciences
(objective)

- Metaphysics
- Physics

Reasoning

- Logic

Jurisprudence

Communication

- Grammar
- Rhetoric
- Poetry

Theology

Medicine

Music

Philosophy

Metaphysics

Physics

Mathematics

Geometry

Astronomy

Music

Optics

Medicine

Philosophy

Ethics

Oeconomica

Politics

Military History

Diplomatic History

Cole's view of the curriculum
Bartholomaus Keckermann's *Systema Systematum* (1613). The distribution of time to be allotted to a subject, the order of procedure from subject to subject, and the texts assigned for a given subject changed considerably in the century from 1550 to 1650, though the curriculum as such was left unimpaired. On April 8, 1549, in his *Ratio Studiorum* (schedule of studies) for the arts course, Edward VI decreed for Cambridge that the freshman was first to apply himself to mathematics. As Edward's statute quaintly puts it: "Let mathematics greet him who newly comes from literary play (*Recens venientem a ludo literario excipient mathematica)*." Specifically, according to these statutes, the first year at Cambridge was to be devoted to arithmetic, geometry, and, as much as possible, to astronomy and cosmography. The second year belonged to dialectics, the third and fourth years to philosophy, that is, metaphysics, physics, and ethics.

In 1559, Elizabeth introduced a significant change in the *Ratio Studiorum* for Cambridge, a change that she confirmed twelve years later, in 1571, according to which the first year at the university was to be devoted to rhetoric, the entire second and third years to dialectics, and the fourth year only to philosophy. Elizabeth thus started the student on rhetoric rather than on mathematics, doubled the time to be spent on dialectics, and, instead of the two years allowed by her predecessor for philosophy, permitted the student only the final fourth year in philosophy. Though the Queen meant to legislate for posterity, and as far as we know allowed no change during her lifetime, her organization of the subject matter came gradually to be ignored, until, by 1618, we find Simonds D'Ewes pursuing a considerably different order of studies. D'Ewes recalls his studies under Master Holdsworth:

My other studies for the attaining of humane learning, were of several natures during my stay at the University, which was about two years and a quarter, although Mr. Richard Holdsworth, my tutor, read unto me but one year and a half of that time; in which he went over all of Seton's Logic, exactly, and part of Keckermann's and Molineus. Of ethics, or moral philosophy, he read to me Gelius and part of Pickolomineus; of physics, part of Magirus; and of history, part of Florus, which I after finished . . . also I perused most of the other authors, and read over Gellius' Attic Nights, and part of Macrobius' Saturnals. Nor was my increase in knowledge small . . .

D'Ewes thus informs us that during his year and a half under Holdsworth—presumably his first year and a half at Cambridge—he studied logic, ethics, physics, and "most of the other authors"
simultaneously, or, at least, without memorable distinction as to time. About twenty-five years later, ca. 1647, when Richard Holdsworth drew up his "Directions for Study," we may see exactly how this tutor had been directing D'Ewes' study.

Holdsworth, who as "... 4th Master of Emmanuel College, a Good Churchman, Good Scholar & Loyal Man, lost his Mrship 1643 for not taking the Covenant," and who had been, since his election to a fellowship in St. John's College in 1613, one of the most influential figures in Cambridge, was one of those who felt that the horizontal division of time according to subject matter was not for the best. Therefore, instead of dividing his students' time horizontally or according to subject, that is, according to rhetoric, dialectics, philosophy, and so on, Holdsworth made a vertical division of time, according to which he divided the curriculum into studia antemeridiana (morning studies) and studia pomeridiana (afternoon studies). Mornings (studia antemeridiana) were to be spent on philosophy: on logic and some ethics during the first year, on physics, metaphysics, and a continuation of logic and ethics during the second year, on philosophical controversies, Scaliger's De Subtilitate, Aristotle's Organon, Eight Books of Physics, and his Ethica during the third year, and, finally, on Seneca's Quaestiones Naturales, Aristotle's De Anima and De Coelo with commentaries. Aristotle's Meteorologica, and Marcus Wandelin's Theologica critica (1658) during the fourth year. The aim of these morning studies was to acquaint the student with the thought and method of scholasticism.

The aim of the studia pomeridiana was to provide the vehicle of expression. By putting his students through poetry, the precepts of rhetoric, a review of grammar, classical oratory, and history, Holdsworth inculcated the tricks of the ars dicendi and provided the exempla which would make for erudite and forceful exposition. Learning, without the ability to communicate it, is of little account; in his own words, Holdsworth insists that "... the Greek and Latin tongues, History, Oratory, and Poetry ... [are] ... Studies not less necessary than the first, if not more useful, especially Latin and Oratory without which all the other learning though never so eminent is in a manner void and useless. Without these you will be baffled in your disputes, disgraced and vilified in public examinations, laughed at in speeches and declamations. You will never dare to appear in any act of credit in your university, nor must you look for preferment by your learning only." Therefore, Holdsworth tells his students, they must spend their
afternoons mastering such things as Thomas Goodwin's *Roman Antiquities* (1614), Justinus' *Historia*, Cicero's *Epistolae*, the *Colloquia* of Erasmus, Terence, the *Mystagogus Poeticus*, Ovid's *Metamorphoses*, the Greek Testament, Theognis, Valla's *De Elegantia*, Vigerius' *Idiotisma* (1632), Cicero's *De Senectute, De Amicitia*, *Tusculanae Quaestiones*, and *De Oratore*, Florus, Sallust, Quintus Curtius, Virgil's *Eclogues* and *Georgics*, Ovid's *Epistolae*, Horace, Martial, Hesiod, Theocritus, Nicholas Causinus' *De Eloquentia*, the orations of Cicero and Demosthenes, Strada, Robert Turner's *Orationes* (1615), Quintilian's *Institutionum Oratoriarum*, Juvenal, Persius, Claudian, Virgil's *Aeneid*, Homer's *Iliad*, Cluverius' *Historia Generalis*, Livy, Suetonius, Aulus Gellius, Macrobius' *Saturnalia*, Plautus, Cicero's *De Officiis* and *De Finibus*, Seneca's tragedies, Lucan, Statius, and Homer's *Odyssey*. This minimum reading list by no means exhausts Holdsworth's requirements, but it will serve to illustrate the kind of leaves and the number of volumes which had to be turned over before a student could "justly deserve the name of scholar."

Having reviewed thus generally the undergraduate curriculum at Cambridge, we may turn with profit to a more specific study of each individual discipline, that is, to the arts of logic, rhetoric, and ethics, and the philosophical sciences of metaphysics, mathematics, and physics. Before coming to these, however, we must say a word about preuniversity training.

**PREUNIVERSITY TRAINING**

John Milton and John Hall have left the impression that the young student coming up to Cambridge in the earlier seventeenth century was immediately and mercilessly ground in the wheels of a harsh and unfamiliar logic. Hall says that the tender freshmen are "... racked and tortured with a sort of harsh abstracted logickal notions, which their wits are no more able to endure, than their bodies the Strapado ..." 22 Milton, whose Ramist prejudices, despite his ordinarily generous humanistic creed, made him a bitter enemy of scholastic university teaching, 23 criticizes the universities because "... they present their young unmatriculated novices at first coming with the most intellective abstractions of logic and metaphysics ..." 24

These criticisms need considerable qualification. First, according to the notebooks, Holdsworth's "Directiones," D'Ewes' autobiography, and the official statutes, the freshmen spent at least half their time on "rhetoric," that is, on poetry, history, the precepts
of rhetoric itself, classical oratory, and such. Secondly, logic was administered in graduated doses, and in no case do we find a freshman studying metaphysics. Finally, before he ever saw the University, the average student in the first part of the century was introduced to logic, either at school or under the guidance of a family tutor or a friendly parson.

Nicholas Ferrar, for instance, "... went to Enborn school near Newberry, Berks; & such a progress he made in Latin, Logick & Greek, as he was the prime scholar of his year." Sir Simonds D'Ewes says of his preparation for Cambridge: "I stayed with Mr. Dickenson, the schoolmaster ... he read privately to me a great part of Seton's Logic ..." Joseph Allein (1633–1669) at school "... attained to such a measure of Knowledge and Learning in Latin and Greek Tongues, that he was judged by his Master to be fit for the University: After which, he abode some with his Father; and a worthy Minister of the Place read Logick to him." In 1630, the eminent John Wallis states that he was sent to school to Mr. Martin Holbech, at Felsted in Essex. "I continued his Scholar for two years; and was by that time pretty well acquainted with the Latin and Greek tongues," he says, "having read divers authors therein (such as at Schools are wont to be read) and was pretty accurate in the Grammars of both." Wallis continues: "I learned there somewhat of Hebrew also ... And I was taught somewhat of Logick: as a preparation to a further study of it in the University." Finally, Roger North, in the life of his brother Francis, says: "After the doctor [Francis] left Bury school, he passed some time at his father's house before he went to the University, which time was not lost, for his father (according to the way he used with some other of his sons) read and interpreted to him a common logic, I think it was Molineus, with somewhat of metaphysics." That the above are representative cases is confirmed by paging through Clarke's Lives, where some such phrase as "fitted for Academical studies" (with Latin, Greek, and logic) describes the condition of his subjects before their going up to the University.

It will be noted from the above examples, sufficiently paralleled in Foster Watson's English Grammar Schools to 1660 and T. W. Baldwin's superb William Shakspere's Small Latine & Lesse Greeke, that not only were Latin and Greek studied, but logic as well. Indeed, the excellent secondary-school methods of such masters as John Brinsley, who wrote his Ludus Literarius in 1612, and Charles Hoole (New Discovery of the Old Art of Teaching School [1660]) serve to mitigate another of Hall's bad-tempered strictures
of seventeenth-century education, whose end, according to him, was merely “... to nurture a few raw striplings, come out of some miserable Country-school, with a few shreds of Latine, that is as unmusickall to a polite ear [such as his own] as the grunting of a sow, or the noise of a saw can be to one that is acquainted with the Laws of harmony. And then possibly before they have surveyed the Greeke Alphabet, to be racked and tortured with a sort of harsh abstracted logickal notions, etc.”31 From what we have seen of Richard Holdsworth’s program alone, not to mention the notebooks, it is incredible that the average student was as ill prepared as Hall maintains. Or if he was so ill prepared, coming up with only a “few shreds of Latin” and with little more than a survey of the Greek alphabet, then it must be concluded that the university training was miraculously effective in producing students who at once attended lectures and disputations in Latin, read their texts and made their notes entirely in the traditional tongue of the scholastics, casually continued to read the Testamentum Graecum in their first year,32 and, finally, made sense out of even the elementary notes on logic which we find in the notebooks.

LOGIC

Though the average schoolboy was introduced to logic before coming up to Cambridge, he could hardly have done more than shake hands with the main concepts of the “art of arts,”33 or, as traditionally defined, “the art of directing the mind in the acquisition of knowledge.”34 For the most part, the logic studied at Cambridge was genuinely Aristotelian, as one gathers from the notebooks and from such manuals as Keckermann’s Systema Logicae, Burgersdicius’ Institutionum Logicarum Libri Duo, Heërebord’s Annotamenta, and Eustachius of St. Paul’s Summa Philosophiae Quadrupartita. Still, it was Aristotle resystematized and simplified. This resystematizing, while it unified Aristotle’s often fugitive teachings in logic, resulted in an avalanche of commentaries, which were quickly becoming more disconcerting to students than was the text itself. One Cambridge tutor despairingly begins his lectures: “We are burdened with a variety of dialectics, and unless God hears our cry, Aristotle is likely to have more commentators than contexts.”35 With a sigh, the anonymous seventeenth-century tutor continues: “It will be our task to summarize these burdensome volumes, and, having grubbed-up the metals from the mine, to refine the gold from the iron, so that the very finest, having been carefully sifted out, may not only be com-
pressly, unambiguously, briefly and clearly squeezed into the narrow limits of a compendious enchiridion, but even luxuriate and blossom.” However mixed the metaphor, the tutor clearly enough indicates how massy he considers logical tradition and how needful is a simple, brief and clear handbook for beginners. Keckermann similarly feels called upon to rescue Aristotle from his friends, as when he points out in the beginning of his logic text that Ramus’ charges against Aristotle, that is, that Aristotle lacked method, was redundant, tautological, and meaningless, would never have been made, had Ramus known the secret of reading the Master. “Aristotle’s writings are not to be judged,” Keckermann says, “from the interpretations of commentators, scholastics or Sorbonnists, but from the intention of the author, the collation of texts and the agreement and harmony of the whole of Peripatetic Philosophy.”

Cutting through the mountains of comment and building a traversable road through Aristotle’s logical writings kept the manualists and the tutors pretty much to a standard method. Logic, like Euclidian geometry, built articulately and pedagogically from the simple to the complex, from the known to the unknown. Hence the tutors usually took their students through a first skimming of the whole subject, emphasizing only the main concepts and primary divisions. On his second and third and fourth journey through logic, the student would be expected to master ever more thoroughly the intricacies of syllogizing, the subtler variations of the thirteen classical fallacies, the deepening significance of the categories, and the pertinence of logic to his other studies.

The initial skimming of the whole field, which Richard Holdsworth calls a Systema Brevius, was simply a “. . . frame or collection of the precepts and rules . . .” and might be “. . . either a printed one, the shortest and exactest one that can be gott or else a written one of your Tutors own collecting.” Holdsworth favored the written notes of the tutor, “. . . because those that are printed are most of them rather fitted for riper judgments, then for the capacitie and convenience of young beginners, containing many things either too difficult or lesse necessary . . .” This introduction or “grounds of Logick,” however, “. . . must be gott very perfectly and exactly as the Accidence or Grammar in Latine . . .” and it would be a “. . . great disgrace and a sign of an idle student to stick at any question wch may be answered out of it.”
Any number of such *systemata breviora* as Holdsworth recommends survive in student notebooks. Typical is a mid-century manuscript (Dd. 5. 47) in the Cambridge University Library. The notebook consists of fifty-four folios, about an average length, into which has been compressed the whole of logic. To summarize what is already a *systema brevissimum* would, of course, be absurd. We must content ourselves with a general organization of the course.

The notebook is arranged according to the threefold operation of the mind: first, the simple idea or concept; second, judgment, where two concepts are joined to form a proposition; and third, reasoning, where two or more propositions are so linked as to arrive at a conclusion.

Considering first the concept, the notebook begins by defining *nomen* (noun or name) and *verbum* (verb). *Nomen*, for example, “man,” is a “sound, arbitrarily significant, no separate part of which is meaningful, finite and direct.” We call attention to the primary qualification of *nomen* or name, its arbitrary signification, since the arbitrary nature of the meaning of words will become a *lis sub judice* later in the century. The names of things, according to scholastic logic, possess no intrinsic sacrosanctity, or, as a contemporary better expresses it, “A rose by any other name would smell as sweet.” From noun and verb, the notebook goes on to handle *definition*, which is “speech which manifests as briefly as possible what the thing is that is talked about,” for example, “man is a rational animal.” Next comes *division*, the enumeration of the kinds of things which may be included in a generic concept — *communioris in minus commune deductio*. Division has to do with the discovering in the concept of man such elements as sex (male and female), race (white, black), condition (rich, poor, intelligent, stupid, old, young), and so on.

Having considered the concept and its more explicit manifestations through definition and division, the tutor next expounds the second operation of the mind, judgment. Here he considers *proposition*, which is *oratio indicativa, congrua, perfecta, vera vel falsa, sine ambiguitate*. The notebook elucidates carefully each term in the definition: a statement, complete, true or false, without ambiguity and consistent. Students were drilled on the clear and sharp formulation of judgments, as is witnessed by the exercises in another notebook, belonging to Henry Docker, in which the various “affections” or changes under which a
proposition might go are written out again and again, like the Latin declensions or the multiplication tables. A student was expected to be able immediately to “oppose” a proposition (give the contrary and contradictory statement), “aequipolate” (give the various equivalent formulations) or “convert” (give the correct juxtapositions of subject and predicate). Such exercises in sharp and exact statement lie behind much seventeenth-century prose: Bacon’s essays, for example, sometimes seem like logical exercises in enunciation. Bacon’s generally indicative mood in writing, his avoidance of ambiguity, his fondness for “aequipolation,” that is, for stating his proposition by denying its contrary, and for subject-predicate-object brevity, all seem to betray hours with a logic notebook. His apothegmatic pithiness, often attributed to his legal training, may be just as truly called the habit of logical enunciation carried into style. The clarity and precision of Walton, Baxter, or Fuller similarly suggest the student logician.

From the concept and the judgment the notebook (ULC, Dd. 5. 47) turns to the third operation of the mind, reasoning or argumentation. To reason is to progress from one truth intellectually grasped to a second truth, intellectually grasped by means of the first; in other words, to proceed from proposition to proposition in order to master intelligible truth: procedere de uno intellecto ad aliud, ad veritatem intelligibilem cognoscendam. Or, as the notebook defines it: res rationem dubiae rei fidem faciens, the process of establishing the uncertain. Argument is divided into argumentum a priori and a posteriori, a priori being the syllogism.

Nothing short of a course in formal logic can convey the intricacy and subtlety of the kinds, rules, forms, and fallacies of the syllogism which the seventeenth-century student was supposed to master. There are, for example, forty-five illegitimate forms of the syllogism and only nineteen legitimate combinations of terms. The student of logic was expected not only to be able to form his argument according to the received legitimate moulds, but to diagnose the fallacies purveyed by the forty-five illegitimate forms. To help him remember the nineteen legitimate forms, a set of mnemonics, whose vowels and consonants are keys representing the position of subject and predicate in the major, minor, and conclusion, has been handed down from some unremembered genius. Every student of logic has memorized:
So well known were these at one time that the word *baroque* was formed from the first word in the fourth line, which represented a completely unnatural form, *Baroco*. A syllogism in *Baroco* would run like this: Every dog has legs, but some mammals do not have legs, therefore some mammals are not dogs. Much more natural and more often used, however, would be a syllogism in one of the forms of the first line, for example, *Barbara*, in which the major premise is universal and the minor premise affirmative: Every man is mortal, but John is a man, therefore John is mortal. Logic-chopper though he be called, the seventeenth-century student knew how to frame his argument.

So much for the syllogism, or *a priori* argumentation. *A posteriori* argument, that is, induction and example, is next taken up in the notebook. The tutor who dictated Dd. 5. 47 may seem somewhat cavalier in his treatment of induction. He says:

Induction and example look rather to the orators than the philosophers. These arguments, though they conclude less cogently, more easily sway the popular mind. He who uses induction and example often will confound his adversary no less than he who battles with syllogisms and enthymemes. Induction is argument which is formed by enumerating single instances so as to form a universal conclusion. For example, as the tyrant Dionysius came to a bad end, as Phalaris to a bad end, as the bloody Nero to a bad end, as Caligula similarly, so all tyrants perish miserably. 45

Of the notebook’s apparent slighting of induction several things should be said. First, according to Aristotle and the scholastics, there is no true science that is not somehow deductive, that is, knowledge that does not somehow build from what is known to what is not known, from the principle to the particular. Even today, “laboratory accidents,” that is, the discovery of a principle from the repetition of single instances, are much less frequent than knowledge derived by testing in a laboratory a theory which “ought to work.” Secondly, the example alleged by the tutor is a “moral universal,” that is, a conclusion which involves the element of free will and human conduct. That Dionysius, Phalaris, Nero, and Caligula died violently suggests the conclusion that all
tyrants die violent deaths. Yet, such instances in themselves do not conclude to a certain principle in the same way that physical experiments can conclude to a certain principle. That Hitler and Mussolini died violent deaths by no means proved that every other contemporary tyrant would have died violently. Or, if one predicts the violent dissolution of the mid-twentieth-century Kremlin hierarchy, it is because of the deductive inference that all tyrants have always died violently. The validity of the inductive conclusion, in other words, depends on the validity of deductive knowledge. Thirdly, our tutor’s unconcern, or lesser concern, with induction points up the fact that apparatus and statistical knowledge are yet far from perfect: so far from perfect, in fact, that if the scholastics slighted induction as a too-easy arrival at a popular conclusion, left-wing logical-positivists now ignore induction as coming to no conclusion at all. If the scholastic hesitated to admit that the addition of A plus B plus C might equal D, since he had not seen E, F, and G, he is in a much more defensible position than that of many modern scientist-logicians who insist that no matter how often one finds A plus B plus C to equal D, there is never a guarantee that the next time one finds the equation, it will not be false. Of induction the notebook merely warns: levius concludit; modern logicians say, in effect, numquam concludit. To pursue the point further would involve us in metaphysics, the nature of an enduring essence, and so forth; we shall have reason to return to the point when dealing with metaphysics.

Having considered the simple concept, the judgment, and the process of reasoning, the author of Dd. 5. 47 stops to summarize. He is able to point out that logic is the science of treating any theme whatever with probability and dispatch — Logica è scientia de quovis themete probabiliter & anguste disserendi.46 Hence, logic “differs from grammar, whose concern is to speak congruously, while logic’s concern is to speak the truth. Logic differs from rhetoric, because, while rhetoric teaches the opened hand, i.e., to speak ornately and at length, logic teaches the clenched first, i.e., to argue strictly and straight.”47 The object of logic, however, as the notebook quickly points out, is not argumentation. Though logic teaches the clenched fist, that is, to argue, still Argu [men] tare non dicitur quod tota Logicae vis in argumentatione sita est.48 Argumentation is not the be-all and end-all of logic; logic must, in addition, “define what is obscure, divide what is universal and reason to the truth among verisimilars.”49 Logic
is the art of arriving at the truth, the skill of getting to know. The notebooks all agree that the object of logic is the attaining of truth, however differently they phrase it. While one notebook treats the object of logic as "defining the obscure, dividing the universal, and reasoning about among verisimilars," or another may treat the question: An objectum logicae sit operationes Intellectus qua dirigibilis, or yet another figuratively may spread its hands and complain: Thomas ens rationis, Scotus syllogismum, Albertus argumentationem, alii secundas notiones [reflex ideas] dicunt objectum logicae, still, all concur that the object of teaching logic is to find truth, not merely to produce quibblers. The logic of the seventeenth century, however badly understood and however cruelly berated as "logic-chopping," aimed at the plumbing of truth and the acquiring of genuine knowledge. Few critics of seventeenth-century thought, only a handful of whom seem to have bothered themselves about this matter, seem to be aware that beyond analyzing the idea, the judgment, and the reasoning process, only part of which latter may be considered "logic-chopping," Aristotelian logic embraced an intricate scheme of categories and a study of logical fallacy.

The categorizing of things and the plumbing of truth were one and the same to the seventeenth century. Modern scientists object, with reason, that mere cataloging is not knowledge. But to such as object against seventeenth-century logic, we hurry to point out that cataloging was merely a part of logic (though an essential part), and that logic was only an initiation into seventeenth-century knowledge. Our seventeenth-century logician looked at the world through the prisms of the Aristotelian predicables and predicaments: his view was logical, not chronological.

The praedicabilia — genus, species, specific difference, property, and accident — are the five kinds of terms which can be attributed affirmatively of everything except the four transcendentals — being, oneness, goodness, and truth. Thus, man is an animal (genus), rational (species), whose specific difference is, therefore, rationality, whose proprium or property is the ability to laugh, to think, to die, and whose accidents are all the nonessentials which can be predicated of him: white, tall, sick, rich, and so forth. Every time our seventeenth-century student, who had copied out so carefully in Dd. 5. 47 the five predicables, thought of a thing or defined a thing, he was trained to refer to these five classifications. In order that he might fit the thing, which he had thus broken down into its intelligible parts, into the world of things, Aristotle gave him
the ten categories or predicaments, which follow the five predicables in our notebook: Substance, Quantity, Quality, Relation, Action, Passion, Where, When, Site, and Habit. All beings and all classifications of being are covered by the ten categories, and to be “in a predicament” means precisely to be thrown inescapably into an Aristotelian category. Through these predicables and predicaments, the seventeenth-century student reduced the world about him into manageable sections. Logic taught him how to handle truth.

And because the logician’s object was to seek truth, not falsity, the seventeenth-century student was trained in his first year to recognize the many kinds of fallacy which he might meet. In a logic notebook kept in Queens’ College, Cambridge, we find a treatise on the logical fallacies. Under the heading: “What is sophism or fallacy?” is found a round condemnation of logical trickery: *Sophista mavult videri sapiens ut quaestionem faciat, quam revera sapiens esse.* Under the next heading, “How many and what are the proposals and goals of the Sophists — *Quot et quae sint proposita et metae Sophistarum?”* are the thirteen main logical fallacies, divided into the two classical groupings, the fallacies of speech and the fallacies of things themselves:

- *Quot et quae sunt in dictione*
  - homonymia seu aequivocatio
  - amphibolia seu amphibologia
  - compositio
  - divisio
  - fallacia accentus
  - fallacia figura[e] dictionis

- *Quot et quae sunt extra dictionem seu in rebus*
  - fallacia accidentis
  - a secundum quid ad simpliciter
  - ignorantio elenchi
  - fallacia consequentis
  - petitio principii
  - non causa pro causa
  - plures interrogantes

Immediately, the notebook includes the mnemonic device of listing the thirteen fallacies in a couplet of hexameters. The couplet does not occur in the other notebooks.

*Omnes hae fallaciae adiuvandae causa his duobus versiculis continentur*
That the other notebooks do not include the hexameters proves, perhaps, that the fallacies were so well known as not to need inclusion. Like our own spelling rule: "T before E, except after C, or when sounded as A, as in 'neighbor' and 'weigh,'" which one seldom finds in print, these hexameters were probably a piece of knowledge that drifted as unembodied as a Platonic essence.

However fugitive the hexameters, the fallacies themselves were, and are, extremely important. It is far beyond our province to expound the logical fallacies, but we ought at least to define what the seventeenth century considered as trickery. As to the "fallacies of speech," the misuse of homonyms or equivocation needs little comment. Beyond the obvious misuse of the pun, this section of logic trained against the subtler pun which might lie in a syllogism. For example: "All rights should be protected by law. But unemployment insurance is right. Therefore, unemployment insurance should be protected by law." The syllogism is false, not because of its conclusion, but because the middle term, "right," has been used in two senses.

Amphiboly is very like equivocation, except that it occurs, not by reason of the word itself, but through grammatical construction or through a figure of speech; for example, "He sat watching the parade on the porch." Composition is wrought by illicitly predicking of the whole what is true of the parts. A good example is the football All-American: because each player is outstanding, it does not follow that the All-American team is unbeatable. Divisio is the fallacy of applying what is true of the whole to each of its parts: because the American Army is brave, it is not necessarily true that Pvt. John Jones of Butte, Montana, is brave. The fallacy of accent, whether by word or in print, is the sophism of the false stress. It makes a great deal of difference how one writes or says: "The head of the department," said the professor, "is stupid." The final fallacy of speech is fallacia figura[e] dictionis, which includes every other kind of misinterpretation, even quaes-tio complexa, for example, "When did you stop beating your wife?"

Beyond the fallacies of speech, the seventeenth-century student was trained to detect such fallacies as he might meet with in the world of things. Such fallacies might be fallacia accidentis, the absolute predication of a quality or a term which can only be
predicated casually or "by accident." An example of fallacia accidentis lies in the syllogism: "All sinful entertainments should be prohibited. But, drinking is a sinful entertainment. Therefore, drinking should be prohibited." The fallacy lies in predicating "sinful" absolutely of "drinking." The a secundum quid ad simpliciter fallacy is the trick of making something only partially true seem wholly true. Ignoratio elenchi, ignoring the issue, is the simple evading of the question by using arguments which fail to support the proposition or, even, directly tend to prove something else. Take the proposition: "Classical study is to be discouraged because it does not prepare students to earn their bread and butter." The proposition "ignores" the fact that classical study helps to sound thinking about human problems, teaches neatness of thought through grammatical nicety, and so on. Too often confused with ignoratio elenchi, the ignoring of an issue, is petitio principii, or the taking for granted what should be proved. Jumping to a conclusion, petitio principii, does not ignore the issue; it pretends the issue has been settled. This fallacy ranges from such verbal gambits as: "it is unquestionably true," or "it can be safely assumed," to hysteron proteron, the perverse art of containing a conclusion in a premise, for example, "The electoral college does not meet the demands of modern political thought because it is an anachronism." The fallacia consequentis is perpetrated by arguing for or against a proposition by a fanciful or improbable description of what will, or will not, happen should the proposition carry. Political platforms are flooded with fallaciae consequentis. The two final fallacies, the fallacy of non causa pro causa, better known as post hoc, ergo propter hoc, for example, "Culture flourished in the Midwest after 1900, therefore, because of the founding of the University of Chicago," and the fallacy of plures interrogantes, sometimes called question-spraying, need not detain us.

Our stay, already overlong, with the logical fallacies ought to clarify one point concerning seventeenth-century education: logic was not a training in quibbling. A merely brilliant quibbler would have received short shrift in a Cambridge disputation; his opponents would have handled his offerings with the deadly efficiency of a major-league shortstop. The plodder, not the quibbler, made the best logician. As a manuscript life of Francis Lee puts it: "I have been told by a Gentleman of the Law, that the Best Pleadors at the Bar are generally, to use his own expression, the Dullest fellows. As credibly also have I been informed that the Best Logi-
cians have the appearance been the Dullest fellows.” Dull fellow that he might be, the seventeenth-century Cambridge student was trained through logic to seek truth. Another art taught him how to make use of it.

RHEORIC

Logic and rhetoric, the two basic academic arts, “. . . cannot be parted asunder: logic without oratory is dry and unpleasing, and oratory without logic is but empty babbling.” The relationship between these two arts in the scholastic milieu is more metaphysically expressed in a commonplace book, dated 1648, in the Magdalen College Library, Cambridge. According to our commonplace book, there is an analogy between logic, which pertains to the intellect, and rhetoric, which is concerned with the imagination: “Rhetorique is subservient to the Imagination, as Logique is to the Understanding.” Hence, “. . . the office and duty of Rhetorique (if a man will weigh the matter) is no other than to apply and commend the Dictation of Reason to the Imagination, for the better moving of the appetite and will . . .” Or, affirming *per peccata* the relationship of the three scholastic disciplines of logic, rhetoric, and ethics, the writer maintains: “. . . the government of Reason is disquieted and assailed three wais, wether by the Vagation of Sophisms, which pertains to Logique, or by the deceits of words, which pertains to Rhetorique, or by the violence of Passions, which pertains to Morality.”

This strange relating of rhetoric to ethics is noticed elsewhere in the seventeenth century. Scholastic ethics was concerned with man’s nature, particularly as his passions and affections bring him into a relationship of good and evil action toward the cosmos about him, that is, toward God, other individuals, and society itself. Rhetoric is likewise concerned with human passions and affections. As Holdsworth says, rhetoric “. . . teaches the nature of men’s passions and affections, how to raise and move them, how to allay, quiet and change them, a knowledge necessary not only in writing, but speeches and letters, but also in common discourse and dealing with men, if not to make use of it yourself at least to discover it to other men that you may not be at any time abused and over reached by it.” Holdsworth seems to say that the knowledge inculcated by rhetoric in allaying, quieting, and changing the passions is, in a certain way, ethical knowledge. Or, to take completely another facet of the logic-ethics relationship, John Sherman, in his discourse, *A Greek to the Temple*, states: “Rhet-
orick is an inartificial goodness of the speaker: goodness in the speaker is inartificial Rhetorick." If we now recall that of this scholastic triangle of the academic disciplines: ethics, rhetoric, and logic, the first angle we considered, logic, is occupied with truth or intellectual forthrightness, we may begin to see why Fitzherbert insisted that "the nature of things" joins the arts into an educational whole, and why we originally asserted that the seventeenth-century curriculum was not only Aristotelian, but logical and highly systematic.

Having considered thus briefly the metaphysical position of rhetoric with respect to logic and ethics, we may turn internally to rhetoric itself and the methods of rhetorical teaching. What were these methods? The tutor's first concern was to teach the basics of Latin style. Two obvious facts need no more than be mentioned: first, university rhetoric was taught in Latin and looked to the acquiring of style in Latin; secondly, the student spent more than a mere part of his first year in pursuit of rhetoric. Even after mastering the formal principles of the art, the student spent much time during his four years at the University in deepening his knowledge of rhetorical principles, studying the masters of rhetoric, and practicing in his declamations what he had learned.

Holdsworth starts his students with a simple method of imitation: "Gather out in a paperbook all the phrases and idioms which you know not already. . . This study you may think tedious, but the benefit will be sufficient requital." This practice of classical bone-picking Holdsworth recommends again and again: "In them (Virgil, Ovid, Horace, et ceteri) you will meet with many choice and witty sayings, sentences, and passages which you are to gather into your paperbook." This collecting of the Latin poets, their "witty sayings, sentences and passages" will, further, " . . . furnish you with the quantity of syllables, perfect your Latin, and supply you with copiousness of word and good expressions, and also raise your fancy to a poetic strain." Nor was Holdsworth alone in advising taking down into a copybook the idiomatic fruits of reading. James Duport in his "Directions" urges that the copybook be small enough to be carried about in one's pocket, to be read in odd moments or when strolling in the meadows across the Cam from Trinity.

After directing his students in the art of copying, Holdsworth next drilled them on the precepts of rhetoric as such, using either Causin or Voscius. Holdsworth himself preferred Causin, the
kind of book that “... will give you the grounds of Oratory, a knowledge very useful and necessary, not only in all professions of learning, but in every course of life whatsoever.” He continues, speaking from his years of experience, that a book like Causin’s “... teaches (1) what style and language is suitable on each occasion offered; (2) how any discourse is to be managed so as to avoid obscurity and confusion that auditors may hear with delight and you go through it with ease ... (3) it teaches the true way of logic, for invention, discourse & method [another insistence of the logic-rhetoric relationship] ... (4) it teaches the nature of men’s passions and affections ...” The knowledge of rhetorical precepts was to be thorough, for: “A little superficial knowledge in it will put you out of conceit with it ...” Holdsworth, however otherwise fearful, is not a man of one book; after recommending Causinus, he says: “That you may the better understand and benefit by this book it will not be amiss to read over the Progymnasmata of Aphthonius, Vicars his Manuductio ad artem Rhetoricam, The Rhetorica[1] Compendium of Voscius.”

Our tutor, however, is no mere preceptor: “It is necessary whilst you are reading this [Causin’s] book to set some time apart for making orations and such other exercises as are prescribed.” At this stage, Holdsworth allows his students to aim at elegance. “Hitherto [while copying and studying precepts],” he says, “I have directed you to such authors in prose as write a plain, easy and familiar style... Now you must come to some more raised and polished, the reading whereof will work your fancy to such a kind of expression when occasion is ...”

The above passage is worth particular note: it shows that the Master of Emmanuel, the Puritan college, taught “plain, easy and familiar style,” a matter of comfort to those who refer plain style to the metaphysics of Puritanism. The same master, however, insisted that his students “must come to some more raised and polished” style, “when occasion is.” The key phrase is the last, “when occasion is,” for, if the Puritan was plain, easy, and familiar in the pulpit, avoiding the deuces of metaphor and the dishonesty of ornateness, he could be as elegant as his adversary on the right occasion. This serves to explain Milton’s ability to shift from the touching plain style of *The Ready and Easy Way to Establish a Free Commonwealth* ... (1660) to the soaring stylistic heights of *Paradise Lost* (ca. 1665).

Besides copying out passages into a commonplace book and studying the formal precepts of rhetoric, with suitable practice,
Holdsworth believed in "getting without book," that is, in memorizing both poetry and prose. "There is no such effectual means for the attaining of a language as this getting without book." 75 Memorizing poetry will, among other benefits, "... supply you with copiousness of words and good expressions, and also raise your fancy to a poetical strain." 76 As for prose: "This [Turner's Orations] 77 and the like books are to exercise you in a quaint style and to acquaint you with a modern oration. You may instead of Turner take Renolds, Campion's Oratones or the like. Employ one hour a day as in Tully for getting them without book." 78

Holdsworth is intensely serious about the benefits of memorizing, and affords his own students (and us) an interesting passage on memory methods. "There are two ways to get without book, either conning it as boys doe, or frequent reading over the same thing for certain days together, which is easier, and will be as effectual to all ends and purposes as the former." 79 Since "readiness" or fluency was the primary aim of "getting without book," the tutor prefers constant rereading of a passage to "conning"; hence, "... though perhaps you shall not be able to repeat much without book together, yet every particular sentence will be as ready to you, and that readiness as useful as if you had con'd it, and indeed that plodding way of conning doth tire and lode the memory rather then beget a readiness." 80 And though even this second method, frequent rereading of a passage, "many seem tedious and unpleasing," yet "it must not be neglected because of this tediousness." 81 How tedious was any kind of memory work to his students Holdsworth implies by wryly recommending: "I allot the first hour of the afternoon when you are fresh, after which the tediousness of that hour will make you come with more delight to your other studies." 82

The triple practice of culling "... handsome passages and criticisms necessary and useful either for speeches or common discourse," 83 of reading the rhetoricians, and of memorizing both poetry and prose, however it made for the full man in the seventeenth century, it was writing that made the exact man. As we noted before, Holdsworth had required rhetorical exercises. As he orders elsewhere: "Spend every other afternoon or at least two in a week in making Latin exercises in a plain style, for reading without practice will never make you a Latinist." 84 Such a passage makes us curious as to the kind of exercises the student wrote.

Almost every student's notebook contains rhetorical exercises,
usually on literary or historical topics. In Lawrence Bretton's notebook we find four such rhetorical subjects:

1. The severity of Titus Manlius toward his son ought to be vituperated rather than approved.
2. Priam's troubles exceeded his good fortune.
3. I do not absolve Helen of wrong-doing [reference to Ovid's *De arte amantis* is scribbled in the margin].
4. Gyges did away with the king rather than himself.\(^{85}\)

At about the same time as Bretton, another student, Alexander Bolde, elected later a fellow of Pembroke in 1610, wrote exercises on such subjects as:

Is the knowledge of virtue and the ignorance of vice equally profitable?
Was C. J. Caesar justly put to death?
Did Hannibal purposely bring about his death by poison rather than fall miserably into the hands of his enemies?\(^{86}\)

In a notebook of a later date (after 1662),\(^{87}\) preserved in St. John's College, are several rhetorical questions: *An Homerus caecus*? *An a nativitate*? followed by a short treatise on Homer's poetic style and his versification. Another question in the same notebook is of interest in view of the coming Battle of the Books: "Were Aesop's fables so titled by their author?" On the question: "Did Aristotle drown himself in *Euripum*?" the same student proclaims his regard for the Philosopher by asserting: *Non credo Principem nostrum tam fuisse vesanum*, literal translation of which misses the affection of *nostrum*. Other questions treated in the notebook include: Did Alexander take poison? Was Penelope a whore? Was Troy really captured by the Greeks? Is Mahomet's body suspended between two magnets? Our student obviously went in for sensational topics, the last of which, by the way (on the disposition of Mahomet's body), is the only nonclassical question we found.

A final sampling of rhetorical exercise we take from the notebook of J. Alsop,\(^{88}\) also of St. John's, belonging to the end of the century. Alsop of Derby, as he signs himself, supports eloquence in the question: "Whether the eloquence or the prudence of Caesar is the more to be esteemed?" Alsop also prefers Crates and his contempt of wealth to Midas on the question of riches. On the question: "Whether a lettered or an un-lettered wife be preferable?" Alsop equivocates and ends his little exercise on a note that would have delighted the bachelor don of those days:
The halting Latinity of this student’s exercise we may contrast with the elegance of our J. Alsop’s *supplicat* speech, his formal petition for a degree from the University. Written at the end of his undergraduate career, it is interesting, not only because we may contrast it to his previous attempts, but because a first draft, with several essays at the first sentence, is carefully kept in the notebook. The most exacting of Latin stylists will approve of the following:

Quotiescunq. de rerum humanarum sorte tam fragili, de utilitate, eximiaq. mentis satisfazione, quam ex hisce sedibus vestraq. disciplina percepi, mecum cogito. Nihil est quod amplius exoptare videor, quam ut *vestro suffragio, in societatem adoptatus gratissimis hisce studiis vitam transagam beatissimam*. Abunde enim abunde vidi, noviq. liberales studiorum fractus hisce acquisitos, et nec tantum scire, sed et vestra benignitate paterna adjutus pro viribus conscripi conabor quoquisq. deventum est, eousq. jam premit necessitas, ut in *vestro patricinio tutus, charissime videatur vos, a quo tantum accepi, quantum ne sperare quidem ausus sum hisce novis sollicitare precibus? Sed cui extremas fortunarum mearum partes jam pendentes ferre inquam nisi iis ipsi cui primas, cui

... *neque enim docta placet nec indocta, sed quod melius est plane nulla*. Incidentally, young Alsop later married.

The historian of classical study interested in the extent of the Cambridge students’ average proficiency, or, perhaps, even the merely curious who would sample the preserve behind the labels, may wish more than a catalog of rhetorical questions. We quote one of the shorter exercises. The style is obviously that of a student, who must work in a *nec dubium quin* at all costs, but any modern student, classicist or merely curious, must be impressed by the undergraduate erudition disclosed in the following:

An Homerus Caecus?


The halting Latinity of this student’s exercise we may contrast with the elegance of our J. Alsop’s *supplicat* speech, his formal petition for a degree from the University. Written at the end of his undergraduate career, it is interesting, not only because we may contrast it to his previous attempts, but because a first draft, with several essays at the first sentence, is carefully kept in the notebook. The most exacting of Latin stylists will approve of the following:

Quotiescunq. de rerum humanarum sorte tam fragili, de utilitate, eximiaq. mentis satisfazione, quam ex hisce sedibus vestraq. disciplina percepi, mecum cogito. Nihil est quod amplius exoptare videor, quam ut *vestro suffragio, in societatem adoptatus gratissimis hisce studiis vitam transagam beatissimam*. Abunde enim abunde vidi, noviq. liberales studiorum fractus hisce acquisitos, et nec tantum scire, sed et vestra benignitate paterna adjutus pro viribus conscripi conabor quoquisq. deventum est, eousq. jam premit necessitas, ut in *vestro patricinio tutus, charissime videatur vos, a quo tantum accepi, quantum ne sperare quidem ausus sum hisce novis sollicitare precibus? Sed cui extremas fortunarum mearum partes jam pendentes ferre inquam nisi iis ipsi cui primas, cui
The student who wrote the above had obviously often winnowed his commonplace book, recalled his precepts, tickled his memory, and taken advantage of what he knew of the authors he had been forced to read so thoroughly. We noted earlier that rhetoric included much more than the mere parroting of precepts: the student who had read widely among the Greek and Latin masters necessarily acquired a habitus of style which reduced the precepts to practice.

Earlier in the chapter we called attention to the extensive list of authors who were to be read carefully, discriminatingly, and with notes. Besides the classic textbooks on rhetoric and history, it will be remembered that for style the student ranged through Cicero's letters, essays, and orations, Ovid, Horace, Martial, Juvenal, Virgil's Eclogues, Georgics, and Aeneid, Sallust, Livy, Suetonius, Terence, and Plautus. Of the last, Holdsworth demands discriminate reading: "Plautus or some part of him must be read . . . but never imitate his Latine." In the Greek, Homer, Demosthenes, Hesiod, Theocritus, Aesop, Theognis, Strabo were to be read with particular care.

Similarly, James Duport insisted on classical reading. "In the course of your studies, use to reade, among the antient classick Authors, the best, & of the best note as Homer, Aristotle, Virgill, Tully, Seneca, Plutarch, and the like." In such reading the student must be judicious: "In reading of heathen Poets, especially Juvenal & Martial, suck the honey out of the flower, and passe by the weedes." It went without saying, that the student would "[r]ead an Author in his owne language and trust not too much to Translations"; otherwise, how would his " . . . stile be clear, perspicuous, smooth, & plaine, & full . . . ." The notebook of a painstaking student is kept in Queens' College. His first entry is headed: Quinti Horatii Flacci Sermonum sive Satyrae Liber Primus. The student begins his notes on Horace's Satires by quoting the first three lines:

Qui fit, Maecenas, ut nemo quam sibi fortem
Seu ratio dederit, seu foris obicerit illa
Contentus vivat? Laudet diversa sequentes.
These three lines he immediately translates:

Anglice sit:
How comst to pass, Maecenas, that of late
No mans contented with his own estate,
Thoge [sic!] given him by the gods or change or fate,
Still praising others; his owne repininge at.

The next four pages are devoted to a short introduction to the whole of the Satires, that is, who was Horace, what his name and cognomen, what is meant by sermo, satyre, and so on. Next he begins a word-by-word commentary on the three lines. This verbal commentary (etymology, syntax, and so forth) he calls Grammatica analysis. Following the grammatical analysis is a Rhetorica analysis, where the student picks out for comment the figures of speech such as interrogatio and execratio. Finally comes the Logica analysis, which is a vivisection of the thought of the lines, wherein he extracts, as he says, "generalé et quasi majorem propositionem quam probaturus est in sequentibus: propositio haec est. Nemo sua forte contentus . . ." In like manner he goes through the rest of the poem, three or four lines at a time, quoting the text, translating, commenting grammatically and rhetorically, and, finally, analyzing the idea. In the same fashion he handles Juvenal, Junius,98 and others in the manuscript.

Literary antivivisectionists will be appalled at so brutal an analysis of thoughts lying too deep for tears. Omne ignotum pro magnifico! We must remember, however, that the clarity of classical thought invites this kind of restatement, and that the student who was taught thus to pulverize Latin poetry was aiming at no vague "poetic appreciation," but at providing himself with "handsome passages and criticisms necessary and useful for speeches and common discourse," and for learning "true idioms and propriety of words." The study of literature was an adjunct to rhetoric, whose object, be it recalled, was the knowledge of men, their passions and affections, and how these are influenced by speech.

Before leaving rhetoric, we must say a word about Greek. Greek scholarship had had long tenure at Cambridge. From the time of Erasmus' stay there, an impressive line of Greek masters was associated with the university: John Redman, Thomas Smith, John Cheke, Roger Ascham, and John Caius in the sixteenth century, while in the earlier seventeenth century there was that grand old
man, John Boyes, who read Greek to his students from his sick-bed, and Andrew Downes, of whose Greek lectures D'Ewes describes himself as a "diligent frequenter." Downes's scholarship had won for him the reputation of being the "ablest Grecian of Christendom." 100 In view of the only occasional Greek copying in the notebooks and commonplace books, Mullinger may be right in thinking: "It is only too probable that Downes's allurements to learning met generally with but poor success." 101 On the other hand, we have seen that Holdsworth required his students to read the Greek Testament, Demosthenes, the Iliad, and the Odyssey. In 1654, Isaac Barrow declared that his master, Duport, had had his students reading not only Plato and Aristotle, but the Greek poets, historians, and scholiasts as well. 102 Of his own efforts in teaching Sophocles, Barrow whimsically admits: "I and my Sophocles played to an empty house — Egimus ego et Sophocles meus in vacua Orchestra . . ." 108 By the later decades of the century, however, Greek was a flourishing study under such masters as Bentley, Joseph Wasse, and Joshua Barnes. Several volumes of Joshua Barnes's Praelectiones Graecae, still in manuscript, are preserved in Emmanuel College. The student of seventeenth-century pedagogy has only to labor through these to see how heavy could be the hand of a don at the time.

As examples of student proficiency in Greek, one may turn to a series of commonplace books kept in Trinity (MSS. R. 16. 10-19). These seem to belong to Edward Palmer (B.A., 1613/14), and some, at least, date from his student days. All of them are jammed with excerpts from the Greek of Aristotle particularly, and in one of them he does an academic exercise in both Latin and Greek on the subject: *Humana anima ex Arist. sententia est immortalis.* In another commonplace book belonging to Roger Long, 104 of a much later date, we find Strabo, Plato's *Timaeus,* and other entries quoted in the Greek. Almost at the end of the century Richard Crossinge's 105 student efforts in Greek composition and translation show an extraordinary ability. Crossinge even memorializes some of the tutors who directed him. One composition, for example, was done *jussu Tutoris Mri Bancks;* a translation, which he entitles: *Theocriti Thyrsis sive Idyllum primum Latino donatum carmine,* was made *Hortatu Mri Anthony mei amicissimi;* another translation: *Demosthenes Oratio (περί τοῦ στεφάνου) de Corona in Latinum conversa et stylo (quoad possum) Ciceronis expressa* (Demosthenes' Oration on the Crown translated into Latin and rendered, as far as I can, in Ciceronian style) is credited simply: *Hor-
tatu Tutoris. Other student efforts of Crossinge include a Troas Senecae, τρῳάς τοῦ Σενέκα, a Latin play in Greek; a Greek poem called: Christus Crucifixus; another Greek poem read "in Aula, 1690"; a Greek oration also read "in Aula, 1691"; and a careful Latin translation of Demosthenes' First Olynthiac. Obviously, Crossinge's studies in Greek had a distinct rhetorical slant, just as the reading of the Latin poets, historians, and orators was to foster "invention" or fertility in discourse. Or, as Holdsworth explained to his freshmen: "The end of reading Ovid's Metamorphosis is to acquaint you with all the fables and mythology of the poets, which afford invention for themes, verses and orations . . ." Even Ovid was part of rhetoric, for early seventeenth-century Cambridge, as Tranio in The Taming of the Shrew would have been pleased to know, was not "so devote to Aristotle's ethics as Ovid be an outcast quite abjured . . ." 106

ETHICS

Seventeenth-century Cambridge was intensely "devote to Aristotle's ethics." With the Reformation and the rejection of a final teaching authority on matters of faith and morals, the Protestant found himself, on principle, his own supreme teacher and arbiter, under the Bible, in matters of conscience. The puzzled conscience could not submit itself to any finally authoritative tribunal, whether in foro externo (an ecclesiastical court) or in foro interno (the confessional). In the situation, the Cambridge student and, indeed, all of seventeenth-century England was deeply concerned with the practical science of right and wrong. If such designations mean anything, the seventeenth century in England may be called the Century of Ethics.

In the early part of the century, Aristotelian ethics was, perhaps, the most carefully prepared dish in the curriculum, whether as served up by such Catholic commentators as Victoria, Lessius, De Lugo, Suarez, and Dominicus Soto, or such Protestant Aristotelians as Melanchthon or Grotius. During the course of the century, as Aristotelian metaphysics was gradually discarded and Aristotelian ethics correspondingly weakened — an ethics without a metaphysics is like a bridge without abutments — ethically conscious England produced such non-Aristotelians as Hobbes, against whom we find at least one thesis: Rationes Boni et Mali non pendent a Legibus Humanis, and Shaftesbury, the moral instinctivist. The swirl of controversy surrounding such new ethical systems filled the void left by the abandonment of metaphysics,
until man came to be viewed merely ethically, not metaphysically,
and philosophy itself came to be called, early in the eighteenth
century, “Moral Science,” as, indeed, it is still designated at
Cambridge today.

As a good metaphysician, Aristotle determines the essence of
morality by the object or finis of moral activity. This finis is the
highest good obtainable, and is, according to Aristotle, happiness,
eudaemonia. All the ancients, of course, settled upon a “highest
good obtainable.” As John Balderston, an Emmanuel student,
summarized in his notebook:

Epicurei posuerunt in voluptate, Stoici in habitu virtutis, Peripatetici
in actione virtutis, Platonici in unione hominis cum Deo. Singulas has
sententias breviter examinabimus & quantum veritatis in se contineant
videbimus.110

The Epicurean’s pleasure, the Stoic’s virtue-is-its-own-reward, and
the Platonic perfect assimilation to God as man’s sumnum bonum,
are too well known to need comment. Least known of all,
though at one time best known, is Aristotle’s actio virtutis, virtuous
activity. Happiness is secured by as perfect as possible a perfor-
mance of activity on the part of the soul throughout life. Moral
activity is that which is peculiar to man as man: not mere living,
which man shares with the plants; not mere sentient life, which
he shares with brute creation, but life as lived under the dictates
of reason. Happiness depends upon rational activity, and rational
activity presupposes freedom, which can be enjoyed only by im-
material beings. As one student phrased his position: Libertas
arbitrii soli substantiae Immateriali competit.111

What is virtue, then? Virtue is simply a proficiency in willing
what is conformed to reason. Virtue is a potestas facilium agendi,
as distinct from the faculty of choice or the will (Aristotle does not
speak of the will as such), which is a potestas simpliciter agendi.
Virtue is to the will as conditioning is to a pitcher’s arm. The arm
is the will, the nude faculty of action; conditioning, the toning of
nerve and muscle which makes throwing easy and exact, is virtue.
Moral virtue thus supposes some faculty of choice, a certain
amount of exercise and some intelligent direction.

Ethical virtue, according to Aristotle, is that permanent disposi-
tion of the will, or state of mind (constans animi propositum),
which, like a gyroscope, holds the free will to the mean (μεσοτητος)
proper to man, as the mean is shown by reason. To quote from
our John Balderston’s notebook: “The other day we proposed a
definition of virtue something like this, sc., that it is a constant
disposition of the soul to live according to law, or, as defined by
Aristotle elsewhere, the conscious habit [of choosing] the mean
proper to us, which habit is perfected by right reason as limited
by prudence.” 112 The important word in the passage is the mean.
Virtue always directs the choice to the mean. Courage, for exam-
ple, is the mean between cowardice and temerity; temperance is
the mean between overindulgence and abstemiousness.

The highest among the ethical virtues is justice. In the widest
sense of the term, justice or righteousness is the union of all the
virtues; the just man, the ethical saint, so perfectly possesses all
the virtues that he occupies the mean between sinner and zealot.
His zeal has made him much more than sinner, and his sense of
sinfulness has tempered his zealotry.

In the stricter sense, justice concerns fairness (ἰσοτρία) in matters
of loss and gain. Justice, in this narrower sense, is, first, distribu-
tive, respecting the fair partition of goods or honors according to
proportionate desert. Thus, the question whether to award the
Congressional Medal or the Navy Cross to a submarine command-
er is justly decided on principles of distributive justice, that is,
according to the relative merits of the hero’s action in proportion
to what others did and the relative value of the achievement.
Commutative justice is concerned with matters which involve
exact equality, quid pro quo, to each his own, unicuique sua.
This supposes the right to possession, a natural right. Or as two
of our theses state it: Rerum privatarum possessionis Natura non
refragatur,113 or, the other way about, Omnes possessiones in rep.
on debent esse communes.114 In deciding title to a piece of prop-
erty, the court follows the principles of commutative justice,
making its award not to the good versus the bad, the poor versus
the rich, the handsome versus the ugly.

The other Aristotelian virtues are variously listed and differ-
ently numbered. We shall not enter the lists on the question
whether Spenser is right in his letter to Raleigh in numbering
them twelve. Our beloved John Balderston rescues us by con-
fessing confusion in his own times: “We now turn our attention
to these virtues singly, and here, in the first place, crops up the
disputed number of the affections, on which point the moral
doctors as yet do not agree.” 115

However numbered be the virtues, at least the following list
covers the ground. Courage observes the mean between fearfulness
and overdaring. The brave man avoids danger, but does not fear
it. Or, as Polonius tells his son, “Beware of entrance to a quarrel, but being in, Bear’t that the opposed may beware of thee.” Temperance is likewise observant of the mean, that is, between pleasure and pain, whereby the temperate man neither starves nor gluts himself.

Liberality is the virtue which holds the middle in the giving and receiving of small things. The liberal man avoids prodigality and parsimony. “Neither borrower nor lender be, For loan oft loses both itself and friend [parsimony], And borrowing dulls the edge of husbandry [prodigality].” The consideration of this virtue suggested a common seventeenth-century disputation question, for example, *An usura sit licita?* Magnificence, connected with liberality, protects the mean in giving and receiving large matters. Vulgarity or bad taste offends in one direction, miserliness in the other. “Costly thy apparel as thy purse can buy, But not expressed in fancy; rich, not gaudy . . . .”

Highmindedness (μεγαλοπνεία) refers to matters of honor. It avoids both overweening ambition and shamelessness. Mildness keeps the balance in matters of revenge between wrathfulness and passivity. Truthfulness, urbanity, and friendliness are the three virtues which govern social conduct. The truthful man (or sincere man) is neither braggart nor dissembler, neither Falstaff nor Uriah Heep. The urbane man, apt and facile in social discourse, is witty and elegant, but no fop; vivacious, but no buffoon. Finally, friendliness holds the mean between obsequiousness and stiffness. Friendship's moral relationship is expressed in the thesis: *Amicitia est solum inter bonos.* These last two social virtues Shakespeare beautifully enunciates through Polonius:

Be thou familiar, but by no means vulgar.  
The friends thou hast and their adoption tried,  
Grapple them to thy soul with hoops of steel;  
But do not dull thy palm with entertainment  
Of each [new]-hatch'd, unfledg'd comrade . . .

Aristotle's ethical gentleman must have a heart, but he must not wear it on his sleeve!

Aristotle's gentleman, however, was no ethical island, no mere self-perfecting, self-absolute entity. Moral causeways connected him with society about him, with the state and the family. As Jacques Maritain relates the parts of Aristotelian ethics: “Aristotle divided the science of morality, of human conduct (ethics in the wide sense) into three parts: the science of man's actions as an indi-
vidual (ethics in the stricter sense); the science of his actions as a member of domestic society, economics; the science of his actions as a member of the city (civil society), politics.”

Not only in the Nicomachean and Eudemian ethics, but in the Politics as well, Aristotle insists that the individual has need of other human individuals, in order to secure the practical ends of human existence. Because of the multiplicity of human individuals (the chief phase of the problem of the One and the Many), ethical problems are soluble only in view of the existence of the state. By nature, man is a homo politicus. The state originated for the protection of man’s existence, his life, to the full protection of which the state must promote what is morally upright. In Aristotle’s view, the principal business of the state is the development of moral capacity in all the citizens of the politeía, particularly in the young. (Slaves, as noncitizens, do not come under this benevolence.) The state comes before the individual, in the same sense that the whole must come before the part and the end must be prior to the means. Aristotle is metaphysically a totalitarian, but only in the same sense that the Church is totalitarian: both go on, despite the activity of any single part.

The basis of the state is the family, whose morality is called economics. A oneness of feeling, not an artificial annihilation of individuality, results in the concept of a citizenry, which is the state. The oneness of feeling, resulting in the concord of the citizenry, begins with the family unit. As the family achieves its unanimity, so will the state; that is, through the centralization of authority according to the due mean. Particularly speaking, the most practicable form of the state will be one in which monarchical, aristocratic, and popular elements are welded into a workable form. Immediately, we understand the spate of scholastic theses at Cambridge which defend the status quo: for example, Monarchia est optima regimini formæ, or Regimen Monarchicū Haereditarium praestat electivo. Democracy (the rule of the mob), oligarchy (the rule of the few), and tyranny are bad forms of government. Tyranny, the misuse of monarchy, is especially bad, under the principle: corruptio optimi pessima.

Finally, a politically cultured nation is capable of ruling a backward. The northern Europeans, according to Aristotle, living in the colder climes, possess courage, but lack artistic understanding; the Asiatics, on the other hand, are quick in understanding, but lack courage. “But the Grecians, placed as it were between these two boundaries, so partake of them both as to be at the
same time both courageous and sensible; for which reason Greece continues free, and governed in the best manner possible, and capable of commanding the whole world . . ."\textsuperscript{121}

That Aristotle's ethics fitted with seventeenth-century English colonialism — or, that seventeenth-century English colonialism was influenced by Aristotle's ethics — is immediately clear from the above. Puritan in New England and Cavalier in Virginia and Georgia, each nurtured in the same scholastic forum, understood his ethical capacity to rule the uncultured, whether under northern pine or southern palm.
John Earle's "Down-right Scholler" (1628) could not "... kisse his hand and cry Madame, nor talke idly enough to beare her company." In addition to being trained by ethics in patterns of moral behavior, by logic in patterns of thinking, and by rhetoric in patterns of eloquence (though sometimes, according to Earle, "... his fist is cluncht with the habit of disputing"), the seventeenth-century scholar was burdened with an immense load of scholastic science, not easily nor idly discussed. But what was scholastic science all about? What was the compass of "the knowledge of things through their necessary causes"? What, in brief, bored the ladies?

The academic sciences were chiefly three: metaphysics, physics, and mathematics. Metaphysics was the science of being as such and of its transcendental principles, that is, of principles common to stones, trees, men, God, essences, and quintessences. Physics, the science of changeable being, not only included such phenomena as time, motion, matter, and extension, but embraced, however promiscuously, all phenomena in the order of sensible being which today belong to the natural sciences, from astronomy to zoology. Physics, though concerned with extended being, was concerned with it as qualified, not as quantified; mathematics concentrated on extended being merely as quantified, not as affected by quality. Ideally, though rarely at seventeenth-century Cambridge, cosmography, a nephew of physics and mathematics, studied the geographical features of the world.
METAPHYSICS

In the introduction to Philosophy Without Metaphysics (1930), Edmund Holmes avows: "My aim in writing this book has been to do something towards freeing Philosophy from bondage to Metaphysics. There was a time when Metaphysics dominated the pursuit of knowledge in all its branches." However absurd his aim to free philosophy from metaphysics — constructing a philosophy without metaphysics is like building a brick wall with tennis balls — Holmes is right when he affirms that metaphysics, especially what he calls "logical metaphysics" or scholastic metaphysics, once dominated the pursuit of knowledge in every branch. As Matthew Robinson succinctly writes of his studies in the earlier seventeenth-century Cambridge: "The strength of [my] studies lay in the Metaphysics." Metaphysics, scholastic metaphysics, was the science of being as such, entis qua entis, or, in good sound Aristotelian terms, "...the science which studies Being qua Being, and the properties inherent in it in virtue of its own nature." Metaphysics was considered the highest of the sciences, not only because its object was the highest possible abstraction, but because it derived its principles from no other branch of knowledge and all other sciences in turn depended upon it. The modern bastardized use of the term "metaphysics" to mean a sect of the occult concerns us no more than an illegitimate child bothers Burke's Peerage. We are anxious, though, to distinguish scholastic metaphysics from a legitimate modern usage. We speak of the "metaphysics behind plain style" or of the "metaphysics of capitalism," where the word metaphysics denotes a general philosophical explanation of these phenomena. For the seventeenth century, as it had for centuries, metaphysics meant the primary philosophical science, which dealt with the most generalized principles of being and which prescinded being entirely from its status as literary or economic, sensible or suprasensible.

Though God, as a being, entered into metaphysics, the science was based on reason, not on revelation. In metaphysics, the deity is treated merely as an ens a se or ens necessarium, together with his creatures (entia ab alio or entia contingentia) in a sort of commonwealth of being. Reason, and only reason, was the tool of the metaphysician. Indeed, Holmes's objection to metaphysics is precisely here: "For it is its exclusive reliance on intellect which makes metaphysics so fatal an influence in philosophy."
This intellectual vision of the vast kingdom of being, which someone has called “the kingdom of thingdom,” was termed by Aristotle “First Philosophy.” The study of nude being, of its attributes and ultimate principles, later came to be called \( \mu \varepsilon \tau \alpha \ \varepsilon \tau \alpha \ \varphi \nu \sigma \iota \kappa \alpha, \) that is, that which lies behind or transcends the merely physical, whose principles transcend, therefore, all categories and “particular sciences,” since they are common to every sphere of knowledge. This transcendency of metaphysical principle is *obiter* affirmed by the eminent Matthew Wren: “As a boy in philosophy class I learned first of all that the principle: *causam causae esse causam causati* obtains universally, both morally and on the platform.”

A real being is an actual being, that is, one which is not merely a creation of the mind or merely possible. As Klubertanz explains the real being which is the object of metaphysics: “The best way to clarify the proper meaning of *real* is by contrast: an existing airplane is a real machine, a spaceship is not (not in 1955 at least); Citation is a real horse, Pegasus is not; Sir Winston Churchill is a real human being, Ichabod Crane is not; angels are real beings, leprechauns are not; an orange is a real being, a perfect sphere is only an object of thought.” Klubertanz goes on to explain that the word “real” is used sometimes in an extended sense to designate not only what is actually now but also whatever has existed, will exist, or can exist independent of the mind. The proper business of metaphysics, however, is “the demonstrative knowledge of the real inasmuch as it is real.” Yet, it is not the *existence* of a real being which is the concern of the Aristotelian. Gilson explains: “Among the many meanings of being,” Aristotle says, ‘the first is the one where it means *that which is* and where it signifies the substance.’ In other words, the *is* of the thing is the *what* of the thing, not the fact that it exists, but that which the thing is and which makes it to be a substance.” Being, then, this *difficillime scitu* and *maximum indeterminatum*, predicable (however analogously) of everything, is the object of metaphysics. Being is \( \tau \circ \varepsilon \nu \). If what follows seems synoptic, we plead only that being \( \varepsilon \nu \) is the highest synopsis possible.

Every being, everything that is, has certain common attributes: it is one, true, and good. Being is one or undivided in itself. If being is not undivided it is not one, but many; hence, not being, but beings. That every being is true means that it is intelligible or conformable to the mind (*verum ontologicum*). The conformity of the mind to the thing is called logical truth (*verum logicum*),
hence, the true bespeaks a relationship of identity between the knower and the thing known. Moral truth, verum morale, is the conformity of thought with speech or external expression, and is not, unhappily, a transcendental attribute. Finally, every being is good, omne ens bonum,\textsuperscript{11} that is, every being, be it Lucifer or pneumococcus, enjoys a certain internal perfection, at least to the extent of its beingness, whereby it is perfective of others or, at least, of itself. As something perfective it is desirable; hence, goodness is also defined as ens in quantum appetibile.

Before leaving the notion of being and its attributes, we ought to note that transcendental being is related to several other common scholastic terms, for example, essence, ens in the substantive, not participial, sense. The essence of a thing is that which is its basic constitutive and the root of all its properties — id, quod in aliqua re concipitur tamquam eius primum constitutivum et radix omnium eius proprietatum. The essence of a thing is also called its nature, inasmuch as essence is looked upon as the ultimate principle of operation. As that which corresponds objectively to the mental image or the name of a thing, essence is called quiddity — id, quod mente percipimus et voce exprimimus, cum declaramus quid res sit. Or, essence is sometimes called form, as denoting that which is or determines a thing to be what it is. Finally, essence and substance, which we shall treat presently, are one and the same. The literature of the earlier seventeenth century is shot through with the terms: being, essence, nature, form, substance. And, since the use of such terms is seldom casual, an appreciation of their technical employment can enrich the reading of such passages as one may find, say, in Milton: "... unsavoury food, perhaps, to Spiritual Natures ..."\textsuperscript{12} "Sad cure! for who would lose, Though full of pain, this intellectual being ..."\textsuperscript{13} "Since now we find this our empyreal form Incapable of mortal injury ..."\textsuperscript{14} "Bright effluence of bright essence increate!"\textsuperscript{15} "And this empyreal substance, cannot fail."\textsuperscript{16}

So much for being and its attributes; we turn now to the principles of being. A principle, ἀρχή, is that by which a thing is, or is known. "It is a common property, then, of every principle to be the first thing from which something either exists or comes into being or becomes known."\textsuperscript{17} The first principles of being in the order of determination are potency and act. Potentiality (δύναμις or τὸ δυνάμεα ὁν) is opposed to actuality (ἐντελέξεια, ἐνέργεια) as the cast is opposed to the statue. The cast (potency) is, negatively, all that the statue is positively; so, for a being to come into existence or
to undergo change, there must be a potentiality to be actualized. For Fritz Kreisler to become a great musician, he had first to possess a capacity to be developed. His musicianship is the realization of this capacity. The dualism of potency and act is above all categories and ramifies, as is well known, through the whole of scholastic thought.

In the order of sensible being, four principles, called causes, are responsible for the constitution of an individual thing. The four causes are: matter, form, efficient cause, and end. *An causae per se, materiales, formales, efficiens, finalis recte enumerantur a Philosopho.*

Matter (διάλη) is the principle of indetermination, the receptacle (δεκτικόν) of becoming and decay. Of itself, matter is neither generable nor corruptible. Prime matter (διάλη πρώτη) is nude potentiality, that is, matter without determining form. Without form matter does not exist; indeed, the concept of mere matter is an abstraction, or, as the scholastics described prime matter: *Nec quid, nec quale, nec quantum, nec quidquam aliud eorum quibus constituitur ens.* Because John Locke understood the scholastics (at least, some of his contemporaries) to speak of prime matter as if it were a huge mass of existent nothing, he accused scholasticism of verbalizing nature, that is, of projecting a mere verbalization into the world of things. The concept of prime matter was a stock object of ridicule late in the seventeenth century, when metaphysics was a decaying and unpopular science. Joseph Glanvill, for example, twits the scholastic: “I take him for a person that understands the quiddities and haecceities, the prescisiones formales and the objectivae, the homogeneities and the heterogeneities, the categorimatices and the syncategorimatices, the simpliciter’s and the secundum quid’s. He knows, no doubt, that first matter that is neither quid, nor quale, nor quantum; and that wonderful gremium materiae, out of which forms were educed that were never there.” The effect is laughable, but one can achieve the same effect by listing the stock terms of sociology or cataloging the parts of a gas engine. What Glanvill and others of his generation missed is that such terms describe, but do not constitute, reality.

Prime matter, we must note, is distinguished from second matter or matter as existent in natural bodies (matter in the modern sense), which exists because of the union of prime matter with substantial form. Second matter is the proper study of *Physica.*

Form, which Aristotle calls *εἴδος* or *μορφή,* is the other intrinsic
cause of being. As the principle of determination, form is united with matter (the principle of indetermination) to produce the individual. Form is the determining element of actual being and, thus, is the metaphysical substitute for the Platonic Idea. Herein lies the radical divergence of Aristotelianism and Platonism. Plato's Ideas, or essences, exist apart from the concrete individuals who are copied from them. For Aristotle, form exists only concretely and in the individual, distinct but not separated from matter. The existence of a thing within a species, for example, the existence of an animal as a dog rather than a cat, is due to form, the determining factor. Due also to form is the explanation of homogeneous plurality, or the identical likeness of the many. That cobbler, Cossack, and Warden of the Cinque Ports are equally men is due to the fact that they possess the same specific form; that they are individuals within the species (John the cobbler, James the Cossack, and Peter Lord Warden of the Cinque Ports) is due to the fact that they are constituted also of matter, a determinable, perfectible factor. Both form and matter are causes necessary for concrete, sensible existence, as would conclude the questionist who proposed: An forma sit magis natura quam materia.\textsuperscript{21}

The uniting of matter and form and their dissolution, or the coming into being (or more perfect being) of everything, is brought about by another type of cause, efficient cause, τὸ κινητὸν. Efficient cause is the agency by which an effect is produced, or, as Aristotle says, "the source of the first beginning of change or rest."\textsuperscript{22} Only the First Cause, Himself uncaused, is entitled unimparedly to His effect. Secondary causes are not absolutely effective: the Prime Cause may suspend the effect. Here, in the limitation and dependency of secondary efficient causality is the metaphysical escape hatch for miracles and the reason behind the question: "Whether the necessity of an efficient cause be absolute."\textsuperscript{23} As the above immediately implies, secondary causes are limited as to the field of their activity (Nihil agit ultra sphaera[m] activitatis suae),\textsuperscript{24} nor can they produce an effect greater than themselves: Accidens non pt producere substantiam.\textsuperscript{25}

But, do efficient causes operate by chance or according to an end or purpose? An quae fiunt a natura casu fiunt vel propter finem?\textsuperscript{26} In the scholastic cosmos everything that comes to be has a purpose or final cause. Hence, there is no room, strictly speaking, for chance; though an unforeseen (therefore, unintended)
effect might be said to happen *casu*. Final cause (end, purpose, τὸ οὐ ἔνεκα) is that *on account of which* a thing is made or something done. In the last analysis, final cause is identical with form, since it is the form of the effect, considered as existing in the intention of the agent, which (form) acts as a motive and a blueprint of causal activity. The various aspects of *finis* are analyzed, as in the notebook in King’s College Library, MS. 15, into *finis qui*, the thing desired, *finis cui*, the one for whom it is desired, and *finis quo*, the intermediate means which are desired in pursuit of the end. Thus, the freshman comes to Harvard to seek an education (*finis qui*), for his own benefit (*finis cui*), to which end he asks for books in the Widener Library, hurries to his classes, and hunts suitable recreation in Boston (*finis quibus*).

Transcendental being, whose notion, attributes and principles we have brazenly oversimplified, is predicated analogously of *ens per se* and *ens per aliud* (the whole and the part, which need not detain us), of *ens in se* and *ens in alio* (substance and accident) and of *ens a se* and *ens ab alio* (God and creature).

The initial and bitterest attacks on seventeenth-century scholastic metaphysics were launched in the sectors of substance and accident. To the scholastics, being was divided into being which of its essence inheres as a modification in another being, and being which does not inhere in another. Being which does not inhere in another is substance, or *ens cui competit esse in se, et non in alio tamquam in subjecto inhaesionis*. Substance stands, as it were, on its own two metaphysical feet, *sui juris*, not as an *ens a se*, or independently of a cause, but as an *ens in se*, or independently of a further subject in which it must inhere. Descartes defined substance as an *ens a se*, reduced corporeal substance to mere quantity, and made qualitative change nothing more than a local change in quantity. Again, while scholastic substance does serve as the substratum of accidental appearance, this sustaining of accidents is not the primary note of substance. God is a substance, yet His essence is anything but to sustain qualifications. Locke, taking substance as mere substratum, rejected scholastic substance as a suppositional subflooring for accidents, a merely fictional representation imagined to underlie qualities, since we cannot imagine qualities to exist otherwise.27 It is significant, though only negatively, that thesis questions on substance do not appear in late seventeenth-century notebooks at Cambridge.
The essence of substance is to be in itself. Individual substances called supposita (diamonds, roses, tigers, Irishmen), are the real actors in the drama of things, since they are ultimately responsible for activities. Actiones sunt suppositorum, said the scholastics, meaning that to act and to be acted upon belongs to the individual complete substance. Thus, it is the man, not the hand, who kills; it is the man, not the soul, who thinks. Much less is action in the drama of things to be attributed to accidents, the masks through which substance is perceived.

The individual, finite substance (man as individuated in Peter) is modified by thousands of accidents. Peter is marked by quantity and quality (physical accidents), hence, capable of modification by the various states (πάθη) in which he finds himself and of being put into hundreds of relationships (πρόσε ρήσ) with other beings in the world. These modifications, states and relationships are accidents. The nine accidental qualifications of being are: (1) quantity, being extended in space either in the form of magnitude or multitude, that is, being that can be measured, increased, or decreased, for example, a two-hundred pound man or a five-foot-two girl; (2) quality, being as affecting substance in its essence or its operation, for example, a brown hen, a hot potato, a kind mother; (3) relation, being in logical or real connection with another being by way of equality, similarity, identity, parenthood, and so on; (4) action, being that is productive of change: whipping, opening, carrying, and so on; (5) passion, being changed or suffering change; being whipped, being opened, being carried; (6) position (situs), being ordered or arranged or disposed in a certain way: sitting, standing, bent, looped, folded; (7) place, being located, that is, being near, in the room, on the shelf, far away; (8) time, being measured according to a before and after, for example, being as lasting until two o'clock, payable on March 1, arriving tomorrow; (9) habit, being modified by an adjacent substance, for example, wrapped in cloth, wearing a hat, covered with violets. These nine modifications, states, and relations of being, plus substance, constitute the ten categories of Aristotle. Only two of the modifications, namely, quantity and quality, are in their very nature physical accidents, which must inhere, like metaphysical parasites, in substance. Of the other seven, many problems arose in philosophical exploration as to their exact nature. Really, these are simply situations (relationships in the real world of things), mentally formalized. Some are in themselves substances and only denom-
inatively accidents (a helmet); some belong to relational, some to habitual, categories. But whether a too-tight helmet, which causes headache, should be classified under *actio* or *habitus*, is not nearly as important as the realization that the categories were only ways of cataloging things for the scholastics, not abstractions which existed as such in the world of helmets and heads.

In addition to material substance, which in its details is the object of *Physica*, the universe contains immaterial substances — *Dantur substantiae immateriales* — which are so called because they are not composed of matter and form. The human soul is an immaterial, though incomplete, substance, but as the form of the body, it was treated by Aristotle and the scholastics, not in metaphysics, but in physics. Of angels and their existence, the metaphysician, relying solely on reason, properly knows nothing. He may speculate about angels hypothetically: “If angels, pure created intelligences, exist, they occupy a limb on the tree of being just above rational animal and below increate Intelligence.” Or he may argue suavely with St. Thomas that, since the universe is perfect, that is, since it imitates all the perfections of God, it is becoming (*oportet*) for creatures to exist who are pure intelligence and will. Burgersdicius and others of the late scholastics made a great show of proving apodictically the existence of angels by reason. Says Burgersdicius in his *Institutionum Metaphysicarum* (we are quoting the second edition, 1642): “The existence of Angels cannot be demonstrated from the movements of the heavens, as was done by Aristotle, since it is not clear that the heavens are moved by Angels.” This argument being invalid, he continues, “The existence of Angels must, therefore, be gathered rather from the fact that there are in nature certain effects which can be ascribed to no physical cause . . . such as legerdemain [*praestigiae*], sorcery [*maleficia*], temptations [*tentationes*] and other things of this kind.” If angels are not responsible for these effects, he argues, then we must appeal to miracles. Yet, we cannot continually suppose miracles, which require direct divine intervention; therefore these effects demonstrate the existence of angels. From this *ab-ignoto-in-notum* argument for the existence of angels, Burgersdicius goes on to speculate about their nature, attributes, and activity with such completeness that Raphael could have got up his lecture to Adam in Book VIII of *Paradise Lost* by quickly reading over Burgersdicius’ chapters during the one-day flight to Paradise.
It is one thing to make a reasonable guess about the probability of created, suprasensible being and say with St. Thomas "oportuit" and "rationabiliter ostendit"; it is something else to argue to the existence of angels from such an ambiguous phenomenon as witchcraft. Two observations, which we shall develop later, seem called for here. First, this glaring example of decadent metaphysics res ulted, obviously, from a passion for systematization, and the late scholastic is hoist with his own petard. Secondly, scholastic metaphysics is led astray precisely by the same sort of cabalistic erudition which proved so unhealthily attractive elsewhere at Cambridge. Henry More is as good an example as any of what can happen to a metaphysician gone berserker.

In the suprasensible world the most important substance is, of course, God. If the certain existence of angels cannot be argued to metaphysically, the seventeenth-century scholastic knew how to argue to the existence of God sheerly by reason. Although, he would argue, \textit{per exemplum}, the incumbent president of the United States does not of himself imply a thirty-third or a ninth president, he does imply a first. \textit{Deus est Naturae lumine cognoscibilis} is only one of a dozen formulae for the thesis. The most interesting formula for the natural knowability of God is found in Lawrence Bretton's notebook: \textit{Deum esse non est articulus fidei} — The existence of God is not an article of faith. The questionist merely follows St. Thomas and asserts that because God is the object of knowledge He cannot strictly be the object of belief, since belief depends sheerly on the testimony of another. If I witness an automobile accident myself, the testimony of another does not add to my knowledge that the fact occurred. Another's testimony may add details and perspective, but I cannot \textit{believe} the accident occurred, since I already know it, unaided by the revelations of another.

The metaphysician argued rationally to the existence of God by speculating chiefly upon the existence of changeable, imperfect beings in the world of direct experience. In the rubble of generation and decay about him, the metaphysician saw causes at work, as changeable in essence as the effects they produced. Either all being is contingent and changeable, involving the logician's nightmare of an infinite series of contingent causes, or the whole system depends ultimately upon a non-contingent, necessary First Cause. This unchanging, self-sufficient First Cause, which cannot not-be, is transcendentally disparate from changing,
self-insufficient, contingent beings. *Necessarium et Contingens differunt toto genere,* as James Duport argued in one of his student disputations. Since the necessary and the contingent, the a se and the ab alio, the Deity and His creatures, differ toto genere, being must be predicated not univocally, but analogically, or both. There is a proportionality, say the scholastics, or a likeness of relationship between God and His being and creature and its being. Being is predicated of each, but of a transcendently different kind: God is being, creature has being.

That God was knowable by natural reason was cardinal to seventeenth-century metaphysics. As the author of K 38 in St. John’s College Library says: “Hee that would bee a knoweing, & well grounded Divine (for tis a matter of sweat & industrie, notwithstanding ye wild & willful Contradictions of these unhappie times) should seriously apply himself to ye study, & comprehension of that science wee call divinity, that twofold, 1. Natural 2 Supernatural & revealed.” Clearly, natural theology or theodicy stands independently of revelation. The author continues: “Naturall Divinities *θεολογία φυσική,* I call that knowledge of the Deity, & o’ Deity towards him, which may bee attained by ye light of nature . . .” It is “. . . that naturall understanding, a law of reason writ into our hearts, by the finger of God & Nature.” The whole is learned by the “. . . light of Nature, I believe,* though I know who says the contrary. *Socinus, Prae-lect. Theol. c. 2 p. 3.4.*” Here within a single passage, the tutor insists four times that God is attainable by reason alone.

But it is not only the existence of God which reason can attain: within the province of this part of metaphysics is a certain knowledge of the divine attributes. The Deity, says the author of K 38, may be considered: “1. In esse absoluto, in himself. 2. In esse respectivo, in relation to ye creatures.” Considering God absolutely, or as He is in Himself, reason arrives at a tidy bundle of attributes: “. . . & soe by the light of Nature wee may know, these and such like perfections of his. 1. His existence & being, quod sit. 2. His unity. 3. His Infinity. 4. His Omnipotency. 5. Simplicity. 6. Eternity. 7. Immutability. 8. Immobility. 9. His Ubiquity & Omnipresence. 10. His infinite Wisdome, Purity, Liberty.” Beyond the absolute attributes of God which reason can touch, there are relative attributes, or attributes which can be predicated of God only subsequently to creation. “If wee consider him in esse respectivo, in that Relation which hee beares to ye Creatures, & soe by the principles of nature we may
know him. In ratione principii, that hee is the first principle of being, the Sun, & Ocean from which all rayes, & rivers of being proceed, that hee is πρῶτον τὸ ὅν, Causa Prima (so Aristotle θεόν τε πατὴρ (so Homer) τὸν καὶ γένος ἐγέρεν (so Aratus).

2. In ratione Providentiae, th he Governes all.

3. In ratione finis; that hee is ye end to which all things doe or shall tend.” The study of God as man’s last end connects theodicy with ethics, a connection which the author of K 38 expounds: “Now wee cannot know him to bee this End, seeing ye End, & meanes to it are Relata, having an Intrinsecall, & necessary dependence upon each other unless wee know ye way, & meanes to enjoy that End. Now ye doeing of his will, is the way to ye Enjoyment of him, who is End of all Creation & being, which will (soe farre concerne Natural Divinitye whereof wee now speake) is conteined in ye Law of Nature, or ye dictates of right Reason, the sume of which, is comprised in ye Decalogue . . . .”

How a seventeenth-century Cambridge lecturer filled out part of such an outline as the above may be learned from the manuscript lectures of Nicholas Felton, entitled Disputationes Metaphysicae. Felton wades through the intricacies of theodicy, treating with particular thoroughness the questions on divine foreknowledge, the metaphysical battlefront in the theological wars on divine grace. Predestination was the burning issue in the early seventeenth century, not only among Protestants but among Catholics as well. The dispute between the Arminians and the absolute Predestinarians is well known to students of English literature; perhaps less well known, but similiary vigorous, was the dispute between the Jesuits and Dominicans within the Catholic camp. Throughout his tractate, Felton shows himself well abreast of the Catholic dispute and conversant with the writings of the Catholic authorities. In Disputatio 2a: An in natura intellectuali appetitus sit aliquid videndi Deum innatus aut elicitus? Felton refers to molina ibid, et dom, bannes. Molina being the Jesuit champion and Bañez the Dominican Hector. There is no need to point out to students of the early seventeenth century that Cambridge scholars were completely privy to doings on the Continent among Catholic scholastics. Another hundred years, however, and the already rent fabric of scholastic thought, as yet common to both Protestant and Catholic, would have all but disintegrated.

Felton’s lectures are divided into two main sections. The first part is chiefly concerned with the possibility and nature of man’s
knowledge of God. Liberally buttressed with exact quotations from, and references to, scholastic authorities, the main questions treated are: Whether by natural reason it can be proved with certitude that God can be known? Whether the essence of God is beheld by a created intellect through some kind of likeness? Whether it is within the absolute power of God to impart a mental image \([\textit{species impressa}]\) by which His essence can be clearly and intuitively known? Whether those who see God comprehend Him? Whether those who see God behold other things in Him? Whether those who see God necessarily behold other things which \([\textit{forte?}]\) are in Him? Whether all natures can be seen in God?

The second section treats of divine knowledge and its objects. Among the main questions here are: Whether in God there is knowledge through which He understands? Whether God knows other things than Himself? Whether God can be said to know future events for the reason that they are really future? Whether God has knowledge of non-beings? Whether God has knowledge of future contingent events? Whether there is knowledge of future contingent events antecedently to the determination of the divine will? Whether God certainly knows conditionally contingent future events? These last two questions: (1) does God know the contingent future antecedently (with a priority of order, not of time) to the divine decree which wills them to be? and (2) does God know the conditionally contingent future, that is, does God know a future action of man which will come to pass only if a condition is fulfilled? — these two questions are at the nub of the dispute on the \textit{scientia media}\textsuperscript{40} and suppose considerable subtlety (and patience) on the part of Felton's hearers.

Most of the natural theology questions in the notebooks are, however, much less sophisticated. As part of metaphysics the student was more likely to propose some such thesis as: \textit{Deus est repletive in loco},\textsuperscript{41} that is, God is wherever anything is or possibly can be by reason of the attribute of immensity. Or, \textit{Deus est causa omnium rerum quae vere subsistunt}, as we find among the propositions defended by Henry Docker.\textsuperscript{42}

So much for scholastic metaphysics, which ran through all the compass of the notes of being, from featureless prime matter to the glorious Intelligence of Intelligences, Pure Actuality, which Aristotle almost lyrically describes in XII, 7, of the \textit{Metaphysica}. Something of Aristotle's vision of the Ultimate Reality must have caught Sir Edwin Sandys, who, in his pious will, October
31, 1629, left to Cambridge the princely “... sume of one thousand pounds ... for the reysing of an annuall stipend for a life lecture of Metaphysicall Philosophie.” 43

PHYSICS

Physica, Aristotle’s physics, “studies the first principles of things qua in motion.” 44 It was, therefore, the science of the changeable. By the early seventeenth century, physica had fixed its unstable frontiers about a mass of philosophy and physical science, including within its borders legitimate philosophical speculation, excellent scientific observation, some quaint guesswork, not a little superstition, a bit of quackery, and much good intention, in a sort of academic Czechoslovakia.

Under the aegis of science, modern man thinks and talks of the sensible world in terms of scientific categories: of inorganic and organic, of invertebrates and vertebrates, of molecules and atoms. He not only categorizes thus, he also synthesizes by stating relationships between categories. So, he speaks of structure and function, of integration and equilibrium, and, ultimately, of cause and effect, though he is more prone to talk of dependent and independent variables. In all this, however, one thing is axiomatic: whether in categorizing or synthesizing, his thought about the sensible universe, or so he says, is limited to the observable and experiential. If he states that A and B stand in a precise — and, ideally, measurable — relation of interdependence, his justification is that Category A and Category B, as well as their specific relationship, are all observable. They can be verified by anybody, anywhere, at any time under the same essential conditions. So, in explanation (the term is used gingerly!) he moves from the observably less general and more variable to the observably more general and less variable. He feels his control stops with the shore of the observable, and is loath to probe into the watery plain which lies, or may lie, beyond. If he is radical, and ambitious to play the philosopher, he may imply that nothing lies beyond and that, should he be able, at last, to refine and complete his observations, he will find the observable fully self-explanatory. But, radical or conservative, he is content to settle for knowing the world as only man can know it.

No wonder, then, that to the modern mind seventeenth-century physica is an intellectual Babel. For the late (that is, seventeenth-century) Cambridge scholastic was bent on understanding the sensible universe as any intelligent being can know it, be
the intelligence human, angelic, or divine. He wished to analyze the observable metaphysically, and so to understand it in terms of being, even as it is known to God. He observed, perforce, but he did not dream of expanding, controlling, and refining his crude observations, since for him explanation and understanding did not lie in that direction. Inevitably, therefore, he tended to confuse scientific categories and relationships with metaphysical categories and relationships, and, with observation limited, to screw philosophical categories down upon the world of “fact” with apparent disregard for what the “facts” had to offer of themselves. Thus, in reverse of his modern scholastic counterpart, he tended to identify one distinct stratum of knowledge with another: philosophy, the knowledge of things in terms of first principles of being, with science, the knowledge of observable reality in terms of principles which that reality yields of itself.

This, the confusion of philosophy and science, seems to be what Peter Janich is defending in his Epistola Dedicatoria (1610) to the second edition of Keckermann’s Systema Physicum (Hanover, 1623): “The usefulness of Physics, if we bring the matter into the sunlight, is simply this: as a perennial fountain, it pours forth from itself sweet streams into all the liberal arts and disciplines, communicating one part to the Medics, another to the Astronomers, other parts to other disciplines.”

The point will be clarified as we study physica in detail. But, first, we must determine exactly what the subject was supposed to cover. Physics was also called natural philosophy. Roger North says that his brother’s “... appetite ... was to naturall Philosophy, wch they call Phisicks.” In a set of notes entitled Abstractio compendiosa philosophiae naturalis, Richard Morton says that “Physics” is the science de principiis rei naturalis in fieri. Being in fieri or being as undergoing change is the object of physics according to Lawrence Bretton’s notebook, as well: Ens mobile est subjectum phisices. As Keckermann says: Physica est Scientia contemplandi corpus naturale. He insists, however, that the subject matter of physics “... is not Nature, if we would speak carefully, but a body enjoying a Nature, which as the cause and principle of such a body is the subject of this science.” With even greater exactitude J. Alsop’s notes, Phisicae definitiones, distinguish the material object of physics, that is, the general subject as common to several sciences, from the formal object, or the specific aspect under which the material object is viewed. “The material object,” he says, “is a natural
body, that is, one composed of matter and form.” On the other hand, “the formal object is the natural body precisely as natural, that is, having in itself a principle of motion and rest.” Hence, he continues, “... physics does not treat of a natural body in as much as, say, medicine can cure it, but in as much as it is a natural body, and can move or be at rest.” Furthermore, “God and the angels do not pertain to physics, since they are not comprehended within its material object [natural bodies], and they are not bodies because they do not consist of matter and form.” Finally, Alsop asserts that the object of physics goes even behind changeability, to the reason for changeability: *Nec objectum eius recte corpus mobile, multo minus ens mobile, definitur ergo recte phisica scientia corporis naturalis quatenus naturalis.* These diverse statements of the limitations of physics, or natural philosophy, are reconciled if we note that physics is concerned: (1) with bodies, (2) as changeable, (3) precisely because endowed with a nature, which is the “principle of operation.”

Such clarity and precision as Alsop’s and Keckermann’s with respect to the object of physics may seem to contradict what we previously said of the seventeenth-century confusion of *physica* with science. Alsop and the others are describing the object of *physica* as, ideally, it should have been studied and as, *de facto*, Aristotle conceived it. That it was not studied merely philosophically, but was confounded with the sciences, is clear from what Matthew Robinson, admitted to St. John’s College, 1644, says of it as something “abstracted” from science. Of “… physics (abstracted from anatomy, astronomy, meteorology, and the natural history at large) he thought these jejune studies not [worth] exceeding one month’s enquiry.” One does not “abstract” unless there is an identity in reality. The hopelessness of the confusion, however, will be better understood if we attend to the details of the discipline as it was actually taught.

We turn, therefore, to the details of physics as taught at Cambridge. *Physica generalia*, corresponding roughly to Aristotle’s Physica, was a metaphysical tractate on bodies, their “affections,” and qualities. It treated of substantial form, which is incommunicable, that is, is individual to each single body and cannot be shared by two bodies. Identical twin goats, for example, have each its own individual substantial form. Further, forms which are not immaterial, as those of goats, are not created individually, but are “educed” from the potentiality of matter; as explained the questionist who answered: *An forma Physica...*
Matter, which is both ingenerable and incorruptible, hankers for form, and in this hankering, precisely, is matter such as it is. The concept of a privation of form and the concept of matter are identical concepts. In the generation of a new individual, however, there need be no resolution of the composite to prime matter; such a resolution would make of nature a principle of disruption.

Nature, which is treated by Keckermann and others next after the form and matter of natural bodies, is a very precise concept. By the end of the century, Nature had become an amorphous punching bag, as in Pope; and, with the passage of another century, would become in Wordsworth a wraithy, elusive semipersona, to be reverenced because unknown. What Pope and Bolingbroke meant by Nature the scholastics called Mundus, the agglomeration of individual natures into an ordered whole. Nature, however, to so hardheaded a scholastic as Keckermann, is no more (nor less) than ipsa materia & forma corporis naturalis, suscipient alique respectum ad motum & quietem corporis naturalis, unde et describitur. Nature, then, to the early seventeenth century, is matter and form, with particular reference to operation, that is, to a natural body being at rest or in motion. Or, as Keckermann continues, “Nature is the principle or cause of motion or quiet in a natural body.” So, insist others, is nature rightly defined.

Natural bodies, as we discover them in the world about us, are extended or qualified. To some, the quantification of bodies is not really distinct from their materiality: Quantitas non realiter distinguetur a materia. In other words, if one admits matter, one immediately admits quantity. The impact of such a thesis (ca. 1630) becomes apparent in explaining one of the cruces in Paradise Lost. Milton, who should have been the orthodox dualist, makes Raphael, a spirit, defend the thesis that spirits are extended, sexed, and capable of enjoying food. Further, the devils are corporeal: “Thir armor help’d thir harm, crush’t in and bruis’d Into thir substance pent . . .” Milton, without need of poetic license, is simply following Scotus, who postulates a primitive prime matter (materia primo prima) in all creatures, as against St. Thomas, who limits prime matter to sensible bodies. Milton’s Arbor Entis, as the reader knows, runs:

So from the root
Springs lighter the green stalk, from thence the leaves
More aery, last the bright consummate flow’r
Spirits odorous breathes: flow'r's and thir fruit
Man's nourishment, by gradual scale sublim'd
To vital Spirits aspire, to animal,
To Intellectual, give both life and sense . . .

and, yet, "one first matter all." Milton is doing no more than versifying Scotus, who says:

Ex his apparat, quod mundus est arbor quaedam pulcherrima, cuius radix et seminarium est materia prima, folia fluentia sunt accidentia; frondes et rami, sunt creata corruptibilia; flos rationalis anima; fructus naturae consimilis, et perfectionis natura Angelica. Unicus autem hoc seminarium dirigens et formans a principio, est manus Dei . . . De isto igitur totius universalis naturae fundamento, materia scilicet primo prima, verum est, quod in fundamento naturae nihil est distinctum.

At this point, a word must be spoken in explanation of Scotus. His *materia primo prima* is not the divine substance, nor would Scotus dream of identifying matter with spirit. Scotus would claim the title "dualist" as readily as St. Thomas. The difference between Scotus as against St. Thomas and Aristotle is simply this: while St. Thomas and Aristotle limited potentiality (*materia prima*) to sensible beings, Scotus postulated a substratum of potentiality (the capacity for change), as common to sensible beings (men, dogs, lice) and suprasensible beings, for example, angels. Angels, men, dogs, and lice, according to Scotus, enjoy a common composition of form and *materia primo prima*. Extended beings, such as men, dogs, and lice, are composed of a more immediate potentiality (*materia prima*) and substantial form. In other terms, while Scotus says "... in fundamento naturae nihil est distinctum" (meaning that a subpotentiality underlies men and angels equally), St. Thomas insists that only sensible beings can be composed of potency (*materia prima*) and act. This is why every angel, in Thomistic speculation, is a complete species in himself. Since the angel is not a composite of form and a *materia primo prima*, he is pure act. One angel, therefore, has nothing in common with another angel. Scotus (and Suarez, for another reason) leave angels as individuals within a species, sharing a common substratum of potentiality. "Angels dancing on pinpoints" is a stock jibe at the scholastics, but the question: what is an angel? (is he a composite of form and remote potency or a pure form?) was the basic question, as serious as it was subtle.

While a Thomist finds difficulty in conceiving a being that is
a composite of form and matter (however remote such matter may be) as not being extended (as not being as exactly corporeal as, say, a human being), still, a wise sequax of St. Thomas will give Scotus (Doctor Subtilis) credit for an insight which he does not share. Unhappily, St. Thomas did not live to answer Scotus.

Change in natural bodies is either substantial, involving the loss of one specific form and the acquisition of another, or accidental, involving merely a transformation in quality (black to white), quantity (larger to smaller), or space (here to there). Change necessarily implies duration. Every created substance undergoes duration, cuilibet creaturae competit suae durationis mensura, whether such duration be in "aeveternity," as with the angels, where change is only instantaneous in a totum-simul now, or in time, which is the numbering of motion in natural bodies according to a before and after — numerus motus secundum prius et posterius. Only extended bodies move in time, and Milton, who adopted the view of a tenuous corporeality in the angels, is at least consistent when he requires the passage of time for Raphael's flight:

Who since the Morning hour set out from Heav'n
Where God resides, and ere mid-day arrived
In Eden, distance inexpressible
By Numbers that have name.

Francis Boughey's notebook supports Milton: Ex hisce dictis, sequitur contra nonnullos scholasticos, Angelos non posse movere in instanti.

Similarly, only extended bodies can be said to be in place. Place, τοπος, primum ambientis mobilis immobile, is conceived by the scholastics to be the inner surface of the surrounding air, water, or solid which is immediately contiguous to the body. Thus, the place of the book on one's desk is the upper surface of the desk and the five surfaces of air touching the book. Space is simply the area occupied by the book, that is, the area lying within the limits of the surrounding bodies; actual space can exist only between actual bodies; hence, the only space in the universe lies inside the periphery of the outermost heavens. What lies beyond the outermost body is called imaginary space. Finally, actual space, which is limited and finite, is potentially infinite, since all extension is capable of indefinite increase. The problem of being "in place" involved many cognate problems. Could a body be in several places at one time? According to the scholastics
all created being, whether corporeal or spiritual, is "circumscribed" or limited. St. Thomas says: "To be circumscribed by local limits belongs to bodies only, whereas to be circumscribed by essential limits belongs to all creatures, both corporeal and spiritual." 74 The generic concept of circumscription is mentioned by Milton when Abdiel chides Lucifer:

[S]halt thou dispute
With him the points of liberty, who made
Thee what thou art, and formed the Power's of Heav'n
Such as he pleas'd, and circumscrib'd thir being? 75

In reading Paradise Lost, we find that the word "circumscrib'd" slips by the eye with no indication that it is the key word in the passage, expressing the basic reason for Satan's impotence against a noncircumscribed being. Though all created beings are circumscribed by their essence, natural bodies are circumscribed by place. Esse circumscriptive in loco meant that a body present in Boston could not be present in Chicago at the same time. Francis Boughey in his notebook (ca. 1640) uses Rome and Paris. A body, he says, "si sit Romae et Parisiis, quod idem ens est in diversis ubi. Roma enim et Lutetia sunt diversa ubi & sic poterit esse Romae Raphael et annihilari Parisiis simul et semel, quod est idem ac dicere, idem simul et semel posse esse, et non esse . . ." 76 Boughey is saying that the multiple presence of a body in diverse places controverts the principle of contradiction, that is, that the same thing cannot both be and not be at the same time. Whether in the back of Boughey's mind is the dispute between Protestants and Catholics on the multiple presence of the Body of Christ, we cannot say; often, certainly, a philosophical thesis lays the charge for theological fire.

Before leaving the subject of natural bodies as such, we must examine the implications of the question: "Is there a 'smallest' in natural bodies?" 77 The question imports the concept of the continuum. A continuum is anything extended, anything "having parts outside of parts," and, therefore, divisible. To what extent is a continuum divisible? The Sophists had long since raised the problem of the impossibility of crossing a bridge or of the hare overcoming the tortoise. 78 For the hare to overcome the tortoise, the hare had to overcome half the distance separating them. To overcome the half-distance, he had to overcome half of the half-distance, and so ad infinitum. The distinction which solves the problem will serve to bring out a seventeenth-century concept
of the material world—mathematically, an extended body can be divided, or multiplied, indefinitely; physically, a body is reducible to minima, to the equivalents of modern neutrons and protons.

Thus far, *physica* has been a philosophical science, concerned with the universal principles of matter, form, time, place, and extension. Of the competence of scholastic philosophers up to this point no one will find quarrel. But, scholastic physics did not stop here. Keckermann, having finished this section of his book, says: "Tradidimus generalem Scientiae Physicae partem, idcirco specialem nos methodus ducit."79 Keckermann’s blithe following of "method" into the specialized consideration of secondary matter and the analysis of sensible phenomena in terms of his metaphysical principles must inevitably lead to considerable, though charming, nonsense.

Book Two of Keckermann’s *Physica* considers the basic physical organization of the cosmos: the heavens, their movements and operations, their composition, and the five elements: ether, fire, air, water, and earth. The Aristotelian cosmos, which Keckermann adopts without correction in later editions, has been put together as a series of concentric spheres, the outermost being the heaven of the fixed stars. God directly communicates motion to the outermost circumference of things, whence motion is transferred, with the help of lesser intelligences,80 to the lower and inner spheres, becoming less perfect and more elliptical as motion is further removed from the direct influence of God. From the moon inward, the composition of things differs from the outer spheres, and it is different precisely because all bodies but the celestial have added to their matter a privation and, hence, a disposition, vague and imponderable, to mutability and "passion," to wit, they can be mutually altered, generated, and corrupted.81 The earth lies unmoving at the center of the world, unmoving because its property is heaviness, and, of course, *Non datur motus gravissimi simpliciter naturalis*.82 Spenser’s *Cantoes on Mutabilitie* were, obviously, based upon his Cambridge physics, and, however poetical his statement and naïve scholastic theory may seem, the whole construct was postulated as an answer to a problem which required more than naïveté to raise. How, after all, is motion in a world of changeable, nonpermanent, self-insufficient things to be explained? Who keeps this kept universe? Above all, how?

The outermost sphere is simple, not a composition: *Coelum*
est corpus simplicissimum. As Keckermann explains: "... this simplicity is not to be taken as that found in God and spirits, i.e., such as excludes composition of matter and form," but as expressing merely "immunity from a mixture of elements ... since it is not composed of other bodies, nor of the four elements." In fact, the plenum which extends from the heaven of the fixed stars to the moon is filled with ether, the highest element in rank, though the fifth (quinta essentia), if we number the elements as they are known to the senses. As simple, the heavens are not corruptible, though they possibly had a specific form. In Lawrence Bretton's notebook, two contrary theses appear: Coelum habet formam informantem and Coelum caret forma informante. Keckermann himself held for a celestial form, insisting upon two composing principles of the heavens: ea duo sunt ex quibus coeleste corpus componitur, Materia nempe & forma coelestis. What kind of matter was joined to the celestial forms, even Keckermann found a bit difficult: inter difficillimas exercitationes Physicis. Where Keckermann feared to tread, we shall not rush in.

We hope to be excused, further, from discussing the intricacies of the movements of the planets and of their individual qualities. It is worth noting, however, that in 1588, in the comitialia magistralia held for Sir Walter Mildmay, the questionist replied affirmatively to: "Whether all the divinations of astronomers be based on conjectures rather than on science?" and, in 1615, during another comitial disputation at Cambridge, a cool head but warm wit defended the thesis: Saturni frigus frigid cerebri figmentum — The frigidity of Saturn is the figment of a frigid brain.

To this section of physics belongs the consideration of simple (as opposed to mixed) elements, of the secondary qualities of elements, of their actions and interactions, and of their individual character as external elements (fire and earth) or as intermediate elements (air and water). "An element," defines Keckermann, "considered in itself, is a simple body, similar to an incomplete body, out of which other bodies are composed and into which they are resolved." In their pure state elements are not digestible: Pura Elementa non sunt Alimenta, a thesis which occasioned a bit of fuss in 1630. Of the Ash Wednesday disputation of that year Richard Drake remembers: "The speech which I gave on the Thesis: Pura Elementa non sunt Alimenta, roused the hornets about my ears and so excited the anger of the Pro-
chancellor, the Doctors and I don’t know whom else, that I was called to account before them, but luckily I got out of it.” 91 Elements are changed by their forms, as Lawrence Bretton’s notebook records, and receive their efficacy as food, medicine, and so on, from their forms: Propriae medicamentorum facultates non ab elementorum crassis, sed a forma substantiali proveniunt. Finally, the elements are composed of smaller particles, which, if stable, form a solid, or, if in motion, form a liquid: Fluiditas oritur ex part. elem. motu.92

As suggested by Drake’s thesis above, simple elements may combine into “mixtures,” which receive a substantial form different from, and higher than, the forms of the elements in their pure state. Perfecte mixtum corpus est, in quo omnia elementa convenienter alterata mutuo uniuntur & copulantur perfectioni quodam & constantiori temperii, pro nobilioris formae introductione.93 The treatise De Mixtis expands into the treatises on heat and its effect on chemicals; on life in general; on human, brute, and plant life in particular, and, finally, on meteorological phenomena: comets, earthquakes, climate, and so on.

The mixture of elements into new bodies involves “temperament,” the arrangement and proportion of the elements in the new body — perfectioni quodam & constantiori temperie — as Keckermann is quoted above. Fire is warm and dry, air is warm and moist, water is cold and moist, earth is cold and dry. As these variously work their effects within a mixture, various characteristics result; in living mixtures, these characteristics are “humors.”

Mixta are either natural or artificial. Among the interesting artificial mixta treated by Keckermann, is the coctile, which is any mixture quod concoctionem recipit.94 The coctile, which sounds much like “cocktail,” is divided into frixiones and elixations. One kind of elixir, whose recipe describes some modern concoctions, is the μόλυνθος. “To elixatio proper is opposed μόλυνθος, which is an imperfect elixir, achieved when heat begins to draw off the superfluous humidity, but the drawing-off is thwarted by an excess of coldness and humor: which kind of crudity the Latins called Flaccidity.” 95 In view of the Continental’s spurning of mixed drinks, and of the august NED’s professed ignorance as to the origin of “cocktail,” we respectfully suggest that the scholastics be charged with the term, if not with the practice, of cocktails.

We need not delay over the characteristics or various kinds of
nonliving mixtures, whether natural or artificial, since most of
the scholastic treatise is concerned with the mixtum vivens. A
living body is one which possesses the immanent power of moving
itself—vivens est id quod sese movet. The important word is
immanent: a wind-up toy train moves by itself, but not from a
principle immanent to itself. The principle of immanent move-
ment in a living being is the soul, whether this be a human, brute,
or merely vegetable form. Life is treated, first, in general, that is,
as common to man, brutes, plants, inasmuch as these are endowed
with certain affectiones, chiefly, health and sickness, and are gifted
with the three chief faculties of living bodies, the powers of nutri-
tion, growth, and generation. Reparatio, or the repairing of in-
jured parts, is considered the function of generation. Next, animal
life is treated, prescinding from whether such life is enjoyed by
brute creation or by man. Sentieny, the power to perceive con-
crete images of extended objects, is the most important aspect of
animal psychology; and Keckermann, Eustachius of St. Paul, and
Burgersdicius handle the matter carefully. Keckermann first treats
of the interior senses: the sensus communis, a sort of clearinghouse
for the data of perception; imaginatio, or fantasy, which is the
faculty of formulating concrete images of an object independently
of the object’s presence, and sense memory, which recalls previous
sensations. Some scholastics added a fourth interior sense, sense
judgment, the power of discrimination which, for example, a
Virginia hunter uses in clearing a rail fence or a ditch. In addition
to the four interior senses, there are the five exterior senses: sight,
touch, hearing, taste, and smell, of which visus est sensus praes-
tantissimus.96 These five exterior senses are not reducible to
touch,97 and the problem of whether or no secondary sense quali-
ties are in the object itself or in the sense is at least implicated in
Lawrence Bretton’s proposition that Nigrum videre est nihil
videre. Each sense has its own proper object, in respect to which
it is infallible: Sensus non fallitur circa proprium objectum.98
Errors, for example, optical illusions, are not the result of faulty
sense reporting, but of faulty interpretation on the part of judg-
ment.

Such sound epistemology is followed by much nonsense on
waking and sleeping. Sleep tends its knitting by trussing up the
busy senses: An somnus qui e mortis imago sit omnium sensuum
ligatio.99 But, beneficial as sleep is—and scholastic philosophers
are uniformly advocates of sleep—too much sleep is harmful.
"Immoderate sleep," says Keckermann, "is a serious danger to
health, because the humors and gaseous exhalations are thereby built up in the body, with the result that the heart and brain, becoming too moist and over-filled with cold and wet transpirations, decay and become disposed to various diseases." 100 Sleep, of course, introduces the problem of dreams. Here Keckermann gives full play to old-wivery. "Infants," he says, "before the age of four or five do not dream easily or distinctly." As for the cause of dreams: "Memory images and ideas come and go [Reciprocantur etiam imagines et species] according to the particular temper of the body as a whole, the influence of the stars, and, finally, the upsets and changes in the cerebral membranes, in other members of the body and in the viscera, especially, in the stomach, spleen, liver and, above all, in the organs destined for generation." 101 A sexual explanation of dreams does not begin with Freud.

Next, after animal cognition, the scholastic physicist turned to appetite. Sense appetite or the appetitive instinct (appetitus concupiscens) is the nonvoluntary urge which makes a bloodhound follow a trail and a smoker automatically reach for a cigarette. In all animals there is a blind "cupidity," whereby they seek the seeming good.

The last section of this part of physics, on animals in general, includes locomotion, respiration, and anatomy. To the credit of Cambridge physicists, very little scholastic anatomy was debated in the schools, though Lawrence Bretton records such theses as: The blood is part of the body, The hair and nails are not part of the body [but excrescences], and The liver is not, according to Aristotle, the blood-producing (αμάτωσι) organ. 102

The most important part of physica was the psychology of man. Man's body was treated along with the rest of the animal kingdom; the human soul, its origin, end, and operations received separate and complete treatment. As we might expect, questions on the human soul, especially of its origin, were most popular in the Cambridge schools. The soul is the principle of life: Anima est qua vivimus. 103 It is not a complete substance, much less a complete species (as are angelic forms, according to St. Thomas), but, as the principle of intelligent life, it is united to the body as its substantial form: Intellectivum principium unitur corpori ut forma. 104 Though united to the body and animating the entire body, it remains immaterial, being extended only ratione informationis, by reason of the body, which it animates: Anima recipit extensiva p[er]fectionē a materia, non intensiva. 105 As an immaterial being the soul is divinely created, Anima est divinitus
inspirata, and created new with each individual, Productio animae rationalis est nova creatio. "Whether the soul is created and infused by God or is derived from the parents," a question raised long since by the Fathers, notably by St. Augustine, in connection with the transmission of original sin, was answered at Cambridge by Charles Hotham in 1646.

Further, the rational soul is immortal, as Duport proved in one of his disputations, and, when separated from the body by death, craves reunion, Anima separata appetit reuniri corpori. The scholastics held that the rational soul, as the form of the body, was also the principle of sentient and vegetative life, and that these potencies of the soul remained with it even in the separated state, specifically, the suspended power of sensation. One rational soul with three functions was the answer to the question: "Whether in addition to the intellective soul there are other souls essentially different."

The rational soul thinks, wills, and remembers through faculties, which, as was commonly held at Cambridge, are really distinct from the soul itself. The intellect, individual in each individual, human person, is the highest power of the soul, at least according to the Thomists, and is both active in abstracting the knowable essences from sense impressions and passive in receiving a species or mental image of the thing known. By means of this impression the mind, in a certain way, becomes the thing. The exact process of how the mind becomes the thing, or how an immaterial faculty, the intellect, knows the concrete, material singular, was one of the problems hotly disputed among the scholastics. The Cambridge scholastics seemed to hold generally with Suarez that the intellect primarily knows the singular, and can form proper concepts of singulars; hence, any difficulty in understanding is solely on the part of the intellect itself. The Thomists held that the mind primarily knows the universal and by reflection on the phantasm of the singular, say, of Peter, knows Peter. The point is not inconsequential, since Suarez's position is one less step removed from the object than St. Thomas's, and the adoption of Suarez in the matter is typical of the English mind. Be this as it may, both the Thomists and the Suarezians agreed that things are not known according to their dignity in nature (An eadem sint nobis notiora et natura); accidents are known prior to substance, though substance enjoys a priority of nature; similarly, God is known consequently to creatures, though He is in every way prior to them.
The intellect, however, is no mere static receptacle of images. Dynamically, it rearranges and relates images or simple apprehensions according to the three speculative habits of understanding, knowledge, and wisdom. Understanding is the habit of the mind whereby it grasps intuitively such self-evident truths as "the whole is greater than the part," or "the same thing cannot both be and not be at the same time." Knowledge, or scientia, is the habit of analysis whereby the mind infers one truth from another, drawing out a principle to conclusions. Wisdom, sapientia, is the highest intellectual habit, which directs the mind in synthesizing higher, unifying principles from multiple conclusions. In addition to these three speculative habits are the two practical habits of prudence and art: prudence, recta ratio agibilium, directs the mind in the due order of things to be done (general living), while art, recta ratio factibilium, directs the mind in planning things to be made.

Memory, which some held to be a distinct faculty and not merely a recollective function of the intellect, involves a preserving and a recalling of knowledge. The first process is called memoria or memoria prima; the second, reminiscentia or memoria orta. These differ not with respect to the object remembered but with respect to the rememberer; hence the thesis: Memoria et Reminiscentia differunt Subjective. As Keckermann explains: "Prima memoria is that which judiciously moulds, orders and confirms the images formed by the intellect lest they vanish." On the other hand, "Orta memoria is the power which re-integrates or recollects these images which previously adhered to the memory but later disappeared." Partner to the intellect among the powers of the soul is will, the faculty of choice. Will pertains to an immaterial being as rightfully as intellect; indeed, will can pertain only to an immaterial being. The object of the will is good in general (bonum in communi) and its freedom consists in choosing among different forms of good, as the intellect presents the alternatives. Obviously, the will and intellect interact, or, as St. Thomas states it: Voluntas et Intellectus mutuo se includunt. As the intellect guides the will by presenting motives, so the will influences the activity of the intellect when it attends to one object rather than another or in sustaining the prolonged attention of the intellect. As to which is the higher faculty, the Scotists held for the will: Voluntas est motor in toto regno animae. The Thomists, on the contrary, put the imperium in the reason, rather than in the will, whence the
disagreement between the Thomists and the other schools, as to whether, in the final analysis, the will was necessarily determined by the practical judgment of the intellect. James Duport wrote comitial verses for the thesis that the practical intellect necessarily determines the action of the will: *Intellectus practicus necessario determinat actionem voluntatis.* This is hardly more than a *lis de verbis*, since the ultimate practical judgment is precisely that according to which the will *de facto* chooses. The ultimate practical judgment does not necessarily present as finally to be chosen that which is better or even good for man. The will may choose evil, though the evil is always presented to the will under the aspect of good: *bonum apparens*. The choice of such a *bonum apparens* is, of course, the story “Of Man’s first disobedience. . . .”

It seems noteworthy that theses on the will seldom appeared in the Cambridge schools. One reason for shying away from the subject of the will and its freedom may have been the difficulty of defending the theses against the objections which a clever don might raise. A more likely reason is that the freedom of the will vis-à-vis divine grace was the most urgent theological problem of the time and one argued heatedly and *ad nauseam* by the bachelors of divinity.

Following the treatise on the will and a short consideration of such peculiarly human activities as speech, tears, and laughter, the scholastic physicists usually treated woman—*De Homine quatenus est Foemina*, as Keckermann announces the section. It was a man’s world, for, as Keckermann bluntly asserts, “. . . as far as the degree of perfection in nature is concerned, nature intends the male rather than the female.” Indeed, women are, in a certain way, an aberration of nature: *foeminam esse παρέκβασιν, q. d. aberrationem quandam naturae*, though Keckermann is saved from being ungentle by allowing that it is universal nature which envisions the perfect and the absolute, while “particular nature does intend a diversity of temperaments and parts.” In this sense is Milton’s Eve “This novelty on Earth, this fair defect of Nature . . .” The scholastics, however, were not completely uncourtly: Keckermann, for instance, will have no part with such as say that women are monsters. On the question: “Whether according to Aristotle’s doctrine woman be a monster?” he argues gallantly: “This [that women are monsters] we deny with firmness, since according to Aristotle’s teaching monsters occur rarely and extraordinarily. But, this cannot be said of women, for they are begotten as frequently as men, indeed, more frequently, if we
believe the historians . . .”

Even more quaintly delightful is Keckermann’s gynics:

Because woman is of a moister and more frigid temperament than man, she grows more quickly and has more excrescences such as hair. . . Hence also we understand why woman has a sharper and subtler voice than man, why she is more timid, generally more flighty and, withal, more graceful, because of the coldness and moistness of her temperament: the cold and moist temperament makes the trachea arteria, through which the voice comes forth, softer and more relaxed; similarly, these make for a lax and soft heart structure, so that a woman’s heart is much more easily moved than a man’s, which is more solid and fibrous.

The female characteristics of softness, gracefulness, longer hair, timidity, described by Keckermann, run through Milton’s description of Eve (Paradise Lost, IV, 298–311): “For softness she and sweet attractive grace . . . She, as a veil down to the slender waist, Her unadorned golden tresses wore Dishevelled . . . which implied Subjection . . . Yielded, with coy submission . . .” Another feminine characteristic, that woman grows faster than man, had canonical implications. The great canonist, William Lindewode, Bishop of St. David’s (d. 1446), gives as his final reason why women reach the age of puberty before men: “the ill weed grows apace.” Clearly the Courtly Love tradition is not scholastic.

Following the treatment of human kind, Keckermann deals with brute creation, plants, irregular bodies (monstra), fossils, metals, and, finally, meteorology. On these subjects a few theses questions occur in the notebooks, but, aside from odd bits of long-forgotten lore, the section offers little of interest to us.

Of intense interest, however, is the final part of physica, called De mundo. “The world is nothing other than the ordered aggregate or disposition of all the natural bodies created by God in the six day period, arranged according to the highest, middlemost and lowest part,” says Keckermann. Or, as Burgersdicius states it, connecting this section with the rest of physics: “Thus far have been explained all species of natural bodies separately; it remains for us to deal with them collectively. This collection of natural bodies is called the world.”

Keckermann, yielding to the temptation for oversystematization, applies by analogy hylomorphism, the system of substantial form and prime matter, to the world itself. The matter of the world comprises “. . . the natural bodies of which the machine of the world consists.” The form is “. . . the order and dis-
position of these bodies.” To speak of form in this sense, while permissible as an analogy, leads easily to the consideration of substantial form merely as a relation. From speaking analogically of the order to be found in the world as “form,” it is only a step to speaking of the world soul, as Neoplatonism does. Keckermann would, of course, have been horrified that his neat analogy could have been so perverted, but the late scholastics never foresaw the results of their blind overneatness.

The most important problem with respect to the world was its origin. According to Aristotle, the articulated whole of the world existed eternally, dependently on God, to be sure, but not created in time. St. Thomas and the scholastics insisted that the world is created solely by God and in time, as revelation teaches, though St. Thomas admits the absolute possibility of its having existed ab aeterno. The variance between Aristotle’s teaching and divine revelation had led long since to the assertion on the part of the Averroists that what is philosophically true is not true theologically, and vice versa. The Averroistic position was revived in the sixteenth century by Crellius, according to Keckermann: “Out of this heading on the eternity of the world, there first arose the controversy: Whether philosophical truths are true also in theology, and e contra. For, when Fortunatus Crellius sought to defend this thesis at the University of Heidelberg . . .” and had to admit defeat, he changed his position to “. . . not all philosophical truths are immediately true in theology. When this statement, too, later proved embarrassing, and he could not—or would not—revoke his opinion without losing face, he tried to defend it in his writings.”

Crellius’ writings had some currency at Cambridge. In an early seventeenth-century notebook, Crellius’ Liber de Deo et Eius attributis is quoted generously and with apparent approval. Again, in 1646, Charles Hotham seems to have defended Crellius’ position in answering to the question: Creatio est cognoscibilis lumine naturae. The Cantabrigians generally, however, even late in the century, held for the creation of the world in time: Mundus non fuit ab aeterno, Epicureorum Dogmata de Ortu et Regimine Mundi est falsa, Mundus nec fuit nec potuit esse ab aeterno. The worthy James Duport, on the other hand, while not adopting Crellius’ position, held that the creation of the world is not demonstrable, which is not to say that a theological truth is philosophically false, but merely that it lacks philosophical proof. The matter is of interest to us, since here, in the earlier seven-
teenth century, is further evidence that the driving of the wedge between philosophy and theology began long before the scholastic system seemed to be cracking. And that the eventual divorce of systematic philosophy from theology would leave eighteenth-century faith with hardly more than a sentimental attachment to traditional forms is the point of Edward Davenant’s wise prophecy: “... for if a new philosophy is brought in, a new divinity will shortly follow.” 142

Such was *physica*, an unhappy medley of philosophy and science. Even in so sketchy a view as given above, one feature stands out: the scholastics continually allowed metaphysics to intrude upon their handling of observable data. For example, all through Keckermann’s *physica* there occurs the metaphysical value-judgment that one phenomenon is more perfect than another. Dry and warm are more perfect than moist and cold, hence man is more perfect than woman, celestial matter is higher than terrestrial, and so on. A metaphysical hierarchy of being has no application except in metaphysics, where things are classed according to their participation in being. In the physical world, the dry is no better than the moist, nor is the male more perfect than the female.

The intrusion of metaphysics into the world of sensible phenomena (the confusion of what modern scholastics call the first and third degrees of abstraction) is linked to an *a prioristic* regard for the system over the observable fact. The arrogance of the system over the fact is illustrated by another of the questions proposed at the dedication of Emmanuel College, 1588: *An Physicorum ratio ferat, ullos homines complurium dierum, mensium, annorum inediam, salva vita perferre?* — Does the system of physics allow that human beings can endure a fast of several days, months, or years without danger to life? 148 How long a human animal can go without food is an empirical problem, yet the question seems to suppose that the integrity of the principle is prior to knowledge of the fact. It is as if a modern scholastic psychologist proposed the question: “Does scholastic psychology allow for the possibility of extrasensory perception?” As a consequence of this “metaphysicizing” and “a-priorizing” the entire discipline became a hopeless jumble of proper speculation about the nature of the soul and the intellectual process with improper guesswork about the effects of too much sleep.

How this amalgam of philosophy and science came about historically is beyond our province. Aristotle had at least an embryonic perception (his champions will go much further!) of the
distinction between a generalized consideration of the changeable as opposed to taxonomy, and so forth, since his Physica is distinct from his De Anima, De Partibus Animalium, De Parvis Naturalibus, De Meteoris, and the other works on natural philosophy. Somewhere in the centuries between Aristotle and the Keckermanns and Burgersdicii the synthesizing genius of the scholastics overreached itself. In their attempt to handle the sensible world with logical neatness, in their overfidelity to Aristotle, which made them include in the curriculum somewhere, somehow, everything the Master had taught, and, finally, in their solving the purely circumstantial problem of reducing the ever-growing piles of empirical data to a systematic coherence, the late scholastics hammered together the unwieldy frame of seventeenth-century physica.

Where within this framework philosophical considerations left off and the exact sciences began, what belonged to the philosopher and what to the scientist, were questions that seemed to have no answer—or too many answers. Salvare phaenomena! was the battle cry of seventeenth-century speculation, and Descartes' study of dioptrics, whatever one thinks of Descartes, was a genuine (and seemingly knowledgeable) attempt to enter the no man's land between the philosopher and the scientist. Descartes, by discarding the system of scholastic forms, accidental and substantial, entitative (accounting for the qualities of things) and representative (accounting for the knowledge of things), hoped to explain the phenomena of light, color, vision, et cetera, in terms of local motion. But what is local motion? How of it explained? Briefly, both scholastic philosophy and the "new" philosophy found itself in a psychosomatic quandary. And if the scholastic philosopher, expounding upon the sphere of fire that surrounds the sphere of air, which he has never observed, is a spectacle before God and men, he is no more a spectacle than the Newtonians who rejected "hidden qualities" and intrinsic causes because they had never observed them.

Had Keckermann been able to confine himself to Book I, to the general principles of physica, and for the rest to include only such philosophical problems as the nature and origin of the soul, the function of the intellect and the will, leaving to others the task of explaining womankind, dreams, and astronomical wonders, scholastic metaphysics might not have been thrown out with the bath. But, in point of fact (and this must be said in justification of the scholastics), there were no others to whom the task of handling
the science might be left. Those who contemptuously dismiss the scholastics for failing to post "no hunting" signs for themselves about the preserve of physical phenomena, who charge them with pontificating, always *a priori*, about science, must face up to the problem of the seventeenth-century mind. If, for example, such philosophers as Duport or Holdsworth had not taught what science they knew and as well as they knew, who, pray, would have cared for the caretaker's daughter? The scientists in those days were natural philosophers.

**MATHEMATICS**

Mathematics, which Tranio bids Lucentio "[f]all to . . . as your stomach serves you," had negligible vogue at early seventeenth-century Cambridge. Though it fitted, coordinately with metaphysics and physics, in the scheme of Aristotle's philosophy as the science of immovable being, or of being as endowed with quantity, not as the subject of motion, Cambridge showed little appetite for the science which was sweeping Italy and Germany in the earlier seventeenth century. Not that the import of mathematics was overlooked at Cambridge: *An Mathematicus abstrahendo mentiatur et an differat a Physico* shows that someone at Cambridge recognized the role of the mathematician as differing from that of the physicist. Further, somebody at Cambridge recognized the abstractive character of mathematics: the science, which, abstracting from the individual being everything but quantity, considers the individual only as so high, so thick, and so wide. The plain fact, however, is that Cambridge, during the scholastic hegemony, was not concerned with mathematics.

The eminent John Wallis, speaking of the study of mathematics during his stay at Emmanuel College in the early 1630's, says: "... I did thenceforth prosecute it [mathematics], (at School and in the University) not as a formal Study, but as a pleasing diversion, at spare hours. . . For I had none to direct me, what books to read, or what to seek, or in what Method to proceed." Furthermore, "... amongst more than Two hundred Students (at that time) in our College, I do not know of any Two (perhaps not any) who had more of Mathematics than I, (if so much) which was then but little. . ." Wallis's testimony to the almost incredible ignorance of mathematics at early seventeenth-century Cambridge is borne out by Seth Ward, who, having come across some old mathematics books in Sidney College, could find none to
help him master them. "The books were Greek, I mean unintelligible, to all the fellows." 148

The university attitude toward mathematics is described, if not explained, by Wallis, when he says: "For Mathematics, (at that time, with us) were scarce looked upon as Academical Studies, but rather Mechanical; as the business of Traders, Merchants, Seamen, Carpenters, Surveyors of Lands, or the like; and perhaps some Almanack-makers in London." 149 To reduce mathematics to the business of London almanack-makers is to put it low, indeed, on the king's birthday list.

Why Cambridge should have been so indifferent to mathematics has never been explained. While there is no avowed hostility toward Italian mathematics, at least in the notebooks, one may suspect that Galileo's aversion to Aristotelian Cambridge. Galileo had fathered the new mechanics of freely falling bodies, and in the Discorsi had made a mathematical investigation of motion, that is, of the relationship among distance, velocity, and acceleration. It is possible that the Cambridge physicists felt this to be an intrusion on Aristotelian physics, which, we recall, felt itself alone to be the proper study of being qua in motion. Further, Galileo through the persona of Salviati attacked scholastic physics (defended by Simplicio) in the matter of actual infinity.

Whatever the explanation, early seventeenth-century Cambridge is almost a mathematical desert. A few documents recall an oasis. Wallis and Ward had studied the science for themselves, and in the Gonville and Caius College Library (MS. 686–613) is preserved a treatment, 22 folios in length, of higher mathematics, entitled: "For those that have skill in Spherique Trigonometrie here follows some choice Propositions selected out of the Books of Joannes Antonio Magiro Professor of the Mathematicks at Patavis in Italie Translated into English by me John Collins 1646." The only other notebook we found to contain mathematics belonged to R. Long,150 late in the century, which is so rudimentary as to begin: in Arithemetica bene calleas 4 reg. Additionem, subtractionem, multiplicationem, divisionem . . . . Long, of course, goes on to treat geometry, and to divide mathematics: Ad scientias mathematicas Pertinet Perspectiva . . . Musica . . . Astronomia . . . Mechanica . . ., but the notebook, as a whole, seems to belong to someone who has met mathematics for the first time.

Briefly, Cambridge was so badly off in mathematics that, were it not for the existence of Henry Briggs, Isaac Barrow, and a very
few others, one could scarcely believe that Newton came out of such a mathematical Nazareth.

COSMOGRAPHY

Despite the fact that such prominent English cosmographers as Samuel Purchas, Edward Wright, and Thomas Hood were Cambridge dons, cosmography was in poor case at the University in this, the first century of English colonization. This we might expect in view of the mathematical poverty of Cambridge, since, according to E. G. R. Taylor, "... from 1583 onwards, English geography entered upon a distinctly mathematical phase." As Miss Taylor points out, there is an essential relationship between cosmography, the science of the geographical world, and mathematics, the science basic to navigation, whereby the geographical world can be known. Lack of mathematical knowledge inevitably resulted in ignorance of cosmography.

Cosmography, however, was something more than geography. The basic frame was geographical, but in addition to the study of the five zones and the kinds and locations of water and land areas, cosmography included a bit of physical and cultural anthropology, some geophysics and, even, comparative religion. Samuel Purchas, the stay-at-home of St. John's College, Cambridge, wrote his Relation of the Religions observed in All Ages and All Races Discovered, begun in 1611, as essentially a work in cosmography, with particular emphasis (as we rubrically say in dissertation titles) on the peoples of the world and their religious beliefs and practices. As concerned with man and his mores, with the natural habitat of beasts, with flora and metal deposits, with winds, waves, and waterspouts, cosmography is the relative of physica; as the science of locating these things with exactitude upon a map, cosmography is related to mathematics.

The scope of cosmography, a forgotten science now and obsolete in respect to such shiny, new models as "cultural anthropology" and "geophysics," may be conveyed by listing the contents of one of the classical works, Peter Apianus' Cosmographiae Introductio cum quibusdam Geometriae [et] Astronomiae principiis ad eam rem necessariis (1551). Apianus first treats "Of the Form [construction, not substantial form] of the world and the encircling bracelets of the spheres, on which the whole of cosmography depends." Next, he treats the axis of the world, the poles and the Colures. The Colures (κόλουροι) are the two circles which quarter the globe longitudinally and bisect each other at right angles at
the poles. On this point, Macrobius is Apianus' commonplace, as
the latter comments on the Somnium Scipionis (I, 15). The Colures
passed through the equinoctial and solstitial points, hence were
spoken of as the Colurus Solstitiorum and the Colurus Aequino-
ctionum. Next, after the Colurus, is the equator, the zodiac, the
horizon, the meridian, the two hemispheres, and the motion of
the earth, the five zones (two frigida, two temperata, and the
Adusta [tropical]), the four regions of the world, that is, the four
directions, the winds, longitude, the use of the quadrant, a table
of the declinationes Solis per omnes gr Elipticae, latitude, a listing
of countries, climates, the definition and listing of islands, penins-
ulas, isthmuses, and continents and, finally, the geographical
divisions of men: Perioeci, Antoeci, Antipodes or Antichthones,
Peristii, and Amphistii.

The Perioeci, or circuncolae (neighbors), are those who dwell
on the same parallel of latitude, but 180° east or west of oneself,
"with whom we have nearly everything in common"; the
Antoeci or anticolae dwell on the same longitude, but at the op-
posite southern latitude, hence, have the same seasons as we, but
not at the same time — paria nobis tempora agunt, sed non pari-
ter. We northerners, however, enjoy longer life, as "In the Com-
mencement day [1594] answered Mr Bell Regin. [of Queens']
. . . Boreales quam Australes sunt vitae diuturnioris." The
Antipodes — Dantur Antipodes — are the peoples who dwell at
diameters with oneself. "The Antipodes are those who oppose
footprints [vestigia obvertunt] with us and observe a similar
celestial elevation. With such we have nothing in common [geog-
raphy-wise] but everything altogether the contrary; for when the
Sun brings us summer, bitter winter oppresses them." The
same, says Apianus, is true of day and night. Apianus offers, as an
example of antipodes, the Spaniards and the Indians. "Certain
Indians (because they are almost diametered) are the antipodes
of the Spaniards, and, reversing footprints with the Spaniards,
and, e contra, the Spaniards with the Indians, they tread the earth
equally . . . ." The

The Peristii [Periscii] are those "who dwell beneath the poles.
They are so called because of darkness, since darkness, like a
millstone, involves them half the year." The Amphistcii [Am-
phistciii] are those dwelling in equinoctial areas, ". . . whom the
sun strikes with the four shadows [seasons]." The

The poverty of Cambridge cosmography is not due alone to
lack of mathematics. Interests, of one kind and another, chiefly
political, restricted cosmographical study. Intrinsically, the university on the Cam was simply not concerned with the science beyond a classical topography, maps of the Holy Land, something on Biblical beasts, Hebrew numismatics, and a consideration of Jewish rites and customs, as the author of MS. K. 38 (St. John’s College Library) recommended as proper to a young divine. In addition to a certain basic knowledge of his New Testament whereabouts, Richard Crossinge admits in his notebook to little more than a rudimentary concern with European geography (largely out of Dionysius), with a page or two on the Indies and nothing on America. On the Far East, Crossinge notes: “In Oceano Orientali: as to what lay beyond the shores of the Indies, while nothing was known to the ancients, now to European navigators is known only that there are islands there to the number of an Archipelago, so that it can be compared to the European Archipelago, i.e., of the Aegean Sea. Japan is the most celebrated of all the islands.” That a late seventeenth-century Cambridge student could lump Japan, the Philippines, and the East Indies into an archipelago comparable to the Aegean Isles seems incredible, in view of what was then known of the Far East. Before we criticize the University, however, we must remember, first, that details of voyages and the logs of navigators were state secrets of the highest import (Germany took the lead in the previous century in cosmography because the Függers paid agents for getting Portuguese data to Germany) and, secondly, that Continental travel literature, like the Portuguese Jesuit Relations, was suspect and negligible to the little northern island, which seemed bent on cutting itself off from the rest of the world.

Be this as it may, Cambridge knew the elements, at least, of cosmography: that the world is round, that the antipodes grow heads above their shoulders and that Othello told only gently incongruous tales in wooing his Desdemona. Desdemona’s listening to Othello’s tales merely shakes our belief that the seventeenth-century scholar could never bear my lady company.
Seventeenth-century Cambridge bachelors did not pay their guineas and become, merely by growing in age and grace, masters of their arts. The *magistratus* at Cambridge still meant that a bachelor had pursued further studies at the University and by the performance of his acts had proved to his masters — and the master to his doctors — that he was fit to join their select company.

The higher fields of study were the medieval four: theology, medicine, law, and music. Theology was, of course, the all-important field: who could be primarily concerned with the skeletal system, the *Pandects* or hypo-mixolydian modes, when a man’s very salvation was the issue, when governments were formed, academic positions filled, and, often enough, blood spilled, according as one held supra- or infralapsarianism? No historian of the seventeenth century can afford to ignore the paramountcy of theology in university life, much less dare he minimize the issues. In our modern world, where divinity schools are innocuously tucked away in a corner of the university, or completely divorced from university life in independent seminaries, it is hard to believe that medicine, law, and music were not then the aristocrats they are now. Indeed, at seventeenth-century Cambridge, law and music, and to a much lesser degree medicine, were suffering what Clarendon would have described in one of his heroes, say, Falkland, as “broken fortunes” to an almost incredible extent. We agree with Professor Morison, when he says: “All but Divinity had very little importance in our period. There were no proper facilities for the study of ‘physic’ at Cambridge or Oxford; intending physicians either served an apprenticeship or studied at Leyden, Padua, or some other Continental university. The reformation made the civil and canon law historical studies of no direct pro-
fessional value; the common lawyers had what amounted to a law school of their own at the Inns of Court. The music degrees, toward which no instruction was provided, were little regarded and seldom taken."

THEOLOGY

Cambridge had always prided herself upon her theology. A. G. Little notes: "Few universities in the thirteenth century had a Faculty of Theology. Paris, Oxford and Cambridge were among them." Of the physical provision for divinity study at Cambridge, MSS. Baker record: "Ex MS\textsuperscript{9} Col. Corp. Chr. Cant. The Foundation of the Public Schools at Cambridge I an [sic!] enduced by my Records, that the university began the Divinity Schools, by the help of ye Friends & that they layd the Foundation, & builded the walls to a certain height, having much help of Sr. Rob. Thorpe Senior:, w\textsuperscript{ch} was about An. 1369."

As the seventeenth century opened, there had broken out in the English universities a furious theological ferment, to which Principal Tulloch refers, with a fine Scot's reserve, as an "excitement in the universities." The nine Lambeth Articles had just been drawn up (1595) and the \textit{jus divinum} of \textit{Sola Scriptura} as against the \textit{jus divinum} of the episcopacy were only beginning to be oriented, like chromosomes at metaphase, for the bloody development to come.

Cambridge, surely, felt the \textit{odium theologicum}. In 1600, Thomas Barlow, upon an attack by a "boy Bachelour of Divinitie" in the University pulpit of St. Mary's, writes to the Vice-Chancellor, using a Pauline \textit{anacoluthon}: "It is no doubt a great encouragement for men to answere the publiq Calumniators of our open Adversaries in cases of the highest Controversie, & their pains to be barkt at by every Whelpe that can scarce quest without Booke a Sounde Position of Divinitie . . . ."  

"A Sounde Position of Divinitie" was, of course, that held by the Church of England, whatever that meant in 1600. In 1598 (10 December) Jegon wrote to Whitgift:

For matters of Scholes, may it please your G. to understand that the Questions of Reprobation, & certainty of fayth, have lately bene revived, threatninge some disturbance, w\textsuperscript{h} I have hitherto endured for peace sake, without any publick examinacion: or process therein . . . I desire, if to your wisdome it seeme meete, your G. would be pleased to advertise our Readers, in Lectures, & especially in Determinacions, to maintaine for all matters exactly the doctrine of the Church of England . . . .
The Cambridge concern for orthodoxy, according to "exactly the doctrine of the Church of England," continued until well after the unmasking of the parties at the ball. As late as June 26, 1626, "Mr. Fawcett coming to commence Bach, in Divinity is convented before Dr Gostlin Vicechan. & his Assistants, where in satisfaction of some matters, that he was charged to have uttered & maintained in his Acts, he subscribed as followeth to his Position: Sola Scripturarum lectio, Secundum ritum Anglicanum, est Medium ordinariae sufficiens ad finem gerendum. Huic propositioni lubens et ex animo subscripsi et revera nunquam aliter tenui. Geo. Fawcett. At a Munday Court." 7 George Fawcett's position, be it noted, holds for Sola Scriptura, but according to the ritus Anglicanus, a middle-of-the-road position of being nowhere. Even after 1626, one could still maintain communion with the establishment and yet puritanize. But not publicly! The exquisite agony of a student's conscience appears in the copying in a notebook, dated somewhere between 1633 and 1640:

Qu: Wheth' rebus sic stantibus non conformists must of necessary duty still preach at all hazards or forbear.
If I must preach, then eith'r as a separatist or a Communicant w' th the p'sent Church. Not as a Separatist. If soe the Church of England from w' th I separate must then be Apostate & Anti-christian. If so now, then ever so in K. Edward, Qu. Elizabeth, K. James raignes . . . 8

No modern mind can but sympathize with so wrenching a dilemma. This student's problem, of being free to preach what he will or of challenging the very legitimacy of the Church of England, "if so now, then ever so in K. Edward[ ' s raigne]," was exploited by the Catholic apologists, particularly by "... the cunning labours of Fisher the Jesuit." 9 As Tulloch shrewdly summarizes:

The fact that a mind like Chillingworth's [and our student's] was entangled by the thickly-sown sophistries, is enough to show how powerful they were, and how ingenious and seasonable their adaptation to the intellectual and spiritual atmosphere of the time. But the very stress of the Jesuit arguments opened the way for a more rational theory of religion. The necessity of an infallible Church was their great point. How could men believe aright without some "certain guide"? 10

In other words, the Jesuits were asking, how could a man stay in the Church of England and still separate from it?
We cannot, here, trace the history of English theological thought
through the sixteenth and seventeenth centuries, that is, through
the vagaries of Puritan, Anglo-Catholic and, as Tulloch maintains,
liberal English theology. We are concerned, overbriefly, with div-
inity at earlier seventeenth-century Cambridge. The Whig his-
torians have made of Cambridge a Puritan university, coloring a
place like Trinity with Emmanuel; the Tories, on the other hand,
will urge the loyalty of Cambridge divinity, arguing that Em-
manuel was a separatist little seedbed, which can be ignored as
far as the whole University is concerned. The truth lies some-
where between. Cambridge was as loyal, on the whole, as Oxford
(we yield the confusion of orthodoxy with loyalty) and, if Cam-
bridge be theologically suspect in the earlier decades of the 1600’s,
it is because two of her colleges, Emmanuel and Sidney Sussex,
smelled of Puritanism.

How imperfectly Cambridge divinity has been hitherto under-
stood, especially by Mullinger in his *Cambridge Characteristics
in the Seventeenth Century*, would take a volume to show. Next
to ethics, divinity occupies the largest space in our notebooks;
indeed, if we include the copies and digests of sermons, it looms
largest. Had our notebooks been available to Mullinger, we doubt
he would have said: “When we naturally turn to ask what place
theology occupied in the curriculum of an age which produced
more eminent divines than any other period in our history, we
are surprised to find that as a subject of college instruction
there is no evidence of any provision existing for its cultivat-
ton.”

On this point of how much theological instruction was
afforded in the Cambridge colleges, we notice a statute of Em-
manuel: “We decree, then, that the fellows of the aforesaid col-
lege hold a theological disputation every week, in which each one
will answer in his turn, the opponents being two; each one will
fill his place in order, according to the usual custom of the other
colleges . . .”

The fellows of Emmanuel, therefore, were held
to a weekly disputation in the college on divinity, to which,
certainly, the scholars listened. For, as the same statute warns
both fellows and scholars: “Let both fellows and scholars, who
obtrude upon the college for a reason other than their dedication
to Sacred Theology, know . . . that they frustrate our hope
. . .”

This entire statute, containing both extracts, is, word
for word, to be found among the statutes of Sidney Sussex Col-
lege. But even without these statutes, we would know from sev-
eral documents that divinity was common fare in the Cambridge
colleges. Among the documents preserved in Emmanuel College
is an interesting little piece, entitled: *A breife and pithy catechism as it was delivered in Emanuel college chappell 1628 by Anthony Tukneye*. As the title indicates, it is a very simple little catechism of Puritan theology. A sample follows:

Quaest. How many covenants are there. Ans. Ye old wèth is ye covenant of workes and ye new wèth is ye covenant of grace. Quaest. Wèth is ye tenor of ye covenant of workes. Ans. doe this & live. Q. Wèth is the tenor of the covenant of grace. Ans. believe & be saved. Q. How many wayes is the covenant of grace manifested. Ans. two wayes . . .

The very simplicity of Tuckney's catechism (in contrast to the sophisticated, almost professional, experiences of D'Ewes as an undergraduate) is evidence that no Emmanuel man was going to escape a grounding in divinity. Another document preserved in Emmanuel, apparently written for the same purpose as Tuckney's catechism, is: *A table containinge the Sume of Theologye B Dr Preston Mr of Em Col.*, according to which, "Theology is the heavenly & new wisdom revealed by the holy ghoste . . ." — presumably, to the young students of Emmanuel.

Mullinger similarly overlooks the "diting" of sermons, a practice almost universal in early seventeenth-century Cambridge. It must have been a curious sight — and a dismaying one to the preacher — to see the students on a Sunday morning, whether in Great St. Mary's or St. Clement's or in one of the college chapels, industriously copying down every word spoken from the pulpit. D'Ewes records of himself, in 1618: "I continued, likewise, my former course of noting sermons . . ." Again, in 1620, he remembers: "... on March the 5th, being Sunday, having heard one sermon in our College chapel, and afterwards another in St. Mary's in the forenoon, I went in the afternoon to another church in Cambridge, where my kind friend Mr. Jeffray, Bachelor of Divinity and Fellow of Pembroke Hall, preached . . ." D'Ewes not only heard three sermons on that Sunday, but, since "Every sermon was orthodox and useful . . . after supper I busied myself in enlarging and correcting such notes as I had taken at the afternoon sermon." And D'Ewes, be it noted, had no intention of becoming a divine. His aim, later achieved in the Temple, was the law.

But not only were sermons listened to, copied down, and understood by undergraduates; often enough, sermons were answered. There is no need to review the countless pulpit controversies of seventeenth-century Cambridge, nor to list the recantations men
tioned in MSS. Baker. Directly to our point is a manuscript in Emmanuel: A sermon of Mr. John Cotton touchinge the time when the Lord's day beginneth whether at the eveninge or in the morninge. Immediately following Cotton's sermon, is: “An answer of Mr. Wheatleys to the foregoinge discourse . . . ,” in which Cotton's adversary attacks him, modo academico: “1. Ye Syllogisme seems not to be true in forme for it consists wholly of particular propositions . . . 2. Ye Syllogisme concludes not ye question, for ye question is this, whither ye sanctification of ye X'tian Sabbath is to take beginninge at ye Eveninge or not & the conclusion is Evening & morning . . .” Such a controversy could not have escaped the attention of undergraduates. It would be difficult, in fact, to conceive how a student could have listened to such disputes and ordinary sermons for four years without acquiring a systematic knowledge of divinity. For, whatever one may say about seventeenth-century sermons, they were systematic and long. Indeed, for hearing only the Sunday sermon, the Cambridge undergraduate could have been credited in a modern American university with a two-hour course in sacred theology.

Mullinger disregards, further, the divinity disputations. These were the acme of the school exercises, and the undergraduates attended. As D'Ewes recollects: “The commencement drawing now near, I was partaker, almost each day of this month, with the hearing of Clerums and Divinity Acts . . . .” This was in 1620; two years previously, he records: “I was present, also, not only at the commencement in St. Mary's but at divers divinity acts in the public School, at problems, common-places, and catechisings, for the most part then constantly observed in their due times in our private chapel in St. John's . . . .” Finally, on the point of there having been, as Mullinger asserts, “ . . . no evidence of any provision existing for its [theology's] cultivation,” we quote our beloved D'Ewes on himself in 1621, immediately after his leaving Cambridge: “ . . . one of their [the French Embassy's] secular priests came to me, and began to discourse with me in Latin, which we continued a pretty while; in which I maintained the Protestant religion to be the truth, the Pope to be Antichrist, with some other theses; in all which, I came away from him more confirmed in all the truth than before.” The fact that a recent Cambridge undergraduate could argue scholastically, in Latin, with a Frenchman, in 1621, shows how well he had absorbed Cambridge divinity, and how close, really,
Cambridge and the Continent were in the 1620's, despite the difficulties of the English Court with the Spanish Ambassador.

One might delay, pleasantly and forever, with Cambridge reminiscences. The problem remains, however: what theology was taught at Cambridge in the earlier seventeenth century? We limit ourselves to dogma, casuistry, and ritual.

The sacred theology taught at Cambridge in the earlier seventeenth century was Protestant and scholastic—a safe enough statement. As one reads through the notebooks and the records of Cambridge dis disputations, one is not surprised that the questions proposed in the schools were largely those having to do with the issues disputed most hotly between Protestants and Catholics. In a random sampling of seven manuscripts, we found that, in a total of fifty-one questions (treated at length as full determinations or summarized), thirty-six were specifically Protestant, and fifteen held, commonly, by Protestant and Catholic. The total breaks down: twenty-one questions on grace, justification, and free will; four on the ministry; four on the papacy; four on the Eucharist; three on the state of persons after death; two on the cult of sacred images; six on moral theology, and seven miscellaneous. That twenty-one of the fifty-one questions should have been about grace and justification will puzzle none who is aware of what the Reformation was all about. The questions on grace, in general, meet frontally the teachings of Trent. Typical of these questions on grace are three from Pembroke College Library, MS. 19 (proxime post 1590):

Justitia Christi ε formalis iustitia renatorum.  
Deus non dedit omnib auxilium sufficiens ad salutem.  
Concupiscentia in renatis habet vera ratione peccati.

In connection with these theses it may be pointed out that Trent defined carefully that justification is intrinsic to the soul itself, not a mere extrinsic imputation of the righteousness of Christ; that God grants to all sufficient means to salvation, and that concupiscence, the urge to inordinateness in sex and property, is not of itself sin, but the stimulus peccati. Similarly posited against the Council of Trent was the following: "Sola imputatione obedientiae Christi per fidem peccatores justificantur ad salutem." This thesis: "So lone by the imputation through faith of Christ's obedience are sinners justified unto salvation," one of the theses proposed by D. Joh. Overallo in publicis comitiis quando theologiae doctor effectus est [1596], X-rays the fracture
between Trent and the Protestant Confessions in general. For the deepest-lying issue between Roman Catholicism and Protestantism was the nature of justification.

Lutheranism and, in mitigated language and concept, Calvinism held that man is intrinsically and irreparably corrupt, original sin having infected our nature with an incurable moral disease. "Original sinne then is a full corruption of the whole nature of man, the which corruption is proceeded from Adam into all his race, and bringeth forth in mā three maner of sinnes. The first comprehendeth every inward motion and thought in mans understandynge, although the will give not consent thereunto . . ." 28 Thus, Beza, the Lutheranizing Calvinist, adopts Luther's position that every action of man is sin. He does not go so far as to adopt Luther's Klotzstock-und-steintheorie, that is, that man is reduced to the status of stocks and blocks. Beza insists: "... we spoyle them [men] not, nor deprive them of their naturall faculties and powers, as of Reason, Judgement, Wyll and suche others to make them stocks or blockes, nor yet of free will: so that they ioygne this to it, that all is nothing but darknesse, and enemitie against God, and that by this worde Free-wil be not understand ["understand" is correct] a natural power, to thinke, will, or do good or evill, but a wyll not constrained, yt which notwithstanding cannot nor will not any thing but all together evill, so much is the nature of man, not beyng regenerate (yt is to say, not healed nor restored by grace) not onely wounded or hurt, but utterly and altogether corrupted." 29 Man is, then, intrinsically and ineluctably evil, and can be justified only by shivering under the cloak of Christ.

Catholics, on the other hand, hold that man's nature is essentially uncorrupted, that is, that original sin, while depriving man of the supernatural and preternatural perfections (dona superaddita) of sanctifying grace, freedom from concupiscence, and immortality, leaves the natural faculties unimpaired and his nature good. Hence, the natural actions of man are good: such propositions as: "Free Will not aided by God's grace, avails only to commit sin," and "God could not have created man at the beginning such as he is now born," were censured by Pius V, October, 1567, and by Urban VIII, March, 1641. 30 The phrase, then: "the darkening of the understanding and the weakening of the will" means that intellect and will are created naked and uncomforted either by habitual grace or by immunity from concupiscence and decay and death.
To Lutheranism, and, *dicendis dictis*, Calvinism, the soul is born into this world a sickly and internally ailing thing; to Catholicism, the soul is born naked and unprotected, but internally healthy. For Protestants, thus, grace merely hides sin; for Catholics, grace supernaturalizes a natural goodness, adding an adoptive sonship to the soul itself, whereby it becomes, now of its own right, "co-heir with Christ." Concupiscence and mortality, to be sure, are not repaired by baptism, but concupiscence is not of itself sin any more than is death.

From the basic dispute on the nature of justification develop other positions on ecclesiology, soteriology, mariology, sacramentology, moral theology, and liturgy. As far as Calvinism, which was the prevailing point of view of the Church of England at the end of the sixteenth century, is concerned, if there is no intrinsic justification, then the church is merely an invisible body of the arbitrarily elect, without essential need of authority, hierarchy, or consecrated priesthood. (This implication in Beza, who had hitherto been accepted with a good deal of complaisance, suddenly so shook Cambridge divines that Bancroft turned against Beza in a sermon at St. Paul's Cross, 1588.) In soteriology, Christ does not repair the race but redeems by interposing himself between the child of wrath and the wrathful Father, for, be it remembered, ". . . inward corruption of ye whole man (nothing reserved) . . . maketh every man from ye very first beginning of his conception the childe of wrathe." Without intrinsic justification, questions on mariology, like the Immaculate Conception and the Mediatrix of Grace, are meaningless. Furthermore, to the Calvinist, sacraments do not cause and increase a life in the soul itself, but secure Christ to the soul *ab extrinseco*, operating not "automatically," *ex opere operato*, as cause and effect, but merely as *declaring* a saving faith. As Beza says: "Concerninge that which wee call signe, wee meane not by that word a bare signe, naked and emptie, as a thinge represented or paynted by a Paynter, or some other simple memoryall, but we understande of signes which represente to us most great and excellent thinges, declared effectually . . ." Finally, liturgy, particularly in the Mass, becomes sorcery and abominably idolatrous. "[T]he signe and the thing signified [are] always knit together in this respect, that is to saye, god offreth both the one & the other trulie, not by the vertu of words pronouced, (for it is sorcery to speake so) . . . but by vertu of the holy ghost . . ." Not that Beza would have admitted the inefficacy
of "... the Ceremonies ordayned of God in all this mistery," 35 for "to [these] Ceremonies it is not lawfull for man to ioyne or put to any newe thinges, neither to diminish without sacriledge ..." 36 Logically, however — and the Puritan followed the logic — if there is no intrinsic grace to feed, and if sacramentary ritual is only an occasion, not a cause, of grace, then liturgy and ritual are as useless as ruffs and curls. The development of doctrine at Cambridge is not, of course, this simple: swirls and inner-swirls eddied and crossflowed, so that to do justice to Cambridge divinity we should have to be able to isolate in a chronological spectrum when each individual doctrine became clearly distinguished, then glowed, then dimmed, when the Lutheranizers at Cambridge yielded to the Bezanizers, when the Bezanizers were met with the Arminians, and, finally, when Lutheranizers, Bezanizers, Arminianizers, and all who held (or put up) with episcopacy were swept out of the Cambridge schools along with plate and prelate.

From these elementary prenotes on the problem of justification and its implications, we may return to further theses on grace. If justification is by extrinsic imputation, how does one know if one is justified? While the orthodox Calvinist held against any certain external sign, Vice-Chancellor Jegon, we may remember, had written Archbishop Whitgift, 1598, that "Questions on Reprobation, & certainty of fayth, have lately been revived" in the Cambridge schools, probably as a result of Beza's influence. One such thesis appeared in 1596: Fidelis ex fide certus esse remissionis suorum peccatorum et potest et debet — The faithful soul is able, and ought, to be certain by faith of the remission of his sins. 37 Whether this could be said to be orthodox Anglicanism or not is precisely the point; certainly the thesis directly opposes the teachings of Trent: nemini tamen fiduciam et certitudinem remissionis peccatorum suorum iactanti et in ea sola quiescenti peccata dimitti vel dimissa esse dicendum est. 38 The problem of the consciousness of conversion and the search for signs became more and more acute as the decades of the seventeenth century wore on, reaching a climax in the newer England with Jonathan Edwards and the Great Enlightenment.

Conversion, whether conscious or not, is permanent, as is implied in the thesis: Gratia Dei determinat humanam voluntatem a prima conversione, 39 and this determination of the will is at the divine nutum. Here is the absolute predestinarian position, the human will losing its capacity to resist grace. Two
other theses on predestination are curiously ambiguous. The thesis: "The decree of election and reprobation depends on the will of God," and the question: "Whether some are predestined to damnation?" both dating much after 1586, and the demand for a revision of the Belig Confession, are phrased so neutrally that any of the fourteen Jesuits rumored to be present at a Cambridge disputation in 1622 (saucy devils!) could have responded affirmatively — *dicendis dictis* — in good conscience. Catholics held for predestination as sincerely as Protestants: the issue was not the *fact* of predestination but the *basis* for the divine decree. Between Calvinism and Arminianism, between Bañez and Molina, the bone was not: "Does God predestine?" but "On what Groundes doth God predestinate?" In the two theses above, the divines are carefully noncommittal. Certainly, according to D'Ewes, there was no Arminianism bruited about in the Cambridge schools: "But yet [1620] no Anabaptistical or Pelagian heresies against God's grace and providence were then stirring, but the truth was in all public sermons and divinity acts asserted and mentioned." The "truth," of course, is Calvinian orthodoxy.

Three other Cambridge "position-questions" demand comment. In the University Library, Cambridge, MS. Gg. 1. 29, the question is proposed: "Can true faith be in the demons and evil men?" Here is a *quaestio complexa*, one of the forms of the sixth type of logical fallacy, *fallacia figurae dictionis*. As it stands, the question cannot be answered Yes or No. An elucidation of the question, however, may clarify another phase of the basic dispute between Protestants and Catholics on the role of faith with respect to salvation.

"True faith," in a Protestant context, usually means *fides salvifica*, the saving faith whose primary characteristic is confidence in Jesus Christ to save. "True faith," obviously, cannot be in the devils, who are beyond salvation. Neither can a saving faith be in sinful men who are reprobate, since these, likewise, are beyond salvation. But, since all men are intrinsically sinners, then, "true faith" must be found in those sinners who are saved, Hence, the meaning of "true faith," the case of the devils versus sinful men, and the types of sinful men must be carefully distinguished before the question can be answered.

The question is similarly complex for a Catholic. Faith, as St. Thomas defines it again and again, is the assent of the intellect, as determined by the will, to a revealed truth, an act which
required grace to perform salutarie, that is, efficaciously toward salvation. Thus, "true faith" cannot be found in Catholic devils, either. The words of St. James: "The devils also believe and tremble" are explained by St. Thomas: "It is not willingly that they assent, but they are compelled thereto by the evidence of those signs which prove what believers assent to is true, though even those proofs do not make the truths of faith so evident as to afford what is termed vision of them." But such an act is not supernatural nor of Divine Faith: it is merely philosophical and natural. Still, can "true faith," in the Catholic sense, be found in sinful men? Catholic theologians hold that faith, with hope and charity, are theological virtues, supernaturally infused and inhering in the soul itself. By mortal sin, charity, the supernatural love of God, is lost, though faith and hope can remain. Hence "true faith" can be in sinful men. We must note, however, that faith can be lost by sins directly opposed to it.

This lengthy spinning out of the question of true faith in devils and sinners will emphasize, we hope, the very radical difference between Catholics and Protestants on the concept of faith. We may note, further, that such a quaestio complexa was often enough proposed in a disputation precisely in order to bring out the various phases of a problem, much in the manner of a paper at a convention of learning. In a disputation on a quaestio complexa the "opponent" would simply pick up a part of the issue, for example, true faith in relation to the demons, and begin his "line" by asserting: Atqui, vera fides potest esse in daemonis, et sic probo: etc.

Another thesis, dating from the very early years of the seventeenth century, is worth comment: "Temporal dominion is not founded on grace." Behind the thesis and surrounding its enunciation are many questions. In back of the thesis is Wyckliff's contention that mortal sin deprives a ruler, secular or spiritual, of his right to govern: Nullus est dominus civilis, nullus est praetorus, nullus est episcopus, dum est in peccato mortali. Round about the thesis is the whole context of fortune in this world vis-à-vis salvation in the next. There are those who oversimplify the Calvinistic attitude toward worldly goods as a signum praedestinationis, drawing out Weber's thesis far beyond his intent. There is no design here to attempt a summary of Weber, Troeltsch, Tawney, Fanfani, Talcott Parsons, and the other scholars who have treated the problem. It is worth a quiet note that Cambridge held, flatly, that the dominium
Temporale is not founded on grace — therefore, it cannot be a sign of grace. And, if dominium temporale is not a sign of grace, then, a minore, neither is the possession of wealth and worldly fortune.

Connected with this problem on dominium temporale is usury. The Cambridge thesis: *Usura est illicita*⁵⁰ was held by both Protestants and Catholics, though the concept of usury was undergoing modification precisely at this time. The early Reformers, Luther, Melanchthon, and Zwingli, forbade lending at interest, while Calvin allowed interest, at least on money lent to a wealthy man, an opinion that Salmasius codified. Catholic opinion at this time on usury is a difficult problem, which engages the effort of many modern Catholic theologians. This much is certain: in the Middle Ages, St. Thomas and Scotus held that the mutuum, or loan of things meant for immediate consumption, could not bear interest and that any interest exacted on a mutuum must be returned. This opinion was followed by such late scholastics as de Lugo, Molina, and Lessius. But what should be said of interest on what we now call risk capital was the real problem, a problem as deeply perplexing to Catholics as to Protestants.

A final Cambridge thesis (ca. 1605) connected with the nature of grace and justification requires elucidation: *Omne peccatum est sua natura mortifera* [sic!] — Every sin is of its nature mortal.⁵¹ Catholics are used to the distinction between mortal and venial sin, between acts which are heinous enough to deprive one of God's love (charity) and acts which, while they offend God and threaten charity, do not cause death in the soul. A Catholic understands, therefore, that he is bound to confess adultery, fornication, grave theft, blasphemy, and so on, if these are committed with sufficient reflection and full consent, since these are mortal sins of such seriousness that God turns His face away from the perpetrator (more correctly, the perpetrator has turned completely away from God). Other sinful acts, for example, "gossip" (which, of course, can be mortal), impatience, the continual omission of prayers, and such, are venial sins, not seriously offensive to God and remissible outside confession. On the other hand, Protestant Cambridge seems to have held, as many Protestants still hold, that every sinful act is mortal, a tenet consistent with the intrinsic corruption of fallen man. This thesis, by the way, *Omne peccatum est sua natura mortale*, appears as a full determination in Anthony Tuckney's Praelec-
While the heart of seventeenth-century controversy is grace, Cambridge divines did not restrict themselves to the topic. The problem of the ministry itself suggested theses for the schools. "Anglican ordination is legitimate," and "It is not permitted for a minister to abdicate the ministry" were theses defended in the schools, together with: "It is licit and expedient that ministers of the church contract matrimony." Each of these theses begs for full-dress inspection, but we hurry on to record two Cambridge theses on the situation of the Pope. "The infallible determination of faith is not annexed to the papal chair," and "It is likely that the Mohammedan or Turk together with the Roman pope constitutes Anti-Christ," sufficiently put His Holiness somewhere across the Channel.

Cambridge theses on the Eucharist, opposing corporeal presence and advocating communion under both species, and one on sacred images: Nefas est Deum colere in simulachro, enter again the storm center of controversy. In contrast to such contentious questions are the following: An Henoch et Elias sint in coelo and "Whether the use of ye profane names of our Monthes & Dayes be lawful?" An interesting moral thesis to find in those days of the relative eclipse of canon law was: "Church canons bind in conscience." The last thesis we shall treat, distinctive of those days with a Persons behind every hedge, is the chestnut: "The blind obedience of the Jesuits is not lawful." The role of the . . . Jesuit missionaries who then infested England," and their influence on the course of intellectual history—if only by their presence—has never been treated adequately. Among the manuscripts in the University Library, Cambridge, is a treatise (1623) on "The dangerous policies of the Jesuites." The present writer regrets that he has been, hitherto, so ill-informed as to the kind of Jesuit he might have been. Says our manuscript:

To enact their designes, they never accept into their order any other than such whose natures & complectiones correspond to their use, w'ch they judge by their outward appearance, and inward inclination, and are distinguished thus in 4 degrees.

1. **BOLD AND RESOLUTE.**
2. **SECRET AND CLOSE.**
3. **DISCREETE AND CONSIDERATE.**
4. **JUDICIOUS AND GRAVE.**
By these their disciples they conduct their lay-policies as followeth:

1. Those younge Resolute and sullen natures, that apprehend no perills whatsoever, they take in hand, these they send out as probationers in Caeca Obedientia and are commonly their Assasins...

However lightly we now take such a view of a Catholic order, we must not forget that to seventeenth-century Cambridge the Jesuits were looked upon as conscienceless revolutionaries, motivated by caeca obedientia.

The theses and questiones on divinity which we have memorialized, omitting many which do not seem pertinent or distinctive, sufficiently show Cambridge as orthodoxy Protestant and scholastic. Since we have previously made a point of scholasticism at earlier seventeenth-century Cambridge, especially in theology, we may delay here to show the currency of scholastic authority on the Cam.

Aquinas, Bonaventure, and Scotus, durable old masters, are peppered through out notebooks with such moderns as Suarez, Molina, and Victoria. Lawrence Bretton's notebook summary of the question: Deum esse non est articulus fidei, cites Bellarmine, Lib. 1, De Christo, 6, 3. Another notebook, anonymous, in Queens' College Library, casually mentions Aquinas (2a, 2ae, q. 66, a. 2) and Scotus (Lib. 4, sent. dist. 15, quaes. 2). On the flyleaf of MS. 44 in St. John's College Library, is the interesting jotting: "Sanctius—one of ye best commentators. Durands sentences best—more profitable than casuistry." In a little treatise: De homicidio casuali, are references to Francis a Victoria, Molina, and Aquinas (2a, 2ae, q. 64, a. 8). In the same manuscript (ff. 16 sqq.), this time on the question of usury, we read: "If you desire more, these authors following [:] Dominicus a Soto, Thom. Aq., P. Lombardo, Cajetan, Azarius, Covarruias, Bie[1], Bansai [Bañez], Parallius, Bucer, Musuulve, Aratius." Finally, Thomas Barlow in his Exercitationes Aliquot Metaphysicae (1658) shows his high regard for three modern scholastic theologians: Et multos habeo, & nominis magni authores, & judicii quos ex prae scripto sequerer; sic scriptit Suarez, sic Mendoza, sic Vasquez. These scholastic names, some Protestant, some so obscure as not even to appear in the standard dictionaries of biography, are not here paraded as celebrities in a New York gossip column. The point, here, is that early seventeenth-century Cambridge held with, and understood, the scholastics, even if some of them were proscribed: Suarez's book De Defensione Fidei was burned
in London. As was said earlier, Cambridge carried on pretty much in doctrinal disregard of the London court.

But much more significant than sporadic references is the systematic advice of the author of St. John’s College Library’s MS. K 98 to a young student of divinity. The old theologian’s list of books is nothing if not catholic:

When ye are of ripe understanding, to reade them with some judgement, some Schoolmen will bee usefull; read first Lombard, then Aquinas, then Estius, Ferrariensis, or Caietan, or Bannes, or some others of his followers, then Scotus (most iudicious as well as subtile) & some of his followers, especially Lichettus [?] & Rhada, also Sancta Clara, Deus, Natura & Gratia, & those yt gather his philosophy, as Faber Faventinus on his Physicke, Merisse on his Metaphysicks . . .

If the reader is not already stuttering over Latin cognomina, here are more authors suggested to a young divine: “. . . then read Gregorie Arminensis, Alexander Alensis, Fran: Cummell, & Gabriell Biell, Camarius, Rivet, Hurtado, Suarez, Vasquez, also Durandus, & Aureolus, read also Gerson, Gulielmus Parisiensis, Alexander Fabritius his destructorium, Gulielmus de Sto Amore, Marsilius, Delavinus defensor Parisiensis.” Next follow several amazingly erudite pages on various editions of the fathers and of the acts of the councils, with a note of warning here and there, for example, “That Latine Translation by Christopherson ye Papist, is very false.” After recommending the “Centuriaires Magdeburgenses,” he offers:

Baronius his Annals, who hath made a long & learned Collection of Ecclesiastical story, & digested it into a good methode, & will be much advantage for a full comprehension of Ecclesiastical Storie; But take heed how Yn trust him, for

1. He makes use of very many spurious Authors
2. Hee endeavors right or wrong, to advance the Papall Monarchy, & to this end, makes great flourishes with false Authors & misquotes, & misconstrues that are true.

As the above shows, in admonishing his young reader to “take heed,” the old cleric means to offer a select bibliography. His selectiveness appears in what he has to say of Scripture study. After recommending the reading of “. . . Justine Martyr, Tatianus, Asyrius, Arabius, Lactantius, Clemens Alexandrinus, Minutius, et al.,” he says:

more especially, I should commend (as more learned, more full, & satisfactory) the Workes, & Tracts of some gallant men in this Later Age; As,
Philip Mourney du Plessis, & Hugo Grotius, who have both writ de Veritate Religionis Christianae; and which is more rational then all ye rest, (if I mistake not) that tract of Dominicus Lopez, de Authoritate S. Scripturae: the Author of it was not Dominicus Lopez, or any Jesuit . . . but* Faustinus Socinus (ubi bene nemo melius) was the Author of it.

*So Socinus himselfe tells us Ep. 2 ad Christoph Montu, inter Epist F Socinus pag. 497.74

That the old divine had swallowed all these theological pills himself, he leaves no doubt in the charming passage following:

Soe much in Answere to y'r Importunate desires, though y' might have consulted many fitter in souche Businesse; for as I have not had ye opportunitie to search many vast Libraries, yet I durst not commend unto y'a those that I have not tryed, but reseaved only by report of others (save some very fewe) & therefore am faine to fetch almost all ye materialls out of the compasse of mine owne private studye.

This fine old character (in the seventeenth-century sense) was not, however, as bookish as he sounds. He leaves his young friend (and us) with a very sound bit of advice: "Fetch ye matter of y'r sermons, not only from y'r Bookes, & Invention, but from ye Consideration 1) of y'r owne experience, 2) of y'r peoples necessities, sinnes & miseries." Swift's better known A Letter to a Young Gentleman, lately entered into Holy Orders contains no wiser advice than that of our kindly old Socinianizer.

We turn from Cambridge dogma to a brief view of casuistry, a science whose floruit was the seventeenth century, though Thomas Barlow wrote: "For Protestants there is no part of Divinity which has been (I know not why) more neglected; very few have writ a just and comprehensive Tract of Cases of Conscience." 75 The elimination of the confessional, as we said in treating ethics, had thrown the English conscience on its own, a plight which Jeremy Taylor, in the preface to Ductor Dubitantium (1660), called "... the careless and needless neglect of receiving private confessions." Casuistry added to ethics the revealed, in contrast to natural, norms of judging human actions. Its method was to take a specific case, or question, and apply scriptural texts and the rulings of theogians.

Typical of Cambridge casuistry is a notebook treatment, whether copied or original we cannot determine, of the question: "Wheth'r frizl'd, curld & bushy foreheads be a dress becoming modest & vertuous woemen?" 76 The writer does not reject the practice as absolutely sinful, but as "highly Inexpedient," a
qualified, therefore "casuistical," conclusion. He says: "Suppose those things 1 Pet. 3. 3 in themselves lawfull according to some modern writers, & the Ancient Fathers generally mistaken who thought otherwise, yet plaited hair and frizl'd foreheads will not be found equally tolerable: That these things are in themselves unlawfull I shall not contend, but that they are highly Inexpedient & therefore to be rejected I will aver." The student now adds the reasons for his conclusion: first, "Tis not seasonable. In a time of Luxury, when the Harlots attire is ala mode. In a time of trouble wch calls not for silks but sackcloth. Isa. 3." The wearing of frizzled foreheads is not charitable nor decent, "... but gowdy and fantastick, justifying the Ceremonies. It robbs the face of its beauty wch consists cheafly in a fair and open front." Further, "[t]is not Modest. Some think it an Embleme of Imodesty, too palpable a signe of what should not be signified. 2 too danger, an Incentive of Lust & wantoness." Curls are not only immodest, but immoderate, and, worse, curious: "Tis not Moderate but Curious or what is worse & when you thinke of curiosity, forgett not your Grandam Eve." Who, since our student, has referred to our common ancestor as "Grandam Eve"? Nor is the wearing of curls sincere: "Tis not Sincere, nor their owne; witness Borders, Earwiggs, Periwigs: & why not borrow another face as well as another head."

This delightful touch of sarcasm now flares to anger:

Tis not Prudent. I had like to have y' chaste: One can hardly think better of these dresses but y' they were purposely devid to be handsome covers & masks of baseness: I will appeal to any man's reason, if he had such a heat: a fitter cover for such a shame than Periwiggs, Spotts & flued foreheads & tis an unsufferable & unworthy thing y' the Simplicity of Innocent people should serve this base age for nothing else but gilt to cover their rotten parts; may they keep their maners & fashons to themselves & I make noe doubt but in a few years they will stink above ground.

Such fury against seventeenth-century cafe society is concerned with overdress: we wonder, impishly, what our student would say of modern playsuits. His final reason is that the wearing of frizzled foreheads is not "... safe, but nigh to danger. Flama fumo proxima. Surely the best way to keep out of the fire is to keep out of the smoke." And, on this point of safety, "The Serpent lurks in such tuffts."

Following his "solution" of the case, the student answers the objections, of which we quote one example:
THE GRADUATE STUDIES

Obj. But the hair is given them for a covering.
Ans. i. Not y it should be one, but y they should need one. Calv. & Beza in locum. 2. To the head true verse 4 etc. but not to the face . . .

Besides dogma and casuistry, a final concern of Cambridge divinity was ritual. With the concept of the objective efficacy of the sacraments challenged, ritual became a serious problem to English Protestants. And with the problem of ritual and the way to regard it was the problem of religious symbols as a whole. D'Éwes is very definite on Cambridge attitudes in 1620: “None then dared to commit idolatry by bowing to, or towards, or adoring the altar, the communion table, or the bread and wine in the sacrament of the Lord's Supper.”

The position of Puritan versus prelatical on liturgy is too well known to need exposition. Emmanuel College, whose chapel was purposely built north and south, was continually being singled out for Puritanizing. In a poem, “presented before his Majesty, 1614,” the lines occur:

. . . But the pure house of Emmanuel
Would not be like proud Jesabel,
Nor shew her self before the king
An hypocrite, or painted thing:
But, that the ways might all prove fair,
Conceiv’d a tedious mile of prayer.

A situation which was tolerable, even amusing, in 1614, had become, by 1628, serious enough for the King to reprint the Thirty-Nine Articles and threaten his displeasure at all who “. . . should affix any new sense to any article, or publicly read, determine, or hold public disputation, or suffer any to be held either way . . .” Eight years later, on September 23, 1636, the situation was so badly out of hand that a report was drafted, either by John Cosin, master of Peterhouse, or Richard Sterne, master of Jesus, and sent to Archbishop Laud, which the latter endorsed: “Certain Disorders in Cambridge to be considered of in my visitation.” When one compares the beauty, cleanliness, and order of St. Mary's and the college chapels today, and hears Evensong in King's Chapel, where the music seems to fall from the stone vaulting like a summer’s rain, it is hard to credit the very factual report sent to Lambeth. “St Mary's Church,” says the account, “at every great Commencement is made a Theater . . . ,” especially with respect to “. . . The Prevaricatours Stage wherein he acts & setts forth his prophane and scurrilous
jests . . .” For the rest, St. Mary’s is part church, part warehouse: “All the yeare after a parte of it made a Lumber House for ye Materials of ye Scaffolds, for Bookbinders dry Fats, for Aumeric Cupboards, & such like implements, which they know not readily where else to put . . .” As for the services in Great St. Mary’s: “Before our Sermons the forme of bidding prayers appointed by the Injunctions & the Canon is not only neglected but by Most men mainly opposed and disliked.” The opposing and misliking of liturgical forms on the part of the majority is significant enough, but even more meaningful is the fact that “. . . we have such private fancies & several prayers of every Man’s own making (and sometimes sudden conceiving too) vented among us that besides ye absurdities of ye language directed to God himself our young Schollers are therebye taught to prefer the private spirit before ye publick, & their own invented and unapproved Prayers before all the Liturgie of ye Church . . .” Such Anabaptistical goings on are due to liturgical laxity. “To such liberty are we come for want of being confined to a strict form.” The situation in the colleges was even more deplorable. In Trinity, “[s]ome Fellows are there who scarce see the inside of ye Chappell thrice in a yeare . . .” In King’s, unbelievably, “some of the Quiremen cannot sing & are diverse of them very negligent. The Choristers are neere one half of them mutes . . .” And in Caius! “Any Man that is not in holy Orders may execute & read or sing Service, and he that executes upon ye weeke days with no Surplice . . . Mr. Cooke, when he was Fellow there . . . once tooke upon him to consecrate, & instead of ye wordes ‘This my Body,’ used aloud ‘This is my Bread’ & went on withall (the Master they say being present) without any controule or then or since. Some here (of which the Master is one) bow not at ye name of Jesus . . .”

Emmanuel is, of course, the shocker! “Their Chappell is not consecrate. At Surplice prayers they sing nothing but certain riming Psalms of their own appointment instead of ye Hymnes between ye Lessons. . . Before Prayers begin the Boyes come in and sitt down & put on & talk aloude of what they list . . .” Sidney was similarly feathered: “They have no Consecrated Chappell . . . Are much like Emanuel for the rest” — presumably, even to “riming Psalms.”

Unliturgical Cambridge was only part of the rubrical headache inherited by Laud, when he became Archbishop in 1633, and visitor to the Universities in 1636. Almost from the accession
of James, the problem of ritual in the Anglican Church had become increasingly distressing: to some the ritual was an emasculated disgrace and a yielding to the Puritanizers, while to others, even when performed with rubrical moderations, it was a Romish rite wherein "Religion paints a purple wolf."

The modified performance of the Anglican ritual and its abomination even in that state appears in 1606, in some Latin verses of Andrew Melville. The occasion is notable, for in that year James had summoned a number of Scots, including Melville, to come to England because of continued and grave disagreements between the English Church and the Kirk. Melville, a vinegarish male shrew, loudly proclaimed that he would have nothing to do with anything but a Free Assembly. In the course of the meetings he had noticed the ceremonies in the royal chapel at Hampton Court and in sarcastic verse had twitted the English for their unlit candles, closed books, and empty basins:

And. Melvinus in Altare Regium
Cur stant clausi Anglis libri duo Regia in Ara?
Lumina caeca duo, pollubra sicca duo?
Num sensum cultumq. Dei tenet Anglia clausum,
Lumine caeca suo, sorde sepulta sua?
Romano ritu Regalem dum instruit aram,
Purpuream pingit Religiosa Lupam.84

When the verses reached the King's ear, Melville was thrown into the Tower, where he stayed four years. A more interesting consequence (from our selfish point of view) is a set of verses in reply to Melville, written by Emmanuel's own Joseph Hall, a moderate man in theology but England's "first satirist" as he called himself.

Josephus Hall in Melv.
Qui mens felle nigra est et aceto lingua redundat,
A Melle et Vino quam male nomen habet?

On th' Altar Royall Melvin frownes to fynde
Two Basons dry, closed Bookes and Tapers blynde.
And would he lesse have wondred at the sight,
Of Basons full, Bookes open, Tapers light?
At both alike. And why these, thus, there, then?
Say Oedypus, what might these riddles meane?
Is it to curse the curious Spectator
With dreadfull signes of Book, of Fyre, of Water?
Why two? To bind the offending lips, Hands, Eyes.
Why blynde? closed? dry? to teach in forreine guise
To have blynde eyes, closed lips, Hands voyd and free,
From foule support of wrongfull jealosie. 85

In view of Melville’s fate, the lesson of having blind eyes and
closed lips may seem unsporting, but theology was a rugged
pastime in those days.

We have inserted this Hall-Melville digression to show that
the state of affairs in 1636 (gross negligence in non-Puritan col-
leges and extreme practices in the Puritan) was only a drawing
out of a cleavage noticed thirty years before. At any rate, liturgy
was an important issue, and the seventeenth-century attitude to-
ward it can be traced to the basic problem of the nature of grace
and the relation of sacramentary sign to salvation.

Whatever else we should have said of Cambridge divinity, our
original two points should be established: that theology was
the primary frame of reference at Cambridge (a truism!) and
that theology was still scholastic. Nothing, perhaps, will bring
this home so sharply as a bit of verse in a Trinity College manu-
script on the nepotistic rigging of an election of fellows:

Animadversions upon the Election of Fellows

Because that Arminians we would not be thought,
Our Election had its Predestination,
Yet a Scheme of Philosophy in there was brought,
To judge of mens Qualities by theire Relation. 86

MEDICINE

Alma Mater Cambridge’s most devoted lover will make no
extravagant claims for her medicine in the seventeenth century.
In explaining her relative mediocrity, some rationalize the med-
ical “failure of the universities” 87 in England by affirming that
“Cambridge, in Harvey’s time [B.A., 1597], was a school of logic
and divinity rather than of physic.” 88 Similarly, Wordsworth
thinks that “. . . the abiding part of the society in each college
being clergymen, it was to be expected that the education there
should be either theological, or at least not such as should train
students and their teachers for any other profession rather than
for Theology.” 89 True, Cambridge was heavily ballasted on
the side of divinity, but so was she in the late sixteenth century,
when she was able to bear, between 1570 and 1590, thirty-two
sons who took the M.B. or the M.D., twenty-six who received
their licentiate, and two surgeons (surgery being even then the most difficult of Cambridge degrees). Further, on the very threshold of the seventeenth century, two of England's very greatest medical men are associated with Cambridge: William Harvey and the great John Caius, that lonely man, who lies in the college chapel under the simple epitaph: Fui Caius. In the earlier seventeenth century, between 1610 and 1640, Cambridge produced sixty-one M.D.'s, eighteen M.B.'s, and fifty-four licentiates, a very respectable increase, and such illustrious names as: Roger Drake [g. 1627], who replied to Primrose's attack on Harvey in 1641, with his Vindiciae contra animadversiones Primerosii (1641), Thomas Winston of Clare, who took his M.D. there in 1608, and gave at Gresham College lectures, which he published (1659), and the great scholar, John Gostlin, later president of Caius, whose disputations in medicine, dated 1624–26, are preserved in Caius' library (MS. 432–433) under the title: Jo. Gostlini med Dris C[oll.] G. C. Custodis, Disput: Determ: et Creationes in Comitiis. Finally, we should ask ourselves why, if theology stifled English medicine, Galen's art flourished in France and Italy, especially in Paris and Padua, which were as theologically conscious as Cambridge. The answer to Cambridge's comparative mediocrity in medicine is simply the unsatisfying platitude that great teachers make a great university, leaving unanswered the question why so great a university as Cambridge in the seventeenth century attracted so few great instructors in the medical arts. Still, what university could have competed with Padua, the medical Mecca? Harvey, having taken his degree at Gonville, hurried to Padua, where he took his doctorate in medicine in 1602. Anyone who has walked through the charming old orto bottanico at Padua, climbed Galileo's plank rostrum, sat in the old medical theater where Harvey sat, meditating the while upon Padua's line of medical scientists—Versalius, Zabarella, Colombo, Fallopio—will understand Harvey's deserting of Cambridge for Padua, where he could sit under the eminent Fabrizio d'Aquapendente, then at the zenith of his powers.

Relatively mediocre as we admit early seventeenth-century medicine at Cambridge to have been—theological preoccupations had something, but not all, to do with it—it would be completely wrong to stretch mediocrity to inconsequentiality. All through the seventeenth century, Cambridge sought to improve her "physitians." In 1627, under the Regius professorship of Dr. Collins of St. John's, a grace was passed, as Macalaster no-
tices, whereby all were reminded that the *regius lector* was bound to perform one anatomy, bachelors to witness three, and students of medicine to attend two. In 1646, again, the University Statutes requiring three dissections from candidates for the M.D. and two from students aspiring to the M.B. were revived. Further, by royal decree foreign practitioners of medicine might no longer, after 1675, qualify until they had passed the requirements of the English universities. This seems to have rescinded the grace of January 28, 1624, whereby those who had taken the M.D. *in partibus transmarinis* might incorporate in Cambridge; this development indicates that Cambridge felt, by 1675, that she had attained her majority in medicine and must no longer defer to the Continent. In 1681, Charles R. sees fit to publish and appoint that the requirements for the "... degree of bachelor in physick be heretofore according to that for the same degree in law (save as before excepted that they shall stand bound to one opposition as formerly) ...".

Nor can inconsequentiality be predicated of a seventeenth-century university which can claim such names as Helkiah Crooke, Sir George Ent, Francis Glisson, William Briggs, Clopton Havers, Thomas Wharton, William Croone, Martin Lister, Walter Needham of Trinity College, George Jolyffe, James Drake, Humphrey Ridley, Edward Tyson, the incomparable Thomas Sydenham, and Sir Samuel Garth.

The reader will recall Isaac Barrow’s oft-quoted passage on "vividissection" (*In Comitiis*): “For, when, I pray, since the foundation of the university has a blood-thirsty curiosity been so savage in the slaughter and butchery of so many dogs, fish and fowl, whereby the structure and use of the parts of animals might become known to you. O most innocent cruelty and brutality quite excused!” The passage conjures up the vision of busy anatomical laboratories and exciting discoveries, but, as far as confirmatory evidence shows, Barrow describes a vision and a dream. There was some anatomy at Cambridge (the acts of [we think!] 1664, which Barrow introduces, are lost), but anatomy was, in general, a casual, almost clandestine, study. A paragraph in one of Joseph Mede’s letters, which might serve as an opening paragraph for a Further Adventures of E. Gordon Pym, conveys how suspiciously Cambridge regarded anatomy:

Going on Wednesday from Jesus Colledge pensionary with Dr Ward to his Colledge through the closes and gardens and espying a garden dore
open I entred and saw there a hideous sight of the skull and all other bones of a man with ligaments and tendons hanging and drying in the sun by strings upon trees, etc., I asked what it meant. They told me it was the pedler they anatomised this Lent and that when his bones were dry they were to set together again as they did naturally and so reserved in a chest or coffin for their use who desired such an inspection. It was the garden of one Seale a surgeon and a chiefe in the dissection . . .

In another letter of Mede, we may learn how difficult was it to witness an anatomy without a proper theater. On March 15, 1627/8, Mede writes: “We had an anatomy lecture upon a boy of some 18 years old, Monday, Tuesday, Wednesday, twise a day the last two days. I was once there, but saw it so ill accommodated that I came no more; for it was in the regent house upon a table, when onlye halfe a skore of doctors could come to see anything, standing close by the table, and so hindering others seeing . . .”

Despite the number of medical degrees granted, there are among the official records, that is, among the broadsides kept in the University Library and in the archives of the University Registry, no medical acts recorded from 1586, when two theses were defended,97 and 1697, when we find the following on neurology: Affectiones spasmodicae oriuntur ab Ataxia Spirituum Animalium, and Nervi nutriaticus [sic!] materiam non suppeditant.98 With a medical layman’s awe of medical knowledge, even when translated, we offer an explanation of these theses, with the help of Bart. Castilli’s Lexicon Medicum (1713). Spasmodic affections (... paralyticus, epilepticus, hypnoticus. Idem est quod convulsivus ...) are caused by a disturbance of the animal spirits. Scholastics had held that the rational soul performed a threefold function: rational, sensitive, and vegetative. Late seventeenth-century Cambridge was holding for a plurality of animal subsouls, not denying, however, the hegemony of the rational soul. As Castelli speaks of animal spirits, citing Stahl (Georg Ernst, 1660–1734): D. D. Stahlius in sua Disseratat. de Sanguificatione c 2 ad fin principium illud activum omnes actus organicos sive corporeos perficiens esse ipsam animam rationalem, sed absque concursu rationalitatis operantem, aut plures agnosci debere animas in corpore humano existimans . . . To blame paralysis and epilepsy on ataxia of the animal souls is hardly a medical explanation; indeed, the thesis shows again the confusion of philosophy and science. The second thesis above, that the nerves do not supply the material of nutrition to the parts of the body,
indicates that Cambridge was abreast of the latest (and correct) theory. Whether the nerves or the arteries fed the tissues was not yet established in 1713, as Castelli implies: An vero succus ille nutricius per arterias an vero per nervos ad partes feratur, non est huius loci dirimere. On the same occasion on which the above theses were defended, Henry Leigh responded to the following: “The inspection of urine and the exploration of the pulses do not indicate the true essence of diseases” and “The acid humor, inhering in the capillary veins and suffused in the time of paroxysm in the body, solves all the phenomena of intermittent fevers.”

The old theory of humors is here compromised with Harvey's circulation of the blood—with Cartesian overtones. Castelli, discussing acid humor, notices that “. . . from the principles of Cartesian Philosophy acid particles are likened now to little swords, now to razors, to needles and sharp points, now again to little wedges . . .” Here, again, Cartesian philosophy is attempting to enter the no man's land between philosophical speculation and science, and not successfully.

In 1698, we find Master Morley, who is aiming at his doctorate, defending the propositions: Scorbutus & Cholorosis oriuntur a Torpore spirituum Animalium and Medicamenta specifica non agunt ratione aut Qualitatum Evidentium, aut Principiorum chymicorum. That scurvy and cholera are caused by a torpor of the animal spirits explains nothing. Interesting, however (and we delight in the linking of cosmography with medicine), Castelli has this to say about scurvy: “Scorbutus. A disease formerly said to be familiar only to Northern peoples and dwellers about the Baltic [maris Balthici acolis, a cosmographical term] and, as it were, endemic. Today, indeed, being so widely diffused, it seems hardly less than epidemic to many peoples.” The point, here, is that Englishmen and other Europeans, adventuring extensively on the high seas during the previous two centuries, had found themselves subject to a new disease. The second of Morley's theses, that specific medications do not act by reason of evident qualities or chemical principles, introduces a brand-new problem, which we shall discuss later: how, after all, does a medicament work its effect, medicaments being tied with elements, which are indigestible? There was something preternatural about medication in the seventeenth century. As Castelli says: Propria magis notio medicamenti ad illa solum spectat, quae vim non alendi habent, sed agendi in corpus et naturam, aut invitandi, aut irritandi in officium, quoties id ignavius obiit,
uti eleganter scripsit Linden. Ex., III, #39, sqq. Recte commen-
dantur ex Herophilo, quod sint Divinum munus.\textsuperscript{106} Medication includes such a supernaturality as the king's touch: \textit{Prorsus enim, quod tactus Divinus efficere potest, praestant medicamenta usu, experientiisque probata. . . . Unde & Gal[en] Munus Deo-
rum vocavit.}\textsuperscript{107} The point of all the above is that seventeenth-
century philosopher-scientists were not ready to attribute to
secondary causes the effects which seventeenth-century causes
seemed to produce: effects happened, too marvelous to be natural.

When we turn from the public records of the disputations to
our students' notebooks, we shall form an even sketchier view of
seventeenth-century Cambridge medicine. While Richard Holds-
worth recommended some reading in medicine for his under-
graduates in their final year ("I could wish you could find some
time this yeare . . . to run over some short Compendium of
the Speculative part of Medicine, \textit{w}ch might be done in a month . . .").\textsuperscript{108} the notebooks reflect little\textsuperscript{108} beyond what the gen-
erality believed of quackery and nostrums. In Alexander Bolde's
commonplace book, for example, we found seven prescriptions
against the plague. We offer a sample "receipt":

Another Praeservative against the Plague. or a Medicine for the Plague
approved.

Take a handfull of Sage vertue, \& a handfull of [\textit{heart's ease?}] \& a
handfull of elder leaves, \& a handfull of red bramble leaves, \& stamp
them alltogether \& straine them in a faire cloth with a third parte of
white wine, \& then take a quantity of ginger \& mince them alltogether,
\& drinke of the medicine a spoonfull every day 9 daies together: \& after
the first spoonfull thou shalt be safe for 24 daies, \& after 9 spoonfuls thou
shalt be safe for the whole yeare \textit{by the grace of God}.\textsuperscript{110}

Despite Bolde's last phrase, where he hedges his bet on herbs
with God's grace, we do not think Bolde was being ironical.\textsuperscript{111} In another notebook we found: "For ye Piles. Take a good hand-
full of nettles and sting the piles well \textit{w}th them; having first cover
[sic!] all ye adjacent parts, \& left none open to ye nettles, but
ye piles themselves."\textsuperscript{112} These notebook jottings (we wonder:
do modern undergraduates scribble of sulfa derivatives and
chlorophyll?) recall the currency in England of such books on
household medicine as \textit{Aristotelis ac philosophorum medicorum-
que complurium ad varias questiones . . . ,} better known as
\textit{Aristotle's Masterpiece}, a delightful little pseudo-\textit{Aristotelicum
cum aliis}, which went through editions in 1563, 1595, 1638 (which
In The Problems of Aristotle, as it was called in 1638, we discovered under the heading: “Of Conception” the following question treated: “Why doth a woman sometime conceive twins? According unto Galen, because there are seven cels or receptacles of seed in the wombe. . . And therefore if a woman should have more than seven children at once, it should rather be miraculously than naturally.” 113 And, “Of the Stomacke”:

Question Why is it a good custome to eat Cheese after dinner, and peares after all meat?
Answer. Because that Cheese, by reason of his earthinesse and thicknesse, tendeth downe toward the bottome of the stomacke, and so putteth downe the meat: and the like is of Peares. Note that new Cheese is very naught, and procureth the headach and stopping of the liver, and the older the worser. Whereupon it is said, that Cheese is naught, and digesteth all things but its selfe.114

Another book on popular medicine, which likely inspired undergraduate jotting, was Sir John Harington’s The Englishman’s Doctor (1607), an expanded translation of the famous Regimen Sanitatis. Harington is outrageously charming. In dealing, for example, with garlic, which some considered mildly aphrodisiac, Harington writes:

Sith Garlicke then hath powers to save from death,
Bear with it though it make unsavory breath:
And scorne not Garlicke, like to some that thinke
It onely makes men winke, and drinke, and stinke.115

However tempting the prospect of strolling down these seventeenth-century medical closes, we must record two items which throw further light on the state of Cambridge medicine. In the Gonville and Caius College Library (MS. 759-421) is a petition of Richard London, M.A., one of the senior fellows of the College, for a trip to the Continent (1638). London begs in the third person: “. . . whereas by a locall statute of ye said College leave is given to students of Physicke onely to travell beyond ye seas for ye study of Physicke and ye advancement of learning in that profession . . . he . . . is unable to defray ye charges of his iourney and maintaine himselfe in transmarine universitys as Padua, Bononia, Montpelier, Paris, etc. mentioned in statute by our learned founder Dr. Caius.” The account informs us of the peculiar Caius tradition of providing traveling fellowships for medi-
cal men, and supplies a contemporary list of what Caius considered the leading medical centers abroad. The other item, from the *Annales Caio-Gon.* per J. Gostlin M. D. Praes. a reditu Caroli 2i 1660 ad An 1678, is an account of John Robinson, "... one of the two medical fellows of Dr. Caius's foundation, *hence* he disputed solidly, acutely and often in the medical schools — *alter e sociis ex fundatione D̄is Caii medicinae studiosus, unde in Medicorum scholis solide et acute saepius disputavit...*" 116 We should not like to make too much of a single conjunction, but Gostlin's use of the inferential *unde* seems to take it for granted that the Caius fellows were traditionally prominent.

However slightly some have spoken of the "Scole of Fisyke" at Cambridge, the University seems to have continued her tradition of serious study of the human body, not a light task in those theological days. As William Bulleyn, a Cambridge man, who died two years before Harvey's birth, said in his curious *A little dialogue betwene two men, the one called Sorenes the other Chyurgi, on the human body:* "For allthough it be fraile, sore and weake, yet it is the pleasure of God to call it his Temple his instrument and dwelyng place and the Philosopher doe call it *Orbiculus,* that is a little world." 117

**LAW**

From the twelfth century onward, England possessed three great bodies of law: canon, civil (or Roman), and common. The teaching of the canon and the civil law had become the prerogative of the two Universities, while the Inns of Court had acquired the monopoly of teaching, and conferring degrees in, the common law. 118

The Reformation in England, which some see as no more, initially, than a legal *casus,* 119 was destined to work an enormous change in the concept and the development of English law. Few, outside of Thomas More and John Fisher, saw the dogmatic implications of Henry's defiance of canon law; fewer still (perhaps none) foresaw what would happen to the study and organization of the general law in England as a result of Henry's proscription (1534) of degrees in canon law, or even lectures in Gratian's *Decretals.* 120

The canon and the civil law, both overpowered with an immense gifting of medieval commentary, 121 were indissolubly wed in university teaching. This mixed marriage had been so thoroughly consummated, that upon the death of one of the partners
to the marriage (canon law) at Henry's decree, the relict (civil law) was so weakened that law itself all but ceased to be a university study as the seventeenth century opened. In fact, there was a rumor at Oxford in 1603, that the study of law was to cease altogether. The destruction of the canon law had not only ruined university teaching, but had left vast areas uncovered by legal remedy. In the Journals of all the Parliaments . . ., for 1571 (H. C.), D'Ewes records that a Mr. Clarke argued against the second reading of the Usury Bill of that year that: "The Civil Law would not avoid them [usurious abuses], because by that Law there is allowance of Usury. The Canon Law is abolished; and in that respect the Temporal Law saith nothing . . . yet that it was ill, neither Christian nor Pagan ever denied."

The death blow inflicted on the civil law as the result of the decapitation of the canon law is evident in a passage of My Lord Somerset to Ridley: "We are sure, you are not ignorant how necessary a study that study of civil law is to all treaties with foreign princes and strangers, and how few there be at present to do the King's Majesty service therein. . . . Merry, necessity compelleth us also to maintain the science." And, as time passed and James I succeeded, it became more and more urgent, that the civil (Roman) law, from which England had cut herself off, was "... most necessary for matters of treaty with forreine nations."

But the fact was that the Roman law was almost ignored in England as a result of a flurry of interest in the common law. Although Sir Thomas Smith "... did his best to prepare himself to teach his new subject [the civil law as divorced from the canon]," at Cambridge, any of his contemporaries could have predicted his failure. There were too many cases involving the common law to leave place for the law of the Romans. The problems of Elizabeth I's headship of the church, of the succession, of the rights of the bishops against the Crown, had caused in the late sixteenth century and early seventeenth century a scurry of antiquarian research in English customary law by Sir Edward Coke, Robert Persons, John Selden, William Prynne, Camden, and Philemon Holland. The battles royal between King James and his "cousin," the Cardinal Bellarmine, between James and Persons, and between Parsons and Coke, did nothing to help the civil law, "[n]or did the dispute between lord Ellesmere and Sir Edward Coke, concerning the powers of the court of chancery, tend much to the advancement of justice." These struggles among the
lawyers opened the way for the social theorists, from Hobbes through Milton to Locke, to find an acceptable view of society as subject to law. True enough, Hobbes, Milton, and Locke only formulated their theories concomitantly with events in the political world: Hobbes's *De Cive* appeared significantly in 1642; Milton's tracts, for example, *The Tenure of Kings and Magistrates* . . . (1649), defend a different concept of the source of law, and Locke wrote after the Glorious Revolution of 1688. Merely to state it differently, each was struggling in his own way to find a basis of legal order in an England which was in transition from Roman to common law.

The point of all the foregoing is to count the factors making for the death of university law: to wit, civil law had been weakened by the proscription of canon law, while the common law was being proportionately strengthened, not only because it had its articulate source in the Inns of Court \(^{128}\) ("Taught law is tough law!")\(^{129}\) but because the political and religious problems of the time sought solution in the *consuetudo Anglicana*, rather than in the Roman tradition. The universities, however, were not legal nonentities. Sir Robert Rede, Judge of the King's Bench and Chief Justice of the Common Pleas in Henry VIII's day, had thought so warmly of his alma mater (Rede was a member of Magdalen Hall) that he left money to found lectures in humanity, logic, and philosophy, money now used for the annual Rede Lecture in law. (We are not sure that Sir Robert would be entirely happy with the present disposal of his monies and his usances!) Coke went out of his way to praise the Universities: *Academiae Cantabrigiae [Coke was an incorporated member of Trinity] et Oxoniae sunt Athenae nostrae nobilissimae, regni soles, oculi et animi regni, unde religio, humanitas, et doctrina in omnes regni partes uberrime diffunduntur.*\(^{130}\) Further, the universities prepared students, as Sir William Holdsworth maintains, for the study of law in the Inns: "It became customary for many (as at the present day) to start their career at the universities . . ."\(^{131}\) Finally, Master Richard Holdsworth of Emmanuel (to be distinguished from the historian of the law!) urged his undergraduates: "I could wish you . . . allso to read cursorily over Justinian's Institutions wch are the grounds of Civil Law, and might be done in a fortnight . . ."\(^{132}\) Despite such evidence, it cannot be denied, at this point of investigation, that there was no study of law worth a doit at Cambridge between 1600 and 1670.

On June 26, 1673, Master Wilson, responding for his "...
The following two questions: "A simple donation between husband and wife is not valid," and "A transaction, entered upon after a case has been judged, is null and void." The two theses are simply disposed of according to the principles of civil law, which, we recall, is the law taught at the universities. "By the civil law . . . a *donatio* or gift as between living persons is called *donatio merar* or pure when it is a simple gift without compulsion or consideration . . . "

Before we dismiss this law thesis as just another haggle over the *habeas corpus* of a straw man, we must remember that donation, in ecclesiastical law, was "A mode of acquiring a benefice by deed of gift alone, without presentation, institution or induction." Recall, now, the legal mess in England on the title to church lands in the late sixteenth and early seventeenth centuries, and see in a * simplex donatio* between husband and wife a scholastic thesis which the disputants might enlarge in almost any direction. The second of Wilson's theses involves transaction, "[t]he settlement of a suit or matter in controversy, by the litigating parties, between themselves, without referring it to arbitration." After judicial decision is rendered, the decision becomes part of English case-law, and subsequent settlement is null. A Holmesian might see here a clear vindication of the Holmes theory ("The prophecies of what the courts will do in fact, and nothing more pretentious, are what I mean by the law.") but since the thesis enunciates a civil-law concept, basic to which is still the natural law, Wilson was doing no more than affirming the validity in law of the court's decision *post*, not *ante*, *factum*.

The same notebook in which the above theses occur includes two theses of the following year (1675), similarly concerned with property (indeed, the reader of these late Cambridge law theses begins to repeat the refrain of Tennyson's "Northern Farmer, New Style"). Mr. Warcop of Christ's College maintained in 1675: "The right of primogeniture is approved by all law," and "Parents are obliged to dower their children." While Warcop might have anticipated no difficulty on primogeniture, dowry was something else, where he had to clear his way through such old dicta as: *Dos de dote peti non debet*, and *Doti lex favet*.

A year later (1676), our notebook records two very important propositions, rising to the philosophy of law: "Promulgation is of the essence of law," and "The force of civil law can be diminished by the usage of a contrary custom." Promulgation, a well-known term in Roman law, meant, simply, to make publicly
known. While all agreed that a law does not bind until it is promulgated, the scholastics had hotly disputed whether promulgation was of the essence, or a mere property, of law. Further, in light of the thesis, what was the validity of juridical ruling in those days, when "[t]he elder English judges did really pretend to knowledge of rules, principles, and distinctions which were not entirely revealed to the bar and to the lay-public"? The second thesis above, on the power of custom to limit the force of civil law, is much more important. In both the canon and the civil law, the validity of custom (now regarded as a common practice enduring for some fifty years) was allowed. In our present thesis we seem to see a legitimatizing of common law, where it differs from civil; in fact, the old name for the common law was consuetudo Anglica. In other words, the thesis seems to accommodate Cambridge to the prevalence of the common law.

The other theses remembered in the present notebook, mostly concerned with property, require little more than transcribing: In emptorem hereditatis non transit jus ad crescendi — "The right of survivorship does not pass to the buyer of an heredity"; Re communi simpliciter Legata, pars testatoris duntaxit debetur — "When joint property is the legacy, only the portion belonging to the testator is owed"; Naturali prohibita jure civili non confirmatur — "The civil law does not confirm something forbidden by the natural law"; Nuptias no concubitus, sed consensus facit — "Consent, not cohabitation, makes the marriage"; Heres non tenetur corporaliter ex debito [lex] definit — "The law says that an heir is not to be held corporally for debt"; Bona naufragia non fiunt apprehendentium — "Shipwrecked goods do not belong to the seisin in fact"; Jure primogeniturae, nepos ex seniore fratre, excludit patrum — "By right of primogeniture, a grandson by the elder brother, displaces a second son"; and, finally, Princeps contractus a se gestos in contrahentium damnü retr[ac]-tare no potest — "A ruler cannot retract contracts, drawn by himself, to the damage of the contracting parties." Historians of English constitutional law will see much more in this thesis, enunciated at the very threshold of the constitutional monarchy, than we can pretend to.

Scrabble as we would, we found no further theses in law until 1696, after a lapse of twenty years. In that year (there may have been, must have been, other acts between!) Thomas Ayloffe defended for his doctorate in law two theses, again on property: In querela inofficiosi Testamenti locus successorio Edicto — "In a
litigation re: an inofficious will [where the will is not in accordance with the testator's natural affection and moral duties]. The force of Edicto, here, is absolute, since according to Justinian's Institutes (1, 2, 6) an edictum is an "... ordinance of the emperor without the senate." Thomas Ayloffe's second thesis is identical with one held twenty years before: Jus accrescendi non transit ad Emptorem Hereditatis. The day after Thomas Ayloffe defended the above two theses for his doctorate, his brother, James, replied for his LL.B. (July 7, 1696) to the following: "Upon the death of a son before his marriage, all his children are legitimatized by the subsequent marriage of the grandfather"; that is, A dies, leaving B, his bastard. B is eo ipso legitimatized by the subsequent marriage of C, his grandfather. James Ayloffe's second thesis emphasizes, again, property: "In a personal or real will, a false designation ["... an addition to a name, as of title, profession, trade or occupation, to distinguish the person from others"] does not vitiate the deposition."

In the comitial disputations on July 5, 1697, Thomas Brett defended the following two theses for his doctorate: Ex Paenalibus causis non solet In Patrem de Peculio Actio dari, and Jus Naturale est immutabile. The concept of the natural law and its inherent immutability goes far back and was particularly prominent in the philosophical speculations of the Roman jurists of the Antonine age. The medieval scholastics, of course, refined and expanded the notion to denote a system of rules and principles, legal and moral, for the guidance of human action which, independent of enacted law or of the legal ways peculiar to any one people, might be discovered by the reason of man, and would be found to grow out of and conform to his nature, meaning by that word his mental, moral, and physical constitution. The validity of the concept of natural law in England at this time, and the pertinence of a disputation thereupon at Cambridge at a time when the lawyers were shifting from the sure ground of code law to the quicksands of customary law, cannot be overstressed. Two other theses of that year (1697), defended by James Johnson for his bachelorhood in law, require no comment: "Upon a son's repudiating his heredity, a substitute named by the father is preferred," and "An exceptio non numeratae pecuniae [one of the classical exceptions, whereby a defense might be set up by a party who was sued on a promise to repay money which he had never received (Institutes, 4, 13, 2)] cannot be opposed after two years." Finally, two theses of 1698,
John Laughton defending for his doctorate, are worth note. The thesis: *Juris dicendi Ratio non est Arbitraria*, is self-evident, though the second thesis seems to have political vibrations: *Princips utcumque cesserit Imperio jure Majestatis excidit* — "A prince, in whatever way he yields his *imperium*, forfeits his right of majesty," 159 Such a thesis, proposed only ten years after 1688, surely was aimed at pretending Stuarts.

The outburst of legal theses at Cambridge in the 1670's, and, again, in the 1690's, after the near extinction of university law at the beginning of the century, curiously bears out Blackstone, to whom law in the hands of lawyers as against the fist of the king is the very essence of civil liberty. "[T]he recovery of our civil and political liberties was a work of a longer time; they not being thoroughly and completely regained, till after the restoration of king Charles, nor fully and explicitly acknowledged and defined, till the aera of the happy revolution." 160

Blackstone was, of course, speaking primarily of the common law. And well he might, for by the end of the seventeenth century civil law was heaving but a last few sighs. Indeed, writing in 1708, T. Ward asks: "Why should not the Common Law of England be studied at the universities . . ." since it is "... of infinitely more use amongst us even than the Civil and Canon Laws, and of more value than the ordinary studies of those societies?" 161

**MUSIC**

Kind *Ignoramus* whosoe're *Thou* art
Not having *Skill* in *This most Glorious Art*,162

are words which seem directly addressed to anyone who would try to discover the academic status of music at seventeenth-century Cambridge. It is thwarting that, while the seventeenth is England's richest musical century, there should be so little evidence of Cambridge musical activity in student notebooks, diaries, and other *reliqua*.

Every educated Englishman, except John Earle's "Downe-right Scholler," whose "... fingers are not long and drawn out to handle a Fiddle," 163 seems to have possessed, as one of his natural faculties, not only an instrumental skill, but an appreciation of the science whereby he was expected to enter into the sanctuary of a composer's dream and follow the rubrics of his production. Such, at least, is the implication of a famous passage in Thomas Morley's *A Plaine and Easie Introduction to Practicall Musicke* (1597). On the very first page, Philomathes says: "But supper be-
ing ended, and Musicke booke, according to the custome being brought to the table: the mistresse of the house presented mee a part, earnestly requesting mee to sing. But when after manie excuses, I protested vnfainedly that I could not; euerie one began to wonder. Yes, some whispered to others, demaunding how I was brought vp . . ." Everyone knows of Milton's expert knowledge of music, not only from the masques and the sonnet in praise of Henry Lawes, but from the *Areopagitica* ("It will ask more then the work of twenty licencers to examine all the lutes, the violins, and the ghittarrs in every house; they must not be suffer'd to prattle as they doe . . .") and from the tractate *Of Education* ("The interim of unsweating themselves regularly [after wrestling!], and convenient rest before meat may both with profit and delight be taken up in recreating and composing their travaile'ld spirits with the solemn and divine harmonies of Musick heard or learnt; either while the skilful Organist plies his grave and fancied descant, in lofty fugues, or the whole symphony with artful and unimaginable touches adorn and grace the well studied chords of some choice Composer"). We can imagine the effect of piping a symphony into the shower rooms of the Harvard football team or the Harvard crew, but before we scorn Milton, let us remember the supposed effect of the Harvard band in Harvard Stadium.

John Wallis, among others, admits a debt to Cambridge in music. Having come up to Emmanuel in 1632, he speaks of his last year at school and his first in the University: "At this time I also learned the rudiments of Musick . . ." Nicholas Hookes, B.A., Trinity College, 1653, in a poem addressed: "To Mr. Lilly, Musick-Master in Cambridge," says reservedly: "We have good *Musick* and Musicians here, If not the best, as good as anywhere." Roger North, speaking of his brother Francis, admitted to St. John's, 1653, writes: "And here he began his use of music, learning to play on the bass viol, and had opportunity of practice . . ." Dryden, another Cambridge man, salted his works with musical references and was never greater than when he heard "The diapason closing full in man." Pepys, finally, of Magdalen College, is the fourth most famous fiddler (we rank him after King Cole's trio!) in English literature.

The seventeenth century was heir to a glorious English musical tradition. The very existence of a Pseudo-Bede and the widespread influence of Ranulf Higden's *Polychronicon* are mere reminders that English musical tradition stretches back into the
Middle Ages. England’s musical tradition was broken, however, by Henry VIII’s suppression of the monasteries and the destruction of an irreplaceable amount of medieval music, acts for which we are the sadder and poorer.\(^{172}\)

Even ill winds blow good, however, and the constant changes in the type and order of the liturgy in the reigns after Henry VIII called forth an outburst of musical activity. Responsible were Christopher Tye, who had been a singer in King’s Chapel, Cambridge, and such as Thomas Tallis, who trimmed his music to fit the reigns of Edward VI, Mary, and Elizabeth, and of the great William Byrd, who, though a Catholic, remained a member of the Chapel Royal until his death in 1623. Byrd is, perhaps, the greatest figure to emerge during the golden age of English music — called by some the Madrigalian Era — which covers the half-century beginning in 1588, the date of Nicholas Yonge’s collection of madrigals (\textit{Musica Transalpina}). It was Byrd’s spirit, as all admit, which loosed the flood pouring from the presses at the extreme end of the sixteenth century. Thomas Watson published \textit{The first sett of Italian Madrigalls Englished} (1590). This, too, was the age of Thomas Morley, Thomas Weelkes, John Wilbye (“Flora gave me Fairest Flowers” and “Sweet honey-sucking Bees”), of Thomas Bateson, of Orlando Gibbons and his brother Ellis. In 1609, Thomas Ravenscroft published \textit{Pammelia}, the first collection of catches, rounds, and canons published in England, and, in the same year, appeared \textit{Deuteromelia}, also edited by Ravenscroft, another collection famous for the catch, “Three Blinde Mice.” Finally, in 1652, John Hilton published \textit{Catch That Catch Can}, which, if we judge by the times it was reprinted, was extremely popular.

All this being true, it is astonishing that there is practically no record of university music at Cambridge in the early seventeenth century. In view of such Cambridge amateurs as John Wallis, Nicholas Hookes, Francis North, and John Dryden, in consideration of the background of medieval tradition, and with regard to the generally active publishing of music in the earlier seventeenth century, it is difficult to believe that Cambridge University was not a hot-frame of musicians. Professional historians of music, however, assure us that “the history of musical degrees at both the old English universities is consistently anomalous and obscure.”\(^{173}\) Nan Cooke Carpenter, in an essay, “The Study of Music at the University of Oxford in the Renaissance (1450–1600),”\(^{174}\) points out the general superiority of Oxford in music, though she does
memorialize several important Cambridge degree-takers who transmigrated from the Cam to the Isis. Despite the continuing force of the statutes with the regard to music, Cambridge did little to secure her musical tradition during the seventeenth century until the appointment of her first professor of music in 1684, as against Oxford's first establishment of a professorship in 1626.

In the notebooks and records consulted, there is little to disabuse one of the opinion that music was taught only by "rule of thumb" (as Professor Patrick Hadley says) at Cambridge. There is a very short tract *De Musica* in the notebook of Henry James, but this little declamation tells us no more of contemporary music than its companion-piece, *De Venatione*, tells us of seventeenth-century hunting practices. Christopher Wordsworth recalls that D'Ewes describes a young sophister appearing in the schools, carrying with him his viol. The student began the proceedings by playing on the viol an original lesson or exercise, after which he entered upon his position "of sol, fa, mi, la," against three opponents. After the opponents had been routed, the sophister played another piece, whereat the moderator exclaimed: "*Ubi desinit philosophus, ibi incipit musicus.*" D'Ewes thought this "a very pretty jest."

Still, according to MSS. Baker (quoting a letter of Joseph Mede of Christ's College to Sir Martin Stuteville), we find that although "on Thursday Morning they had an Act at the schools well performed [September 26, 1629] . . . The Music was not so well supplied, as seyd those, who have skill in that way . . . ." The Baker MSS. further record an act of 1658, in which "a concert in five, six or eight parts in the Music School" is remembered. By and large, though, Cambridge music in the seventeenth century is better remembered in its forgetting. Esquire Bedell Buck, in 1665, notes with typical Cambridge understatement that the "music act was not always put on."

There was one memorable music act, however, of which we have record. Late in the century, in 1696, William Turner (the doughty old composer, now famed for his sixty-nine years with one wife rather than for his then famous anthems) was granted an honorary doctorate in music by Cambridge. In the comitial verses written for the occasion, graceful tribute is paid to Henry Purcell, who had died the previous year: *PURCELLO inductio uno Cantor TURNERUS, cui Musica dextera suaves / Designat modulos . . .*. In the seventy-four Latin verses of the poem, the comitial versifier rings the changes upon the musical common-
places used by Dryden nine years before (1687) in his first "Ode for Saint Cecilia's Day." A yet more famous act took place in the next century, when Alexander Pope wrote: "An Ode Compos'd for the Public Commencement At Cambridge on Monday July the 6th 1730 At the Musick-Act" (Descend ye Nine! descend and sing).

One final item which pleads for comment is Roger Long's notebook (Pembroke College Library, Ms. 21) dating 1698. Long, in summarizing William Holder's *A Treatise on the Natural Grounds and Principles of Harmony* (1694), shows the persistence of Pythagorean theory and scholastic terminology until the end of the century. Long writes:

Harmony consists of

- matter — sound or voice
- form — the apt disposition of the several tones grave and acute.

The notebook then summarizes the rest of Holder's chapters: Of Sound in General. Of Sound Harmonick, Of Consonancy and Dissonancy, Of Concords, Of Proportions, Of Discords and Degrees, Of Differences — synopsizing thus seventeenth-century musical science.

Roger Long's synopsis may at last prove useful, should Thomas Mace be right: "And I am subject to Believe, (if in Eternity we shall make use of any Language, or shall not understand One Another, by some More Spiritual Conveyances, or Infusions of Perceptions, than by Verbal Language) That Musick (It Self) may be That Eternal, and Caelestial Language. Allelujah, Allelujah, Allelujah." 181
SUMMARY AND CONCLUSION

The foregoing pages are an essay toward an understanding of the curriculum according to which our literary ancestors of the Renaissance and the earlier seventeenth century were trained at Cambridge. Why Spenser, Bacon, Fuller, Milton, Dryden, to name but a few, thought and wrote as they did, can be explained in some degree by scrutinizing their university background. Even the adversely critical attitudes of Bacon, Fuller, and Milton toward scholastic Cambridge can hardly be appreciated without understanding the object of their criticism.

Scholasticism, logical, systematic, and largely Aristotelian, is now pretty much *outre monde*. To the seventeenth century, however, scholasticism set a familiar table; and many ideas, which now require an explanatory footnote, were bread and butter then.

**SCHOLASTIC FORMS**

The forms of scholasticism are, for the most part, completely unfamiliar to the modern mind, though they had been transplanted to Harvard and Yale, and at one time were as rightfully American as a first-generation Puritan.

The scholastic lecture, which by 1660 had fallen on evil days because of the prevalence of printed books and the continued ignoring of the new areas of knowledge, remained in full force as a Cambridge institution until almost the end of the seventeenth century—indeed, the scholastic lecture, though changed, has never been supplanted.

The disputation, though it had degenerated into a mere form by 1700, was, in the first four decades of the 1600’s, a lively exchange of wit and learning, and an excellent way of examining the talents of those who aspired to a Cambridge degree. The third main scholastic form, the declamation, a polished essay meant specifically and especially (though not less than the disputation!) to be *spoken*, tried the student time and again, both in the privacy of the college and the publicity of the schools, in eloquent presentation. In the declamation the student was advised to aim
at a "clear, & perspicuous, smooth & plaine, & full" style, "nervous, & vivid, & masculine." The clarity, conviction, and general smoothness of seventeenth-century writing can be explained in part by their attention to these exercises. After three years of "diting" and repeating to the tutor logically organized lectures, a Jeremy Taylor or a Dryden might be expected to be clear. The hours the student spent in disputation (in the quadragesimals, be it remembered, the student was allowed to pick his own "position-side") trained him to express himself, not only subtly, but with conviction. Finally, in writing his declamation with the aim of speaking it, the student was forced to write for the ear, and writing for the ear is still the secret of smoothness.

The more specialized scholastic acts, the clerums, quadragesimals, sophomes, determinationes, and so forth, terms which completely baffle the beginner in seventeenth-century Cambridge history, are merely variations on the lecture, the disputation, and the declamation.

THE CONTENT OF SEVENTEENTH-CENTURY SCHOLASTICISM

The scholastics systematically divided the curriculum into the arts, which are concerned with action, and the sciences, which have to do with knowledge.

The undergraduate arts at Cambridge were three: logic, which taught the student correct patterns of thinking; rhetoric, which taught him to express himself according to the very-long-established principles of eloquentia; and ethics, which taught him the principles of moral behavior, as these principles are discoverable by reason from the natural law.

The logic notebooks follow pretty much a beaten path, analyzing first the three chief mental operations, that is, the simple apprehension, the judgment, and the linking of judgments into a reasoning process. Next, the various kinds of judgment-linkings or syllogisms are presented, and the student was drilled, both orally in the tutor's rooms and in written exercises, in the technique of syllogizing. Knowledge of the syllogistic forms meant, finally, that the student would learn to recognize and know how to refute the various logical fallacies.

University rhetoric included a study of the formal precepts of the ars dicendi (largely from the classical rhetoricians or from manuals based on them); involved wide reading in, and memorizing of, Greek and Latin orators, historians, and poets; and, above all, required written exercises in imitation of whatever author the
tutor should assign. While English orations were studied, the primary aim at Cambridge was the acquisition of a classical, well-rounded Latin style, with the particular purpose of success in the public and private disputations and declamations on which a student's preferment depended.

Ethics, the third undergraduate art, considered virtue generally as Aristotle defines it: the proficiency in willing what is conformed to right reason. The Aristotelian virtues were first considered singly in themselves; then, the virtues were applied as they affect social relationships, whether between individuals as such, between the individual and the natural group-units of the family and the state, or, finally, between group-units themselves.

The Undergraduate Sciences

*Ars gratia artis* was never a scholastic ideal. Beyond his arts' study, the seventeenth-century Cambridge student was expected to acquire a mastery of the sciences which would give him something more than the mere arts to think about and something for his eloquence to convey. The realm of knowledge available to undergraduates was divided into four provinces (each province concerned with some phase of being): metaphysics (being in general), physics (being as qualified), mathematics (being as quantified), and cosmoography (the being of this geographical world). The very neatness of such an arrangement concealed an intransigence, and seemed to excuse Cambridge dons, and too many other scholastic masters, from any obligation to rethink the old curriculum in terms of the busy findings of the new mathematics and the New Sciences.

Metaphysics introduced the student to the concept of being as such, together with its transcendental attributes (the one, the true, the good) and its principles (potency and act and the four causes: efficient, final, material, and formal). The science of metaphysics then considered the divisions of being according to the ten *Categoriae* of Aristotle, emphasizing particularly the idea of substance. Immortal substances, angels and God (metaphysics prescinded for the moment from the human soul), demanded first consideration. Among immaterial essences, God was first, the Prime Cause, Himself uncaused, whose many dazzling attributes included foreknowledge. After God and His foreknowledge, seventeenth-century metaphysics might consider what it would.

Physics was concerned with extended being, so far as it was qualified or modified according to the Categories of Aristotle, because extended being was changeable. In the first part of physics
(physica generalia: Keckermann’s Liber Primus), the student considered such concepts as change itself, time, place, quantity (including the continuum), and the specific aspects of matter and form. This is physica as Aristotle limited it.

The second part of physica, as presented by the late scholastic manualists, lumped the other Aristotelian tractates on extended being, for example, De Partibus Animalium, De Meteoris, et cetera, which the Philosopher himself had kept distinct from his Physica, into a hodgepodge of astronomy, chemistry, biology, psychology, physics, anatomy, meteorology, and geology. In the same discipline Keckermann and others included such materials as the composition and matter of the heavens, the four elements, brute creation, the human soul and its faculties, human physiology, Nature, and the origin of the world. True, these were organized according to logic into a system, seemingly according to Aristotle, but it is in this second part of physica where late scholasticism was weakest and where it first broke down. The charges against the seventeenth-century scholastics of (1) an aprioristic view of natural phenomena, where the principle is enunciated prior to a study of the fact, (2) a superstitious authoritarianism, which had supplanted the sound traditionalism of someone like St. Thomas, and (3) the tendency to bring metaphysics into science, can justly be leveled against this second part of late scholastic physica.

Mathematics at earlier seventeenth-century Cambridge was, as far as we could gather, a neglected science. At least, the students, teste John Wallis, knew very little of the subject, nor is there anything in the notebooks to contradict such a testimony.

Perhaps because of the neglect of mathematics, a prerequisite for any understanding of navigation and its problems, cosmography appears very seldom in the notebooks of the seventeenth-century Cambridge student.

THE GRADUATE STUDIES

Of the four graduate fields — theology, medicine, law, and music — the first was far and away the most important, though medicine was not altogether inconsequential.

Theology was to Cambridge what science is now to a modern university; and if most bachelors commenced divinity, it was because as undergraduates they had breathed the heady air of the sacred science, not only in university sermons, clerums, and chapel exhortations, but in the divinity acts of the schools.

Prelatical versus antiprelatical was not the chief issue at earlier seventeenth-century Cambridge. Basic to matters of ecclesiology
were certain questions of dogma, centering about the problems of grace and justification. Depending on one's answer to the twofold question: whether justification is intrinsic or extrinsic to the soul (Cambridge held, of course, that justification is extrinsic!) and whether sacraments produce grace, occasion it, or merely symbolically "sign" it, one will accept a priesthood and a ritual or reject them. Even the problem of predestination, so divisive among English theologians, arose from the concept of grace: whether it can be rejected or not, and, if it cannot be rejected, on what score God grants saving grace to one man and not to another.

Casuistry was an important part of Cambridge theology, though there were those, such as Jeremy Taylor, who bewailed the universities' neglect of the science. Ritual, too, suffered neglect in the Cambridge colleges as Puritanism came more and more into the open. Through it all, however, Cambridge divinity remained scholastic until well after 1640; nor can we forget that the Catholic scholastics were as thoroughly studied as the Protestant.

During the century Cambridge produced many medical men, who, if they were not completely Cambridge-trained, received from alma mater inspiration and background enough to commence elsewhere. There was considerable interest in anatomy, and, if dissections were crude, they were at least performed.

University law, whether at Cambridge or Oxford, was in poor case, indeed. The universities enjoyed exclusive right to teach the civil law, but the civil law, divorced from canon, found it increasingly difficult to survive. Common law, taught at the Inns of Court, gradually supplanted civil law at the universities, though there is record of civil law acts at Cambridge almost to 1700.

Music, finally, presents a mystery. Why in England's golden age of musical publication music studies should have been so neglected in the universities, none can say. Records of only two or three acts survive for the entire century. But, then, universities in our own day are seldom conspicuous for musical studies.

Such was the scholastic curriculum at Cambridge. For all its defects and however open to criticism in several areas, the system affected its share of the minds who framed Renaissance and seventeenth-century England. Or, as Nicholas Fitzherbert wrote in 1602: "The system of education so effectively works, forms, and sharpens the mind, and brings out its energies, that, unless the student be quite leaden and worthless, it will adapt him, not only for the retired pursuits of the Schools, but for the public duties of the State."
BIBLIOGRAPHY

MANUSCRIPTS

British Museum

3565. A kind of student’s lexicon of scholastic terminology, belonging to Thomas Millington and dated April 7, 1648, 12°, paper.


Birch Coll. 4266. The correspondence and works of Mrs. Cockburn, vol. III, including “A Vindication of Mr. Locke’s Christian Principles.”

Cotton Faustina D II (21 g 3). “Quaestiones Philosophicae in Vesperis Comitiorum,” by Mr. [John] Bois, 12°, paper.


Harl. 5043. A notebook of Nehemias Rogers, Queen’s College, Oxon., containing logic and ethics, 8°, paper.


Sloane 629. Miscellaneous tracts translated by Dr. Foote, including “Logic is useless,” 260 sqq., dated 1696.


Sloane 1472. A student’s notebook, perhaps of John Hearne, including logic, geography, mathematics, ca. 1660, 8°, paper.

Sloane 1981. A student’s notebook, containing part of “Magyri Phisica” and several disputation questions; also tract on logic and De Anima. Very early seventeenth century.


Sloane 3007. “Collegii Physici,” a series of tracts on Physica, seventeenth century, apparently by a German (e.g., Respondente Sigismundo Derschow . . . , f. 31).
Add. 4553. A philosophical notebook, identified only "Croidanae, 21 Aprilis 1691," containing disputation questions.

University Library, Cambridge
Dd. 3. 85, 5. Praelectio Domini Doctoris Overalli, ca. 1600, small folio, 55 ff.
Dd. 5. 47. A Compendium of Logic, anon., seventeenth century, small 4°, paper, 55 ff.
Gg. 1. 29. A collection of miscellaneous theological and historical documents, written from both ends, 4°, paper, 279 ff.
Mm. 1. 35 — Mm. 1. 53. Baker MSS., vols. 24-42, 19 folio volumes, collect most widely varied materials which pertain to Cambridge. The first 23 volumes are preserved in the British Museum, Harl. 7028-7050.
Mm. 5. 42. Collections relating to the University of Cambridge, Latin and English, chiefly in the hand of Adam Wall, small 4°, paper of various sizes, 250 ff.
Add. 4359. A logic notebook, probably of an English student at Salamanca, dated 1652, 4°, paper, 190 ff.

Emmanuel College Library, Cambridge
I. 2. 27 (James 48). Richard Holdsworth's Directions for students, ca. 1645, 7½ x 5¾, paper.
I. 4. 36. A notebook of John Balderston, ca. 1660, 6 x 4, paper, 160 ff.
III. 1. 11. Directions and advice to students [Joshua Barnes' reduction of Richard Holdsworth's Directions], ca. 1696, 8°, paper, 123 ff.
III. 1. 22. A theological essay, very possibly from Sancroft, called "A Direction to be observed by N. N. if hee meane to proceede in answering the booke intituled Mercy and Truth or Charity maytayne ed by Catholicks," late seventeenth century, 6 x 3¾, paper, 44 ff.
Gonville and Caius College Library

416–633. A dialogue wherein "Nature's secret closet is opened..." by Thomas Tymme, Professor of Divinitie," small 4°, paper, 45 ff. (The ms. dates after 1612 when Tymme's book was published in London.)

432. John Gostlin's Disputations, Determinations, etc. in Comitiis, 1624–1626, 4°, paper, 80 ff.


725–752. Miscellaneous materials, chiefly pertaining to Francis Lee, early eighteenth century, 12°, paper, ca. 300 ff.

744–259. Description of University Ceremonies (especially for visit of King James, 1622), R. Simpson, 5¾ x 4, paper, 279 ff.


King's College Library


Magdalen College Library, Cambridge


Pembroke College Library

6. 14. 8 (also 23). A collection of popular cures. (The MS. is probably the gift of Mark Frank, 1664; vide M. Wren's "Catalogue of Benefactors," 93, a 83.)

19. Sermons, sermon notes, and lectures of Lawrence Chaderton, July, 1590, small 4°, paper.

20. A notebook of Richard Crossinge, ca. 1695, small 4°, paper.


27. Sermon notes of James Duport (?), mid-seventeenth century, small 8°, paper.


29. 1. 4. A notebook of Roger Long, ca. 1696, 4°, paper.
38. A notebook containing some arithmetic and occasional verses, belonging perhaps to Charles Parkin, late seventeenth century.
40, 41. Bishop Matthew Wren's commentary on Acts, 4º, paper.
43. A notebook of Roger Long, 169[7].
48. Apparently a continuation of the above.
49. A notebook containing Quaestiones Determinandae, 17 in number, chiefly theological, 1671–74, 8º, paper.

Unclassified. Disputationes Metaphysicae of Nicholas Felton, early seventeenth century, small 8º. (Kept in locked case on north wall.)

Unclassified. A notebook, chiefly of classical subjects, anon., seventeenth century, 12º. (Kept in drawer at east end of library.)

Queens' College Library, Cambridge
Horne 41. Theological notes, containing reference to Thomas Lovering, early seventeenth century, 12º, paper.
Horne 43. Abstractio Compendiosa Philosophiae Nat[ural]is, Richard Morton, early seventeenth or late sixteenth century, 12º, paper.
Horne 89. "Collections of some materiall things which do concerne both ye corporation viz. ye University and Towne of Cambridge," by John Buck, 1665.
Horne 54. Statuta Collegii Reginalis, 1727, 8º, paper.

Unclassified. A Notebook of Lawrence Bretton, ca. 1605, 8º, paper. (This and the following four mss. are tied in a bundle marked "From the President's Lodge, 1932.")

Unclassified. A notebook, most likely of Henry James. Contains two hands, one early seventeenth century, the other much later, 8º, paper, vellum covered.

Unclassified. A collection of determinations in the reign of James I, anon., 8º, paper.

Unclassified. A notebook commentary on Latin poetry, early seventeenth century, 12º, paper, leather bound.

Unclassified. An extensive list of books, possibly in Queens' Library, anon., post 1650, 8º, paper, vellum covered.

Unclassified (preserved in "Vigani Cabinet"). "A Course of Chymistry under Signior Vigani Professor of Chymistry in the University of Cambridge at the Laboratory," 1707, paper.

St. John's College Library
Aa 3. 70. The commonplace book of Henry Docker, dated 4 August, 1686, 4º, paper.
I 34 (James 328). *In Januam Rerum sive Totius Pansophiae Christianae Seminarium Introitus*, anon., early seventeenth century, small 4°, paper. [A curious philosophical medley!]


S 31 (James 422). A commonplace book of a student of Christ's Church, mid-seventeenth century, small 4°, paper.


S 44 (James 434). A Common-Place Book, anon., post 1635, 12°, paper.

*Trinity College Library, Cambridge*


R. 16. 7. Commonplace book, in hand similar to previous, 14 x 8¾, paper, 281 ff.


MSS. R. 16. 10–19 inc. A series of anonymous commonplace books, including much Greek, especially of Aristotle, and all dating from the early seventeenth century. Various sizes and hands.

*Clauthon Hall, Clauthon-on-Brock, Lancs. (in possession of Maj. John Fitzherbert-Brockholes).*

A Fragmentary Comment on Scholastic Ethics, anon., late seventeenth century, 4°, paper.

*Swynnerton Hall, Swynnerton, Staffs. (in possession of Lord Stafford).*

An English translation of Nicholas Fitzherbert's *Oxoniensis Academiae Descriptio*, by John Harkness, 1848, 12°, paper.
BIBLIOGRAPHY

FUGITIVE PRINTED MATERIALS

University Library, Cambridge
Cambr. d. 714. 2. Quaestiones Una cum Carminibus. . . (Cambridge, 1714). (A bound volume of commencement verse.)
Cam. d. 732. 4. Quaestiones philosophicae in usum juventutis academiae collectae et digestae (Cambridge, 1732).
Cam. d. 730. 5. Quaestiones una cum Carminibus . . . (Cambridge, 1730). (A bound volume, as above.)
Sel. 1. 11. A collection of commencement verses, printed on separate sheets of folio, mostly anonymous, various years, 1574 to 1730.
Sel. 1. 24. A collection of commencement verses, printed on separate sheets of folio, mostly anonymous, for various years, 1612–1713.

Cambridge University Registry

PRINTED BOOKS

Atterbury, F. Short Review of the Controversy Between Mr. Boyle and Dr. Bentley. London, 1701.
BIBLIOGRAPHY


Barwick, John. *Querela Cantabrigiensis or a Remonstrance . . . for the Banished Members of the Late Flourishing University of Cambridge*. Oxford, 1646.


Bonaventure, Saint. *Quaestiones Super Libros IV Sententiarum*. Lyons, 1510.

*The Book of Trinity College, Dublin, 1591-1891*. Belfast, 1892.


BIBLIOGRAPHY

Cantalupe, N. Historiola de Antiquitate et Origine Universitatis Cantabrigiensis. (In Thomas Hearne’s ed. of Spratt.) Oxon., 1719.
Carter, Edmund. History of the University of Cambridge from its origin to the Year 1753. London, 1753.
Castelli, Bart. Lexicon Medicum. Lipsiae, 1713.
Crel [Krell], Johann. Liber de Deo et Eius attributis in De Vera Religione Libri Quinque. Racoviae, 1630, and Amsterdam, 1642.


Descartes, R. *Essais Philosophiques*. Leyden, 1687.


——. *The Journals of all the Parliaments During the Reign of Queen Elizabeth*. London, 1862.


*Free Thoughts upon University Education... and Calculated for the Advancement of Religion and Learning.* By a sincere Wellwisher to our Universities. N.p., 1751.

Fulke, W. *A Goodly Gallerye, with a Most Pleasant Prospect into the Garden of Contemplation.* London, 1563.


Fuller, Thomas. *A History of the University of Cambridge, since the Conquest.* London, 1655.


—— *Plus Ultra: or the Progress and Advancement of Knowledge since the Days of Aristotle.* London, 1668.


—— *Sadducismus Triumphatus.* London, 1681.


—— *Tractatus de Rachitide.* [London], 1658.


—— *Senile Odium*. Cambridge, 1633.


—— *Philosophia Naturalis, novis commentariis partim é nob. D. Cartesio*. Amsterdam, 1665.


Hoole, Charles. *New Discovery of the Odd Art of Teaching School*. By J. T. for Andrew Crook, 1660.

--- *The Petition and Argument of Mr. Hotham* . . . London, 1651.


--- *Systema Physicum*. Hanover, 1623.


--- *Opuscula Varia*. Venice, 1617.
Little, A. G. "The Friars and the Foundation of the Faculty of Theology
Paris, 1930.
Lloyd, W. *Chronological Account of the Life of Pythagoras.* London, 
1699.
1700 [especially 5th edition, 1706].
—— *De Virtute et Sacramento Poenitentiae.* Lyons, 1638.
Macalaster, Alexander. *The History of the Study of Anatomy in Cam-
bridge.* Cambridge, 1891.
Univ. Press, 1951.
Maclaurin, C. *Account of Sir I. Newton’s Philosophical Discoveries.* Lon-
don, 1748.
Mahaffy, J. P. *An Epoch in Irish History.* Dublin, 1903.
Maine, Sir Henry Sumner. *Ancient Law, Its Connection with the Early 
and Venice, 1758–98.
Louvain, 1933.
—— *An Introduction to Philosophy.* Tr. E. I. Watkin. New York: 
Sheed and Ward, 1947.
Ed. Richard Parkinson, for the Chetham Society (Vol. IV), 1845.
Masson, David. *Life of Milton in Connection with the History of his 
Matthews, James E. *A Handbook of Musical Knowledge and Bibliog-
raphy.* London, 1893.
Maxwell, C. E. *A History of Trinity College, Dublin, 1591–1892.* Dublin, 
1946.
Mayor, J. E. B., ed. *Cambridge in the Seventeenth Century, II, Auto-
biography of Matthew Robinson.* Cambridge, 1856.
Melville, Andrew. *Viri Clarissimi Melvini Musae . . . .* Edinburgh [?], 
1620.
Mendoza, Francisco Sarmiento de. *De Redditibus Ecclesiasticis.* Rome, 
1569.
—— *Selectarum Interpretationum Libri VIII.* Rome, 1571.
Metz, Rudolph. "Bacon’s Part in the Intellectual Movement of His 
Time," in *Seventeenth Century Studies Presented to Sir Herbert 


Mullally, Joseph P. *The Summulae Logicales of Peter of Spain*. South Bend, Indiana, 1945.


—— *A Sermon Preached before the King at Newmarket, Oct. 8, 1671*. Cambridge, 1671.


—— *The Life of ... Francis North ... wherein are inserted, the characters of Sir Matthew Hale, Sir George Jeffries ... and others*. 3rd ed. 2 vols. London, 1819.

—— *The Lives of ... Francis North ... Sir Dudley ... and ... John North*. 3 vols. London, 1826.


Pynson, R. *Libellus Sophistaru[m]*. London, c. 1501.


Renold [Reynolds, Rainolds], John. *An Excellent Oration for all such as Effert the Studie of Logic*. London, 1638.


Serry, J. H. Historia Congregationum de Auxiliis. Louvain, 1700.
Smith, Thomas (of Cambridge). The Life and Death of Mr. William Moore . . . Cambridge, 1660.
Statuta Academiae Cantabrigiensis. Cambridge, 1785.
Völkerius, Johannes. *De Vera Religione Libri Quinque*. Racoviae, 1630, and Amsterdam, 1642.


Wandelin, Marcus F. *Christiana Theologia*. Lyons, 1658.


——— *Social Life at the English Universities*. Cambridge, 1874.


BIBLIOGRAPHY

ARTICLES


NOTES

PROLOGUE

4. Oxoniensis Academiae Descriptio, tr. in a manuscript at Swynnerton Hall, Swynnerton, Staffs., f. 12v. The work was published in Rome.

CHAPTER ONE

THE FRAMEWORK OF SCHOLASTICISM

2. Legally, the statutes promulgated by Elizabeth were unchangeable. See George Peacock, Observations upon the Statutes of the University of Cambridge (Cambridge, 1841), p. 59. In fact, the entire shift from scholasticism to the eighteenth-century curriculum was illicit, since no statute ever sanctioned the change.
4. Chancellors at this time, of course, exercised actual power in the university.
5. ULC, MS. Baker, xxvii, p. 27.
7. Trinity College Library, Cambridge, MS. o 10a 33. I am indebted to the Master, G. M. Trevelyan, for pointing out this manuscript, which contains, pp. 1-15, James Duport's "Rules to be observed by young pupils..."
and scholars in the university.” Duport, who taught Isaac Barrow, who, in turn, taught Newton, divides his Rules into six chapters of 12 to 60 rules apiece, covering not only the proper performance of exercises and suggestions for private study and note-taking, but deportment in chapel, proper sports, the dangers of too-frequent bathing, etc. The Rules date before 1660, when they were copied, and after 1650, the date of Baxter’s Saint’s Rest, to which Duport makes reference as Soul’s Rest. Most of the Rules were published by Mr. Trevelyan in The Cambridge Review, LXIX (May 22, 1948), 1575, 328–330.


9. Idem (translation ours). Scotus seems always to head the litany of the damned among the medieval scholastics, being singled out by Henry in another place as leader in “those inextricable labyrinths of authors,” though recent scholarship has restored the great Franciscan to his rightful place as a first-rate mind. “Burleius” is Thomas Burley (or Burleigh), the tutor of the Black Prince, who was a harmless journeyman-commentator of Aristotle. Of the others, the less said, the better. Thomas Bricot (Textus abbreviatus logicus, Basle, 1492) and George of Brussels (Summularum artis dialecticae interpretatio, Paris, 1508) were close to being Terminists or Nominalists. Antonius Trombeta (d. 1518) had further complicated Scotus with his In Scoti formalitates, Quaestiones quodlibetales.

Adam Trebcheovius, who wrote what is probably the first history of scholasticism, makes a chant of the minor late scholastics: “Habes post Scotum, Holcot, Tricot, Bricot, Boquinquam et plures alios . . .” De Doctoribus Scholaristic . . . (Giessae, 1665, and Jena, 1719), p. 333.


11. Oxoniensis Academiae descriptio, from manuscript at Swynnerton Hall, Staffs., f. 24”. The translation is by the Reverend John Harkness, 1849. The manuscript is in 15°, bound in red leather, and kept in the cases on the east wall of the library.

12. Pembroke College Library, Cambridge, manuscript without classmark, “Nich. Felton, Disputationes Metaphysicae.” Felton is one of the forgotten figures of the early seventeenth century. Having taken his B.A. from Pembroke in 1580–81, and his D.D. in 1601/02, he was a close friend of Lancelot Andrewes, to whom he owed his election to the mastership of Pembroke, 1616/17, and his subsequent elevation to Ely. In 1624, he opposed John Preston’s candidacy for the lectureship in Trinity College. The present manuscript has more than passing importance, as we judge from a statement in DNB (V, 1178): “Felton’s exact theological position is not easy to determine. He left no writings, and little is recorded by his contemporaries of any part taken by him in the controversies of the day.”

14. ULC, MS. Baker Mm 1. 38, p. 77.
15. ULC, MS. Baker Mm 1. 38, p. 33.
16. "His opinion was that, since books are so frequent as now they are, public lectures are not so necessary, or (perhaps) useful, as in older times . . ." Roger North, The Lives of . . . Francis North . . . (London, 1826), III, 309.
17. Statuta Academiae Cantab., p. 146.
18. ULC, MS. Baker, xxvi, p. 34.
19. Ibid., p. 121.
22. Idem.
27. Idem.
29. Idem.
32. Idem.
33. Idem.
34. ULC, MS. Baker, Mm 1. 47, p. 444.
36. ULC, MS. Dd. 3. 85, #5, p. 6.
37. An adequate sampling may be found in ULC, MS. Gg. 1. 29.
38. MS. S. 18.
39. Mr. Love's jovial loquacity may have been due to a stronger liquor than well-water. In "Some account of the proceedings in the case of the controverted election, betwixt Dr. Love & Mr. Holdsworth to the Mastership of St. John's College," we read: "Mr. Coate wit. That for the most part of these 17 last yeares, Dr. Love hath been a very intemperate man & given to excessive drinking & disorder therein, & that he hath seen him drink liberally, & 3: or 4: times overcome with drink, naming St. John Port Latin day from one about 7 or 8 a clocke in the eveninge . . ."
   "Dr Love denyeth this accusation, & proveth by divers witnesses, that he was temperate and sober at St: John Port Latin day, till 7: of the clock at night . . ." MS. Baker, Mm. 1.38, pp. 95–96.
40. Peacock, Observations, App. B.
OMNES HOMINES NATURALITER SCIRE DESIDERANT

Quis non Aonios latices, Phoebiq; fluenta
Quaerit, & Hyblaeo mella petenda jugo?
Scilicet humanis haec est innata medullis,
Haeret & in nostro pectore sacra sitis
Scrutari secreta Deum, viresq; Parentis
Naturae, in tacito quas tenet ipsa sinu.
Vt sciat aethereos, perfect cervicibus, axes;
Et non ingrato pondere sudat, Atlas.
Vt sciat Aglauros flavae secreta Dianae,
Non metuit tantae jurgia saeva Deae.
Ipsas scire juvat Rhodopeia carmina sylvas,
Quam vellent doctum vel dedicisse melos!
Scire juvat summus quot sydera gestat Olympus,
Quot tenet accensas nos tenebrosa faces,
Seu petis Icarijs superum palatia pennis,
Seu Phoebi currus cum Phaetonte regis.
Pectore quis toto sacras non imbibit artes?
Aut quis non tantas ambit avarus opes?
Hos satus Japeto de coelo sustulit ignes,
Hanc ille aeterno pectore pascit avem.
Tantalus & medio sitit has in flumine lymphas,
Haec & jejunum pectore poma petit:
Prima per aequoreos ausa est quae currere fluctus,
Haec tantum petjt vellera, Graia ratis
Cimmerias animi tenebras, & flumina Lethes
Odimus, haud ulli pectora caeca placent

Ergo animis dedit ipsa sitim Natura sciendi,
Hoc lacte Infantes nutrjit ipsa suos.

VERITAS EST CONFORMITAS REI CUM INTELLECTU

Arte senex Siculus vitreum Jovis aemulus orbeh
Finxit, & in fragili sydera mota globo;
Intima respexit propriae Penetralia mentis,
Mentis & Ideae contulit Artis opus:
Vtq; animo vidit bene respondere figuram
Verum opus, artificis approbat inde manus;
Intuitu lustrans vno fit omnia Numen,
Ideasq; videns cuncta referre suas,
Protinus agnoscit pro veris omnia: falsus
Spectandus toto nec fuit orbe nothus:
Nutrici infantem genitor commisit alendum
THE FRAMEWORK OF SCHOLASTICISM

Zelotypus, Nati ducta figura fuit:
Mutatur soboles: manet vsq; simillima forma,
Agnovit prolem qua pater esse suam.
Omnia Naturae commisit Numen Alumnae.
Addidit & vires quae, quasi mater, alat:
Ne tamen imponat nutrix errore, vel arte
Credenti nimium subdola forte; cavet.
Ideas rerum Deus alta mente recondit,
His quasi mensuris germina vera patent.
Nee patitur falsas melior natura Chymaeras;
Haec labor Alcidis monstra domare fuit.
Divinus falsum fugit Intellectus, vt ingens
Formidat formam Barrus in amne suam.

ERGO
Archetypus rerum pater est: sunt Entia Proles;
Progenies debet vera referre Patrem.

47. British Museum. MS. Cotton Faustina, D. II, f. 61: “Elizabeth nostra, naturae decus . . .” There is no clue as to the year of the dispute, but from two names of opponents, it seems probable that it took place between 1594 and 1600. A Mr. Bois of Clare replied in 1594, according to Bedell Ingram’s Book, MS. Baker, xxxii, p. 530.
48. Duport, “Rules . . . ,” cap. 4. The use of the enthymeme, a syllogism in which one premise is suppressed because obvious, e.g., “Every good man should be rewarded. Therefore, John should be rewarded,” is common enough, but better form is a syllogism employing two explicit premises. When Duport urges the categorical syllogism, he shows the logician’s contempt for the lazy man’s use of the hypothetical or conjunctive form, where a fallacy may be easily concealed in the connection of protasis and apodosis, i.e., between the condition and the consequent in a hypothetical syllogism, or in the suppressed tertium quid in the conjunctive. As Isaac Watts says: “Most [conjunctive syllogisms] may be transformed into categorical Syllogisms.” *Logic* (London, 1736), p. 301.
50. *Idem*.
51. In applying a distinction to a term which appears in the major and minor premises, what is conceded in the major is denied in the minor, i.e., the distinction is applied contrariwise in the minor or counterdistinguished. If the distinguished term appears in a premise and again in the conclusion, it is “pariter-distinguished,” i.e., what is conceded in the major (or minor) is similarly conceded in the conclusion.
52. Gonville & Caius College Library, Cambridge. MS. 748–259, f. 23*.
53. The custom of treating after the disputation seems to have got out of hand—at least, according to Puritan tastes—for, on April 29, 1647, 
"... a grace passed setting forth that by a most vicious custom, candidates after the disputations in the schools had introduced private feasts altogether unknown in former times ... and that if anyone should offend in this kind they should be disgraced for their luxuriousness & disobedience ... and ... fined twenty shillings."


55. Lord Hardwicke, Miscellaneous State Papers (London, 1778), I, 394. Of the divinity act, "performed reasonably well" (John Davenant answering, John Richardson responding), Fuller has a delightful account: "The question was maintained in the negative concerning the excommunicating of kings. Dr. Richardson vigorously pressed the practice of Saint Ambrose excommunicating of the emperor Theodosius; insomuch that the king in some passion, returned 'Profecto fuit ab hoc Ambrosio insolentissime factum.' To whom Doctor Richardson rejoined, 'Responsum vere Regium, et Alexandro dignum. Hoc non est argumentum dissolvere sed desecare.' And so sitting down, desisted from further dispute." (The History of the Worthies of England, ed. John Nichols, 2 vols. [London, 1811], I, 238.) It is hard to imagine such irony escaping even James.


57. Idem.

58. Idem.

59. Hardwicke State Papers, i, 394.

60. See Peacock, Observations . . . , App. B. lxxxii.


62. MS. Dd. 6. 30.

63. The prevarication can hardly be the work of Thomas Fuller the historian. Though the prevarication is signed: "Thomas Fuller E Coll: Sydn: Cantabrigiae," which would make it the work of the historian, J. E. Bailey does not think it belongs to the author of The Worthies of England. A reference to the abortive college at Durham (ad novam Acad: Dunalmensem – f. 58†), which was authorized by Cromwell in 1657, puts the prevarication much too late for the Fuller of The Worthies. Bailey feels that the composition belongs to a Thomas Fuller of Christ's, that the ascription to Fuller of Sidney Sussex is a copyist's mistake. For a discussion of the matter, see J. E. Bailey, The Life of Thomas Fuller, D.D. (London, 1874), pp. 465–467.

64. The haecceitas was an entitatum, or real mode, which was tacked onto essences to individualize them, i.e., universal man becomes this John because of his "haecceity."

65. ULC, MS. Dd. 6. 30, 39†.

66. Gonville & Caius College Library, Cambridge, MS. 627–250;
THE FRAMEWORK OF SCHOLASTICISM 175

printed in Christopher Wordsworth, Scholae Academicae (Cambridge, 1877), p. 274.
67. Idem.
68. ULC, MS. Dd. 6. 30, f. 28*.
70. Cooper, III, 68.
71. Queens' College Library, Cambridge. The manuscript, which has neither classmark nor pagination, is tied in a bundle, marked: "From the President's Lodge, 1932." There is no doubt that it belonged to Lawrence Breton, or Bretton, who matriculated at Queens', 1601, and took his B.A., 1604-05. All the identifiable disputants in the manuscript were contemporaries of Bretton: Mr. (Joseph) Hall, Emma., M.A., 1596; Mr. (John) Hanger, Corp. Xti., M.A., 1602; Mr. (John) Mansell Queens', 1601, et al. The notebook is an invaluable source, since it gives a representative view of the curriculum of the time in both form and content: rhetorical declamations, with philosophical and theological questions. The philosophy is almost entirely Aristotelian, with the exception of the thesis quoted above, fol. 56, which is Platonic. The second part of the manuscript is in another hand and consists of sermon notes.
72. ULC, MS. Baker xxxii, p. 530.
73. From the Account of James Tabor, then Registrary of the University, Cooper, III, 84.
74. For an example of an imaginatio, see Rolls Series, Imaginatio Gervasii quasi contra Monachos Cantuarienses Ecclesiae (a pretended disputation before the Pope) and Imaginatio Gervasii quasi contra Baldwinum Archiepiscopum, in The Chronicle of Gervase, Rolls Series (London, 1879), pp. 29-40.
76. St. John's College Library, Cambridge, MS. S 44.
77. Idem.
78. ULC, Sel. 1. 24.
82. Idem.
83. Idem.
85. Ibid., lxxvi.
86. Idem.
90. Duport, "Rules . . . ;" cap. 4.
CHAPTER TWO

THE UNDERGRADUATE CURRICULUM: THE ARTS

4. This John Cole is hard to identify. The handwriting in the manuscript (British Museum, Lans. 797) belongs to the mid-seventeenth century. There were several John Coles at Cambridge, the most likely candidate being the John Cole who took his B.A. at Queens' in 1655. There are two John Coles at Oxford, who would fit, one at New College (1643) and the other at Magdalen (1664). Since the schema is only generally descriptive of scholasticism, common to both Oxford and Cambridge, the author’s identification is secondary. And since the author of the notebook has been unsung these three hundred years, he is not likely to protest his being confused with several of his contemporaries.

5. British Museum, MS. Lans. 797, f. 2.
7. Summa Theol., 1ª, q. 22, 2, c.
8. Ibid., 1ª, 2ªa, q. 57, 3, ad 3.
10. Artes liberales sunt speculativae [having to do with knowledge] sed dicuntur artes quia habent aliquid per modum operis. See Summa Theol., 1ª 2ªa, q. 57, 3, 3.

11. Cole properly lists ethics under science. As St. Thomas says: “Scientia moralis, quamvis sit propter operationem, tamen illa operatio non est actus scientiae, sed actus virtutis, ut patet V Ethic. Unde non potest dici ars . . . .” (Super Boet. de Trin., q. 5, a. 1, ad 3). Ethics is an art only in the very wide sense that it is concerned with an operabile, something to be worked on or perfected, namely, the just man. As Maritain elucidates: “Ethics is a practical science, whose object is not the making or perfecting of works produced or fashioned by man, but the good and perfection of the agent himself. Its object is thus an operabile. It is a science, too, because ethics does not apply, but discovers and provides rules immediately applicable to particular cases.” (An Introduction to Philosophy, tr. E. I. Watkin [New York, 1947], p. 265). We trust our treating ethics under the arts, for the sake of convenience and because it is often linked with logic and rhetoric in the seventeenth century, will be forgiven by the philosophers.

14. Statuta Academica Cantab., p. 146. “Ludus literarius” is, of course, the usual euphemism for the Renaissance grammar school.
THE UNDERGRADUATE CURRICULUM: THE ARTS


17. *The Autobiography and Correspondence of Sir Simonds D’Ewes, Bart.*, I, 121. D’Ewes is referring to the year 1618.

18. On the date of Holdsworth’s manuscript, see Samuel Morison, *The Founding of Harvard College*, p. 62, n. 2. The manuscript could not have been written before 1647, since Holdsworth lists Alexander Ross’s *Mystagogus Poeticus*, which appeared that year, nor after 1649, the year of Holdsworth’s death.

19. From a note appended by another hand to Holdsworth’s “Directions.”


21. Because some of the above names and texts, well known in their time, are now obscure, it may be worthwhile to identify a few:


Marcus Junianus Justinus wrote an epitome in Latin of Pompeius Trogus’s *Historiae Philippicae*, probably in the third century A. D.

*Mystagogus Poeticus, or the Muses Interpreter* (London, 1647), is the work of the crusty Alexander Ross (1591–1654), to whom Butler makes reference in *Hudibras* (Pt. I, can. ii): “There was an ancient sage philosopher/That had read Alexander Ross over.” A. Ross was a stout Aristotelian and an enemy of the new modes.

Theognis, fl. ca. 544 B. C., is the elegiac poet of Megara.

“Valla’s *de Elegantia*” is Lorenzo Valla’s famous *De Elegantiiis Linguae Latinae*, probably the finest critical study of Latin grammar and style in the Renaissance. Valla (1406–1457), protégé of Pope Calixtus III and Alphonso V of Aragon, is better remembered for his exploding, in 1439, the spurious Donation of Constantine.

Vigerius (Père François Viger) was a French Jesuit, born in Rouen, died in 1647. His *De Idiotismis praecipuis Linguae Graecae* (1632) helps justify the judgment: “Il etait tres habile dans des langues anciennes.” *Biographie Universelle Ancienne et Moderne* (Paris, 1860–), XLIII, 371b.

Lucius Annaeus Florus’ *Epitome bellorum omnium annorum DCC*, an abridgment of Roman history to Augustus, was an extremely popular textbook in the seventeenth century.

Causinus is Père Nic. Caussin (1583–1651), a French Jesuit of Troyes, whose strange book, *De Eloquentia sacra et humana*, was a favorite of Holdsworth.

Famiano Strada (1572–1649) was an Italian Jesuit, a poet and his-
torian, who wrote *Prolusiones et Paradigmata eloquentiae* (Rome, 1617).

Robert Turner's *Orationes XVI* probably refers to the edition of 1615. Turner was a Roman Catholic, who attended Exeter at Oxford and Christ's at Cambridge, at neither of which he took a degree. He went to Douay, was ordained (1594) and died (1599). He studied under Edmund Campion.

Philippus Cluverius (Clüwer, Cluver, Cluvier), was a German historian and geographer, born 1580, died 1622. His *Germania Antiqua* (1616) and the posthumous *Italia Antiqua* (1624) and *Introductio in Universam Geographiam* (1629) were well-thumbed texts in Cambridge.

23. That Milton was a Ramist is shown by his little tract on Ramus' logic. And that Ramists were not in accord with the university curriculum originates from Ramus' own difficulty with the University of Paris. Ramus likes to boast that his own little college could produce scholars faster and better than the University. William Gouge is another Ramist who found trouble at Cambridge. See n. 36, below.
31. *An Humble Motion*, p. 25.
32. Cf. Holdsworth's "Directions."
33. So classically designated because its object is the operation of the intellect itself, which in turn directs the other arts.
34. British Museum, MS. Sloane, 1472, f. 2.
38. Logic notes which may be of interest are included in the following manuscripts: University Library Cambridge, Add. H 2640. Annotamenta Logica, belonging to John Smyth of Gonville and Caius and dated 1681. University Library Cambridge, Add 3854, a late seventeenth-century notebook. Emmanuel College Library, I. 4. 36, belonged to John Balderston, and, while not complete, treats the praedicamenta at length. Trinity College Library, Cambridge, R. 16. 19, an early seventeenth-century commonplace book with appropriate Aristotelian texts on the categories: quis, quale, quomodo, etc. Queens' College Library, n.c, in bundle marked “From President's Lodge, 1932.” The notebook was Henry James's of Magdalen (ca. 1650) and besides a brief summary of logic (gff.) contains, among other interesting items, an unpublished diary in Thomas Shelton's system of "short-writing," the same system which Pepys, also a Magdalen man, was using. Pembroke College Library, MS. 20, a notebook of Richard Crossinge, containing a ten-page summary of logic, called: Abecedarium argumentandi (1697). British Museum, Sloane 392, John Dury's Logica. British Museum Harl. 5043, a notebook of Nehemias Rogers, Queen's College, Oxford, 1677, includes a synopsis of "Heerebord: Logic, et Sander."

39. The reader will recall Locke's insisting in the Essay Concerning Human Understanding (bk. III, ch. 2, sect. 1) that words are the signs of ideas, “. . . not by any natural connexion that there is between particular articulate sounds, and certain ideas . . . but by a voluntary imposition, whereby such a word is made arbitrarily the mark of such an idea,” and that the fourth “. . . great abuse of words, is the taking them for things” (III, 10, 14). Arbitrarily or no, however, words when once given meaning, must be treated respectfully, even the particle "but" (III, 7, 5). Against Locke we find the pertinent thesis in 1717/18: "Lockius non recte statuit de Particula Anglica BUT" (Carmina Comitialia, ed. V[incent] B[ourne], [Cambridge, 1721]).

Locke's target was the hypostatizing of words on the part of "sects in philosophy" (especially the peripatetics of his own day), whereby an abstract word seemed to him to be used as if it had an abstraction corresponding to it in nature itself. No scholastic of the earlier seventeenth century, we think, would be guilty of reifying the ten predicaments as Locke understands his contemporaries to be doing. The earlier scholastic would have defended mordicus the reality of substantial forms, vegetative souls, and intentional species, but not as existing separately (except for the human soul) nor ever as anything but an unabstract, concrete singular.

40. University Library Cambridge, MS. Dd. 5. 47; f. 7.
42. We offer a sample of Docker's logical finger-exercises:
NOTES TO CHAPTER TWO

DE ENUNCIATIONIBUS

Omne animal sentit

Est enunciatio simplex, pura universalis, affirmans, finita, vera, necessaria, de omni, per se, primi modi.

Convertitur

Per Accidens Aliquod sentiens est animal
Per Contrarium Quod non sentit non est animal

Aequipollentes

Purae Nullum animal non sentit
Non aliquod animal non sentit

Modales Necesse est animal sentire
Impossibile
Non possibile animal non sentiens
Non contingit

Subalternantes

Purae Aliquod animal sentit
Bucephalus sentit

Modales Possible
Contingit aliquod animal sentire
Non impossibile est
Non necesse est animal non sentire

Oppositae Contrariae

Nullum animal sentit
Non aliquod animal sentit

Pure Impossibile est

Modales Non possibile est animal sentire
Non contingit
Necesse est animal non sentire

Oppositae Contradictorie

Aliquod animal non sentit
Non omne animal sentit

Pure Possible est animal non sentire

Modales Contingit animal non sentire
Non necesse est animal sentire
Non impossibile est animal non sentire

Docker continues the exercises through the propositions: Aliqua qualitas est color, Nullus homo est lapis, and Aliquis homo non est justus.

43. Summa Theol., 1ª, q. 79, a. 8.
45. *F. 23v.*
46. *F. 26v.*
47. *Idem.* Cf. J. Earle's "Downright Scholar."
48. *F. 26.*
49. *Idem.*
50. British Museum, MS. Sloane 1472, f. 35.
52. Queens' College Library, MS. Horne 39–1002.
53. *Idem.*
54. *Idem.*
55. *Idem.*
56. Gonville and Caius College Library, MS. 725–752, f. 11.
58. Magdalen College Library, MS. F. 4. 21, p. 325.
59. *Idem.*
60. *Idem.*
63. Emmanuel College Library, MS. 48.
64. *Idem.*
65. Notes are to be written "... in a little pocket-paper-book, that you may carry them about with you, when you walke abroad, for fear you write them in larger volumes, and then lay them aside and never look at them more." *(Trinity College Library, MS. O 10a 33 — printed in The Cambridge Review 49:1575 [May 22, 1943].)
66. See n. 21, above.
67. Gerhard Johann Vossius (1577–1649), German philosopher and historian, was a friend of Grotius. Accused of Arminianism, he was forced to leave Leyden. Cambridge invited him, but he accepted instead a benefice from Archbishop Laud.
68. Emmanuel College Library, MS. 48.
69. *Idem.*
70. *Idem.*
72. *Idem.*
73. Emmanuel College Library, MS. 48.
74. *Idem.*
75. *Idem.*
76. *Idem.*
77. See page 104, n. 21.
78. Renolds or Rainolds, John, seems to be the John Rainolds who wrote many sermons and religious tracts, e.g., *An Excellent Oration for all Such as Effert the Studie of Logic* (1638). We cannot determine which Campion Holdsworth means.
80. Idem.
81. Idem.
82. Idem.
83. Idem.
84. Idem.
85. Queens' College Library, MS. n.c., in bundle marked "From the President's Lodge, 1932," items 1-4.
86. St. John's College Library, MS. S. 34.
87. St. John's College Library, MS. S. 44. The notebook is difficult to date. It is in two hands, one sprawling, which records chiefly sermons of a Mr. Strond and of "my cousin Mr. Stansfield, 1686-88"; the other part of the notebook, the part from which we take the questions, is in a small and very neat hand and dates sometime after 1662, for reference is made to the fate of Francis Cummins, who was ejected from Aldbury in that year.
88. There are two John Alsop[s] of Derby. One, who entered John's in 1663, but left without a degree, seems eliminated, since the notebook contains the supplicat speech for a degree. The other John Alsop was admitted to John's in 1685, took his B.A. in 1688/9, his M.A. 1692, and was elected fellow in 1692, resigning in 1701.
89. At least that is a fair presumption, since few resigned from their university livings for any other reason.
90. St. John's College Library, MS. S 44.
91. St. John's College Library, MS. S 17, p. 99.
92. Holdsworth has a section entitled "Of Gathering Notes." He says, "Young students many times neglect gathering of notes out of books they read either because their memory is good enough to retain them without noting or else because they are slothful and will take no pains.
"Let such as trust to much to their memories know that however for the present things seem so fresh in their memories that they think they cannot forget them, yet they will find the progress of time and other studies will so wipe them out that they shall remember very little in a whole book unless they have memorial notes to run over now and then.
"And besides, though this noting were of no use to the memory, yet it hath another advantage which alone would make it worthy in the meanwhile and that is it helps you endeavor to abbreviate and contract the sentence and makes you take notice of many things which otherwise you would have passed over . . . ." (Emmanuel College Library, MS. 48).
93. Trinity College Library, MS. O 10a 33, "Rules . . . ," Cap. 5.
94. Idem.
95. Idem.
96. Ibid., Cap. 4.
97. The manuscript is one of a bundle marked "From the President's Lodge, 1932" and bears the date 1621.
98. This is Junius Otho, rhetor, praetor (A. D. 22), an elementary
schoolmaster, who owed his advancement to Sejanus (cf. Tacitus, Annales, 3.66).

103. "Oratio Sarcasmica," Ibid., IV, 111.
104. Pembroke College Library, MS. 29. 1. 4.
105. Richard Crossinge, whose notebook is kept in the Pembroke College Library (MS. 20), came from Plymouth, was admitted to Pembroke (1667), and elected fellow (1693). He wrote devotional and theological works.
106. Italics ours.
107. The Taming of the Shrew, I, 1, 32-33. Some texts vary ethics to optics or even checks. Surely, Tranio would not have mentioned the rest of the university curriculum and omitted ethics, especially "Aristotle's ethics."
108. The presence of the standard Catholic commentators throughout the notebooks, not only in ethics and the other branches of philosophy, but especially in theology, will come as no surprise to those who have studied either university in the seventeenth century. The break with Continental scholastic thought came only with the breakup of scholasticism itself. For a record of the widespread influence of the Catholic scholastics in an English university, see in St. John's College Library, Ms. K 38, "Advice on the Choice and Reading of Books."
109. Archives, Cambridge University Registry, #75.
110. Emmanuel College Library, MS. I. 4. 36, sec. 17. (Translation ours.)
112. Emmanuel College Library, MS. I. 4. 36, sec. 34. (Translation ours.)
113. Queens' College Library, MS. notebook of Lawrence Bretton. See Ch. I, n. 71.
114. British Museum, MS. Cotton Faustina D II.
115. Emmanuel College Library, MS. I. 4. 36, sec. 23. (Translation ours.)
117. Queens' College Library, MS. notebook of Lawrence Bretton, n.c.
119. St. John's College Library, MS. S 17.
120. St. John's College Library, MS. S 18, dated 1629.
CHAPTER THREE
THE UNDERGRADUATE SCIENCES

5. P. 11.
6. The etymology of "metaphysics" is not here of serious moment. The meaning we have given the word—that which lies behind the physical phenomenon—was current in the seventeenth century and stems from medieval tradition. St. Thomas uses the word transphysica: "Meta-
physica, in quantum considerat ens et ea quae consequuntur ipsum. Haec enim transphysica inveniuntur in via resolutionis. . ." S. Thomae
Aquinas in Duodecim Libros Metaphysicorum Aristotelis Expositio, ed. M.-R. Cathala, O. P., and R. M. Spiazzi, O. P. (Turini, Marietti, 1950), p. 2. The historical origin of the term is explained by the editor-
ship of Andronicus of Rhodes, who, ca. 70 B.C., believing that this part of Aristotle's philosophy came naturally after the physical tractates,
simply entitled it "after the physics." For a thorough study of the matter,
see Werner Jaeger, Studien zur Entstehungsgeschichte der Metaphysik
des Aristotles (Berlin, 1912), pp. 148–163.

7. Pembroke College Library, MS. 41, p. 419.

9. Ibid., p. 25.
10. Etienne Gilson, Being and Some Philosophers, 2nd ed. (Toronto,
Pontifical Institute of Mediaeval Studies, 1952), p. 46.
11. St. John's College Library, MS. S 34.
13. Ibid., II, 146–147.
15. Ibid., III, 6.
16. Ibid., I, 117. As for quiddity: "Neither shall I stand to trifle with
one that will tell me of quiddities and formalities, whether Prelaty or
Prelateity in abstract notion be this or that. . ." The Reason of Church

18. St. John's College Library, MS. S 34.
24. Queens’ College Library, Lawrence Bretton’s notebook.
25. St. John’s College Library, MS. S 34.
26. Aristotle, *Physica*, II, 3, 194b, 32–36. In listing the kinds of final causes, we omitted *finis operis* and *finis operantis*. The watchmaker’s purpose in making his watch is money (*finis operantis*); the purpose of the watch is to tell time (*finis operis*). Here, the *finis* do not coincide, as they do, presumably, in the case of Vanderbilt University. Mr. Vanderbilt’s purpose in endowing the University (*finis operantis*) is the same as the University’s (*finis operis*), i.e., education.


28. We are overobvious when we note that the category, *habitus*, referring to dress, etc., does not refer to habit or disposition, which falls under the category of quality.

30. I.e., that it contains all the possible grades of being. See *Summa Theol.*, I, 50, 1, ad corp.: Unde necesse est ponere, ad hoc quod universum sit perfectum, quod sit aliqua incorporea creatura. The thesis was defended: *Universitas Creaturarum est perfecta*, at Cambridge, ca. 1628. University Library, Cambridge, Sel. 1. 24.
32. P. 322. (Translation ours.)
34. Archives, Cambridge University Registry, #75.
37. Pembroke College Library, MS. without classmark. See Ch. I, n. 12.
40. The concept of the *scientia media* of Luis Molina, S.J., is subtle enough. In scholastic terminology, God’s knowledge of the simple future, e.g., “Eve will sin,” is called *scientia visionis*. His knowledge of the purely possible, that which might be without any consideration of whether it will or will not be in the future, e.g., “Adam may eat oysters,” is called *scientia simplicis intelligentiae*. God’s knowledge of future conditional events, where only one of the eventualities in the apodosis is true, e.g., “Had Adam been tempted by the serpent as was Eve, he
would either have sinned or not have sinned," is called the scientia media. As Molina saw it, such a proposition is less knowable than a certain future event ("Eve will sin"), since it corresponds to no future actuality, but more knowable than a merely possible event, since it has the determination at least that only one of the alternatives ("would sin or would not sin") is true. Hence, scientia media. It is to be noted that the object of the scientia media comprehends not only such "futurible" acts as those which will never take place because the condition will never be fulfilled, but also all absolutely future acts considered "in signo priori," or antecedently to God's absolute decree, which removes the condition. Thus, God knows by scientia media the truth of the proposition: "If God would expel Adam from Paradise, Adam would not resist," antecedently, in signo priori, to his knowledge of the absolute future: "Adam will not resist." See B. Beraza, S.J., Tractatus De Gratia Christi (Bilbao, 1916), p. 549. A very clear discussion of the scientia media in English is to be found in "Molina and Human Liberty," by A. C. Pegis, in Jesuit Thinkers of the Renaissance (Milwaukee, 1939).

41. Queens' College Library, Lawrence Bretton's notebook.
42. St. John's College Library, MS. Aa. 3.
43. University Library, Cambridge, MS. Baker, Mm. 1. 42, p. 239.
44. Aristotle, Meta., XI, 4, 1061b, 6.
45. P. 4.
47. Queens' College Library, MS. Horne 43.
48. Queens' College Library.
50. St. John's College Library, MS. S 17, p. 125. (Translation ours.)
52. St. John's College Library, MS. S 34.
54. Idem. An ma[teri]a sit ingenerabilis et incorruptibilis?
55. Idem. An ma[teri]a appetit formam?
56. University Library, Cambridge, MS. Dd. 6. 30. An potentia ma-
[teri]ae sit ide[m] realiter cum ma[teri]a?
58. Queens' College Library, Lawrence Bretton's notebook.
59. P. 15.
61. University Library, Cambridge, Sel. 1. 24. The date of the thesis
is ca. 1630.
63. Ibid., V, 433-438.
64. Ibid., VI, 656-657.
66. Ibid., V, 472.

68. James Duport, Musae Subsecivae, p. 523. It is hard to resist quoting some of Duport's beautiful verses, which introduce his thesis, and noting their reflection of Boethius:

. . . hinc varia est vitae mensura, modosque,
Ut rerum species, & mundi postulat ordo.
Nempe creaturis, quibus est coelestis origo,
Principium sine fine dedit, sine limite seclum.
Sic chorus Angelicus manet, aeternumq. manebit,
Sic anima humana spernit mortem atq. sepulchrum . . .
. . . nam sunt & Ephemeram quaedam,
Sunt quae per biduum, sunt quae per secula durant,
Sed neque conditio melior, quia longior aetas;
Vilia sunt mundi potius, pejorarq. ferme
Corpora, quies natura dedit durantius aevum . . .
Sunt quibus indulsit stabilem natura tenorem,
Nec fluxisse dedit (rerum quae maxima moles)
Sic etiam fragilis durat substantia, donec
Esse suum servat, propriaq. in sede quiescit,
Nec patitur fluidi mensuram temporis ullam.
Nec pars succedit parti, sed permanet omnis,
Indivisa simul totumq.; integra per aevum.


70. Paradise Lost, VIII, 111–114.


73. Aristotle, Meta., XI, 10, 1067. The problem of space and the allied problem of "actio in distans" (the problem of whether a finite material efficient cause can produce an effect upon a distant body without an intervening medium, say, an ether) still stirs the mathematico-metaphysical world. See: I. Bernard Cohen, "An Interview with Einstein," Scientific American 195:71 (July, 1955).

74. Summa Theol., I, 50, 1.

75. Paradise Lost, V, 822–825.


78. Classically, it is Achilles who cannot overcome the tortoise, and the sophistry is called the "Achilles."

79. P. 91.

80. Queens’ College Library, Lawrence Bretton’s notebook: Coelum movetur ab Intelligentiis. Also, St. John’s College Library, MS. R. 16. 23, belonging to Robert Smith: An coelum movetur Intelligentiis?

81. Keckermann, p. 102.

82. University Library, Cambridge, Sel. 1. 24 (ca. 1628).
83. Gonville & Caius College Library, MS. 613-686.
85. Aristotle, Meteor., I, 3.
86. P. 92.
87. P. 93.
88. University Library, Cambridge, MS. Gg. 1. 29.
89. St. John’s College Library, MS. S 34.
90. P. 132. Sir John Harington in The Englishman’s Doctor (London, 1607), p. 32, helps the memory in keeping the various elements in firm relationship with their corresponding humors:
   Like ayre both warme and moist, is Sanguine cleare,
   Like fire doth Choler hot and drie appeare.
   Like water cold and moist is Flegmatique
   The Melancholy cold, drie earth is like.
92. St. John’s College Library, MS. S 17.
93. Keckermann, p. 199.
94. P. 235.
95. P. 238.
96. Queens’ College Library, Lawrence Bretton’s notebook.
98. Queens’ College Library, Lawrence Bretton’s notebook.
100. P. 450. See also Sir John Harington, The Englishman’s Doctor, p. 126 — “Exceed not much in meate, and sleepe, For all excesse is cause of hurtful fumes . . .”
101. P. 481.
102. This thesis: Hepar secundū Aristoteliē non est sanguinis alūdōros (Aristotle, De Partibus Anim., III, 4, 666 a, 25) was the third of three proposed for the disputation. The first: Omnes possessiones in rep: non debent esse comūnes, was treated at length; the second: Nihil vivit sine calore, a thesis in physica, was treated only briefly; the third question on the liver was entirely ignored: “. . . intactam igitur prorsus omitto.”
103. St. John’s College Library, MS. S 34.
104. Queens’ College Library, Lawrence Bretton’s notebook.
105. St. John’s College Library, MS. S 34.
106. Pembroke College Library, MS. 19.
107. St. John’s College Library, MS. S 18 (1629).
110. Ibid., pp. 525–526.
THE UNDERGRADUATE SCIENCES

111. Queens' College Library, Lawrence Bretton's notebook.
112. St. John's College Library, MS. S 34.
113. Queens' College Library, Lawrence Bretton's notebook.
114. The thesis occurs as a matter of course in Lawrence Bretton's notebook and in MS. S 34, St. John's College Library.
115. The Averroists, of course, held that there was only one numerical intellect for mankind.
116. *Intellectus primo intelligit singulare.* Queen's College Library, Lawrence Bretton's notebook.
118. *Difficultas intelligendi provenit tantum ex parte intellectus; Idem.*
120. St. John's College Library, MS. S 34.
121. P. 541.
122. P. 545.
125. *Musae Subsecivae*, pp. 530–531. The mutuality of intellect and will appears in Duport's explanatory verses:

Squalidum nativis tenebris humana Voluntas
(Heu quantum caeca pectora noctis habent!)
Accipit infirmum mentis de lumine lumen
Ut Phoebe a Phoebo, nec micat illa suo . . .

126. P. 573.
127. *Paradise Lost*, X, 891–892. Notice the opinion of St. Thomas: *per respectum ad naturam particularern, femina est aliquid deficiens occasionatum.* (Summa Theol., I, 92, a. 1, ad 1).
128. P. 596.
129. P. 573. Aristotle had said: "For females are weaker and colder in nature, and we must look upon the female character as being a sort of a natural deficiency" (De Gen. Animal. IV.6.775a). Again, " . . . the woman is as it were an impotent male, for it is through a certain incapacity that the female is female . . . ." (De Gen. Animal. I.20.728a). But note that Aristotle is not saying this in his Physica but in a natural-science treatise.
130. Says Lindewode: *Quidam dicunt q a ratio est: quia mulier calidior est, unde citius impetrat venia aetatis q m masculus. . . Alii dicunt q a ratio est q a difficilium agere q a pati . . . Pla. dixit q a ratio est quia mala herba cito crescit, Lib. IV, Sec. De Desponsatione imipuberum, Provinciale (Londini, 1525).
131. *Questiones and theses* on this subject:

*Bruta non habent rationem; Queens' College Library, Lawrence Bretton's notebook.*

*Anima plantae non est divisibilis; Idem.*
An natura intendit monstra; Queens' College Library, Henry James's notebook.

An Cometa sit de natura coelesti [Neg.]; Idem.
An monstra intendatur a natura; University Library, Cambridge, MS. Dd. 6. 30.

133. Collegium Physicum, ed. 2 (Lyons, 1642), p. 343.

136. King's College Library, MS. 15. Crellius was published in Johannes Volkerius' De Vera Religione Libri Quinque (Racoviae, 1630, and Amsterdam, 1642).

137. Ad Philosophiam Teutonicam . . . Hotham, of course, replied in the negative.

139. Archives, Cambridge University Registry, #75.

143. University Library, Cambridge, MS. Gg. 1. 29.
144. The Taming of the Shrew, I, 1.
147. Ibid., p. cxlviii.
149. The Works of Thomas Hearne, III, cxlviii.

150. Pembroke's College Library, MS. 21, f. 78°. Another Pembroke notebook, which probably belonged to Charles Parkin (Pembroke College Library, MS. 58), copied the few lines "On a Passage in Dr S[acheverel]'s Sermon, where He affirmed a certain sect to be as surely Damn'd as Two Parallel-Lines will meet in ye same Center.

As Creech once went off in a Sanctify'd Twine
So I would advise This Reverend Divine,
To hang himself too in a Parallel-Line.
Then all but my soul upon it I'll venture,
If ye Scriptures be true, they'll meet in ye Centre;
Oh! How it will please those Swearing Fanaticks
To see High C'h built on such Mathematicks!"


153. Idem.
CHAPTER FOUR

THE GRADUATE STUDIES

5. MS. Baker, 27, pp. 15–16; printed Cooper, II, 611.
6. MS. Baker 24, Mm. 1, 35, pp. 382–383.
7. MS. Baker B, Mm. 2. 25, p. 198.
8. The notebook, St. John's College Library, MS. 20, was written after the publication of *Histriomastix* (1632) and during the reign of Charles I, since "King James' raigne" is mentioned as the previous.
10. Ibid., I, 75.
13. Ibid., III, 504.
15. Emmanuel College Library, MS. III, 1. 15.
16. *Idem.*
NOTES TO CHAPTER FOUR

17. The Autobiography and Correspondence of Sir Simonds D'Ewes, Bart., I, 120.
18. Ibid., I, 137.
19. Ibid., I, 137-8.
23. Ibid., I, 120.
24. Ibid., I, 168.
25. These manuscripts are: University Library, Cambridge, MS. Gg. 1. 29; Queen's College Library, MS. (n.c.), Lawrence Bretton's notebook, and MS. (n.c.) marked "from the President's lodge, 1932," 8°, first item a commonplace on Luke 19, 41; Pembroke College Library, MS. 19 and MS. 50; Gonville and Caius College Library, MS. 748-259, and St. John's College Library, MS. S 44.
26. We should not like to conclude anything final from this breakdown, but it is evident, at least, that the Council of Trent and its canons were conscious burrs under Cambridge saddles.
27. University Library, Cambridge, MS. Gg. 1. 29, #10.
29. Ibid., f. 53, #14.
31. This is Richard Bancroft (1544-1610). For incident, see DNB, I, 1029b.
32. Théodore de Béze, A Briefe and piththie sum . . . , #13, f. 5.
33. Ibid., #38, f. 57.
34. Ibid., #44, f. 59°.
35. Ibid., #38, f. 57°.
36. Idem.
37. University Library, Cambridge, MS. Gg. 1. 29.
38. Sess. VI, Cap. 9, Denzinger, Enchiridion . . . , #802, p. 289.
41. Idem.
42. Cooper, III, 145.
43. Autobiography, I, 142.
44. De Veritate, XIV, 1; Summa, 2°, 2°°, q. II, a. 1, ad 3 and a. 2, c.; ibid., q. IV, a. 1, c.
45. II, 19.
46. De Veritate, XIV, 9, ad 4.
47. Idem.
48. Queen's College Library, Lawrence Bretton's notebook, n.c.
49. The proposition is condemned in the Council of Constance and by the bulls *Inter cunctas* and *In eminentis*, 22 February, 1418 — Denzinger, *Enchiridion* . . . , #595, p. 242.

50. Pembroke College Library, MS. 19.

51. Queen’s College Library, Lawrence Bretton’s notebook, n.c.

52. Printed in Amsterdam, 1679 — see ff. 82–88.

53. Gonville & Caius College Library, MS 748–259.

54. University Library Cambridge, MS. Gg. 1. 29.

55. Pembroke College Library, MS. 19.

56. Gonville & Caius College Library, MS. 748–259.

57. University Library, Cambridge, MS. Gg. 1. 29.


59. *Idem*.

60. *Idem*.

61. St. John’s College Library, MS. 44.


63. *Idem*.

64. Tulloch, I, 180.

65. University Library, Cambridge, MS. Gg. 1. 29.

66. University Library, Cambridge, MS. Gg. 1. 29, f. 45.

67. Aquinas, Peter Lombard, Cajetan, Biel, Bañez and Bucer need no identification.

Dominicus a Soto, renowned Spanish Dominican theologian, b. Segovia, 1494, died in 1560, at Salamanca, where he had succeeded Melchior Cano in the chief chair of theology, at what was then the metropolis of the intellectual world. (*Cath. Enc.*, XIV, 152c).

Covarruias is undoubtedly Diego Covarruvias y Leyva (1512–1577), bishop of Ciudad Rodrigo and jurist. (*Michaud, Biographie Universelle.*)

Musuulve is possibly James (Severus) bar Shakako, bishop of Mosul (d. 1241), author of “Dialogues,” a philosophical course, and “Book of Treasures,” a course of theology. (*Cath. Enc.*, XIV, 413a.)

Azarius, possibly Juan Azor (1553–1603), Spanish Jesuit theologian and philosopher; his *Institutionum Moralium*, 1600, was famous in Continental centers.


Gabriel Vasquez, 1549–1604, Spanish Jesuit theologian, great rival of the venerable Suarez, to whom he paid the supreme theological insulto
of designating him sometimes among the moderns. (Cath. Enc., XV, 275c.)


70. The manuscript dates ca. 1650. Some of the authors mentioned require introduction to the assemblage:


Ferrariensis — Francisco Silvestro di Ferrara, b. at Ferrara ca. 1474, d. Rennes, 1526, the great Dominican theologian, who commented monumentally on St. Thomas’ Summa Contra Gentiles (Paris, 1552).

Lichettus or Licetus, Fortunius, physician and philosoper, born in Italy, 1577. He taught at Padua, 1609–26, and wrote De Monstrorum Causis, Natura et Differentiis. (Chalmers, Gen. Biog. Dict., XX.)

Rhada — John of Rada (1599), Franciscan, who sought to reconcile Thomism with Scotism. (Cath. Enc., XIV, 491c.)

Sancta Clara is certainly Christopher Davenport, alias Franciscus à Sancta Clara, alias Francis Hunt, alias Francis Coventry, b. 1598, at Coventry, d. 1680. He is the brother of John Davenport, the eminent Puritan divine, who helped found New Haven in 1638. Christopher was converted to Catholicism, 1615. He wrote a treatise, 1634, attempting an interpretation of the Thirty-nine Articles, reconciliatory with Catholic doctrine, called Paraphrastica Expositio Articulorum Anglicaneae, which he published as an appendix to his Deus, Natura, Gratia, mentioned in our text above. The treatise was put on the Index in Spain, but escaped the Roman Index, thanks to Panzani, the Pope’s nuncio in London.

Faber Faventinus, Philip Faber or Fabri, b. 1564, near Faenza, d. 1630, of the Order of St. Francis (Conventuals), theologian, philosopher, noted commentator of Scotus (Philosophia naturalis Scoti in theoremata distributa [Parma, 1601]).

71. Gregorius Arminensis, St. Gregory the Illuminator (257–332), patriarch and apostle of the Armenians.

Alexander Alensis, Alexander of Hales in Gloucestershire, where he was born, dying in Paris, 1245. His Summa Universae Theologiae was closely followed in both method and arrangement by St. Thomas in the Summa Theol.

Rivet, André, a Huguenot theologian, who brought out his introduction to Scripture at Dordrecht (1616).

Casper Hurtado, Spanish Jesuit and theologian, b. 1575, at Mondejar, New Castile, d. at Alcala, 1647, as dean of the faculties. He writes with the economy and clarity of an ampersand. One of the first Jesuit scholastics to deviate from St. Thomas.

Aureolus, also known as Petrus Aureoli, b. 1280, d. 1322, Franciscan, a Conceptualist in philosophy and forerunner of Occam. He defended
the Immaculate Conception in a disputation at Toulouse, 1314. (Cath. Enc., II, 1112.)

Gerson, Jean le Charlier de, b. 1363, d. 1429, that good, moderate, peaceful soul, not yet known half well enough.

William of Paris, Guillaume de Paris, also known as Guillaume d'Auvergne (1180?–1249?), prelate and natural philosopher, who wrote the celebrated De Universo.

William of St-Amour, thirteenth-century theologian and controversialist, d. 1273, leader of the so-called "seculars" in their bitter quarrel with the mendicant friars. In 1256, he published his "De periculis novissimorum temporum."

Marsilius — surely of Padua (1270–1342)!

Delavinus — André de La Vigne (Le Verger d'Honneur)?

72. John Christopherson (d. 1558), bishop of Chichester, was educated at Cambridge, became fellow of Trinity, where he revised Greek studies. Works: Jephthah; Philonis Judaei; An Exhortation to all menne. (DNB, IV, 293–295.)

73. Tatianus, originally from Syria, studied under Justinus, but adopted the heretical doctrines of the Encratites. Remembered for his Oratio ad Graecos and his gospel harmony, Diatessaron.

Asyrius — perhaps John Asser (Asserius Menevensis), the learned monk of St. David's, Menevia, who died, 910.

Arabius — possibly the Bishop of Synaus (Synaitensis), who was represented by his metropolitan at the Council of Chalcedon, 451. (Cath. Enc., XIV, 382.)

Minutius — Minucius Felix, fl. between 160–300, Christian apologist who is remembered for Octavius.

74. Philip Mourney du Plessis, Signeur du Plessis-Marly, commonly known as Duplessis-Mornay (1549–1623), Huguenot leader, adviser to Henry of Navarre, who retired from the court to devote himself to writing.


76. St. John's College Library, MS. S 20.

77. Autobiography . . . , I, 142.

78. The original Dominican chapel, running the liturgical E & W, had been converted into the college hall, with the New Chapel, long since also converted into a hall, askewed N & S. John Evelyn remarks on this: Cooper, III, 460.

79. The verses belong to Mr. (later, Bishop) Corbet and were "... made rather to be sung than read, to the Tune of Bonny Nell . . . ." Cooper, III, 76.


81. Cooper, III, 279.

82. Even in F. Brittain's brilliant little satire of a mock visitation of modern college chapels: Babylon Bruis'd (Cambridge, 1940)!
NOTES TO CHAPTER FOUR

83. Cooper, III, 280.
84. We are using the version in the University Library, Cambridge, MS. Gg. 1. 29, f. 15°. It differs slightly from the printed version of Melville's works: *Viri Clarissimi A. Melvini Musae . . .* (Edinburgh [?], 1620).

85. University Library, Cambridge, MS. Gg. 1. 29, f. 15v — The poem is, as far as we can determine, unpublished. It appears in no edition of Hall, not even in A. Davenport's thorough and excellent edition of 1949. The reason it has lain unnoticed so long may be that in the Library catalog, in which the contents of this manuscript are listed folio by folio, 15v simply notices Melville's verses, the cataloger assuming the rest to belong to him.

There can hardly be any question of the poem's authenticity. The style is Hall's, and there is the hallmark, not, however, exclusively his, of punning on the name of his adversary. Cf. his *In Bellarminum*, in which Hall sees *bella* and *arma* as indicating the Cardinal's bellicosity.

86. Trinity College Library, MS. O. 10a. 33, p. 16.


90. Alexander Macalaster, *The History of the Study of Anatomy in Cambridge, A Lecture Delivered, Jan. 29, 1891, on the opening of the New Anatomical Lecture Room* (Cambridge, 1891), p. 10. Anyone who would do anything at all on Cambridge medicine will do well to run to this great Scotsman. We hereby acknowledge our debt.

91. Cooper, III, 566.


93. Each of these names, household words, surely, to medical scientists, deserves remembrance by us, the nonscientific beneficiaries of their knowledge:

Helkiah Crooke took his degree at St. John's, Cambridge, 1599, and published (1616) his *MIKROKOSMOGRAPHIA* on descriptive anatomy.

Sir George Ent (1604–1689), graduate of Cambridge and Padua, lectured to the College of Physicians. He was an original fellow of the Royal Society and wrote *Apologia pro circuitione sanguinis* (1641).

Francis Glisson of Caius took his M.D., 1634, and was Regius Professor, 1636–1677. Glisson published his *Anatomia Hepatis* (1654), his *Tractatus de Rachitede* (1658) and, in 1677, his work on the stomach and intestines. Of his philosophical labors (1672) we shall speak later.

William Briggs, Corpus Christi, got out a monograph on the eye (*Ophthalmographia sive oculi eiusque partium descriptio Anatomica*, Cambridge, 1675) and, as Newton's friend, taught the young genius all he knew of anatomy, a grace which the younger Newton acknowledged by prefacing Briggs' 1686 edition.
Clopton Havers, St. Catherine's, studied anatomy there, 1684, but did not take his degree. He gave five discourses before the Royal Society and published (1691) *Osteologia Nova*. Called after him are the Haversian canals in bones.

Thomas Wharton (1614–1673) of Pembroke, wrote *Adenographia* (1656). He describes the ducts (Wharton's duct) of the submaxillary glands.

William Croone, of our beloved Emmanuel, took his M.D. in 1662. Lecturer on anatomy in Surgeons' Hall and founder of the Croonian lectures. He was one of the earliest Cambridge embryologists, contributing a paper, “On the Conformation of a Chick in the Egg,” to the *Philosophical Transactions* (1671).

Martin Lister (1638–1712), the zoologist, suggested the idea of a geological survey, proposing to the Royal Society a new kind of map. He also contributed to *Philosophical Transactions* articles on spiders and mollusca, for the second of which he is best known.

Walter Needham (1631?–1691?) of Trinity, physician and anatomist, was an Honorary Fellow of the Royal College of Physicians. In 1667, appeared his *Disquisitio anatomica de Formatu Foetus*.

George Jolyffe, who joined Clair and graduated from Cambridge, 1651, shares in the discovery of the lymphatic system.

Thomas Sydenham (1624–1689) wrote the extremely important *Observationes Medicae* (1676) on his treatment of the plague.

Sir Samuel Garth (1661–1719), one of the rare poet-physicians, whose dream was to establish services for the sick poor. In 1699, he published “The Dispensary, a Poem,” which was widely read for a half-century, enjoyed many editions, and is still quoted by those who know their eighteenth century.

95. April 16, 1631; Harleian MSS., quoted in Macalaster, p. 12.
96. March 15, 1627/8; printed in Heywood and Wright, II, 364.
97. The two theses were (University Library, Cambridge, Sel. 1. 24): *Humores [sunt] morborum causae* and *Galeni medicamenta chymicis meliora*, the latter of which we shall treat later in the text.
99. B. Castelli, *Lexicon Medicum* (Lipsiae, 1713), *sub*: *Affectiones spasmodicae*.
100. *Ibid.*, *sub*: *Animalium Spiritus*.
103. *Lexicon*, *sub*: *Acidus humor*.
106. *Lexicon*, *sub*: *Medicamentum*.
107. *Idem*.
109. An odd thesis does crop up, as in the University Library, Cambridge, MS. Dd. 6. 30: An Sc[ien]ciae Med[icin]ae sint magis physicae quam Mathematicae, though this is rather a philosophical (physicorum!) thesis than medical (physitiorum!). The confusion of physica and medicine in the early seventeenth century is not as difficult as distinguishing whether a man was a scholar in physics (physicus) or a medical man (physicae).

110. St. John's College Library, MS. S 34.

111. No one joked, ever, of the plague at Cambridge. In 1630, Samuel Ward, master of Sidney, wrote to Archbishop Usher of the "most suddain dispersion of our Students that ever I knew, occasioned by the Infection. . . . So as, whereas this time was our chief time of the Year for Acts and Disputations, now our school-gates are shut-up . . . ." (Richard Parr, The Life of James Usher [London, 1686], letter clx). According to MSS. Baker, 42, 107, "On the 13th of September [1631], a grace was passed for suspending sermons at St. Mary's and exercises in the Schools on account of the plague." Again, in 1642 (MSS. Baker, 25, 165), " . . . a grace passed for discontinuing, on account of the plague, all University sermons, lectures, and exercises until the Vice-chancellor and Heads should again convene the University." Finally, on the eve of Annum Mirabilis, we find (MSS. Baker, 42, 107): "On the 10th of October, a grace passed the Senate for discontinuing sermons at St. Mary's and exercises in the schools, on account of the prevalence of the plague."

112. Pembroke College Library, MS. 23 (6. 14.8), f. 45v. The manuscript is probably a gift of Mark Frank, 1664; vide Wren's Catalogue of Benefactors, no. 93, art. 83. The manuscript contains a collection of medical cures, not in the same hand, some in a very old hand, inserted loose-leaf into an 8°.

113. "Of Conception" (the edition is not paginated).

114. "Of the Stomacke."

115. P. 86.


117. Bulleins Bulwarke of defèce againste all Sicknes, Sornes, and Woundes . . . , by Williym Bulleyn (London, 1562), f. viii. We cannot resist quoting the whole passage, if only for framing in the offices of deans of medical schools: "He [the doctor] must begin first in youth with good learning & exercise in this noble art. He also must be clenly, nimble handed, sharp sighted, pragrant witted, bolde spirited, clenly apparralled, piltefull harted, but not womenly affectionated: to wepe or trimple [tremble], whè he seeth broken bones or bloodie wounds, neither must he gève place to the cri of his sore paciente, for Chyryrgians maketh fowle sores. Of the other side, he maie not plaie the partes of a Butcher to cutte, rende, or teare, the bodie of manne kynde. For all though it be fraile, sore, and weake, yet it is the pleasure of God, to cal it his temple, his instrumêt and dwelyng place, and the Philosopher dooe call it Orbiculus, that is a little worlde."


120. John Strype, *Memorials of Thomas Cranmer* . . . (London, 1694), 1, c. 29; see also Sir William Holdsworth, IV, 232: “. . . the sudden change in the position of the canon law naturally reacted on the study of the civil law.”

121. The reader may recall Rabelais’ fun (*Pantagruel*, liv. II, ch. x): “Sottes et desraisonnables raisons et ineptes opinions de Accurse, Balde, Bartole, de Castro, de Imola, Hippolytus, Panorme, Bertachin, Alexander, Curtius et ces autres vieux mastens, qui jamais n’entendirent la moindre loy des Pandects, et n’estoient que gros veaulx de disme, ignorans de tout ce qu’est necessaire à l’intelligence des loix.”


124. Cooper, II, 35.


131. St. John’s College Library, MS. S 18.
135. Ibid., p. 576a, sub: Donation; also sub: Donative Advowson.
136. Ibid., p. 1668b.
138. St. John's College Library, MS. S 18.
140. Ibid., p. 578a.
141. St. John's College Library, MS. S 18; see Black's Dictionary, p. 388a.
144. St. John's College Library, MS. S 18; see Black's Dictionary, p. 995a.
145. St. John's College Library, MS. S 18; see Black's Dictionary, p. 1469b.
146. Idem.
147. Idem.
149. Idem.
150. Idem.
160. Blackstone, Commentaries . . . , Bk. IV, 442.
163. Microcosmographie, #20.
164. (London.)
166. Ibid., p. 288.


171. The *Polychronicon* went through many important editions, including Caxton’s (1482), Wynkyn de Worde’s (1495), and Peter Treveris’s (1527).


175. Queens’ College Library, MS. n.c., in bundle marked “From the President’s Lodge, 1932.”


177. Cooper, III, 219; MSS. Baker, 32, 889.


180. ULC, Sel. 1. 24. William Turner (1651–1740) was a frequent sharer in the celebrations of St. Cecilia’s Day, which took place almost every year from 1683 to 1702. He set the ode written by Nahum Tate in 1685. In 1696, Turner was graduated Doctor of Music from Cambridge, a grand concert being given at the Commencement, July 7. *DNB* (XIX, 1295) notices that “a Latin poem written on the occasion was printed on a folio sheet; it compliments Turner as inferior to Purcell alone.”

INDEX

A secundum quid ad simpliciter, fallacy of, 54
Abdiel, 89
Abecedarium argumentandi, 179 n38
Abelard, Peter, 12
Abington, 177 n21
Absolute predestinarianism, 116
Absolute predestinarians, 81
Abstemiousness, 66
Abstracting, power of soul, 95
Abstraction, 71
Accent, fallacy of, 53
Accidens et substantia, 75
Accident, 76, 77, 78; metaphysical, 51
Accidentis, fallacy of, 53, 54
“Achilles,” sophistry of, 187 n78
Act, 32
Actio in distans, 187 n73
Action, 38, 52, 77
Actiones sunt suppositorum, 77
Acts, of masters, 107
Actuality, 73; pure, 82
Adam, 78
Adultery, 119
Aegean Sea, 106
Aegean Isles, 106
Aeneid, of Virgil, 43, 61
Aequipolation, logical, 48
Aequivocatio, 52
Aesop, 59, 61
Aeveternity, 88
Affectiones physicae, 93
Affectiones spasmodicae, 131
Affections, 55, 57
Agricola, Rodolphus, 9
Airplane, 72
Ajax, 23
Albertus Magnus, St., 51
Alcala, University of, 7, 194 n71
Alcuin, 7
Alensis. See Alexander of Hales
Alexander of Hales, 122, 194 n71
Alexander the Great, 59
Alexandrian sources, 10
Allein, Joseph, 44
Allusiveness of style, 32
Alsop, J., 59, 84, 85, 182 n88
Amasia, 28
Ambrose, St., 174 n55
Amicitia, 67
Amphibolia, 52
Amphiboly, 53
Amphistii, 105
Anabaptists, 117, 126
Anatomy, 85, 94, 130, 149
Andrewes, Lancelot, 15, 26, 170 n12, 171 n90
Andronicus of Rhodes, 184 n6
Angels, 78–79, 88
Anglican Church, 120, 127
Animal, 51
Annus Mirabilis, 198 n111
Answerer, in disputation, 16, 17, 20
Anthony, Mr., 63
Anthropology, 104
Anti-Aristotelianism, 3
Anti-Christ, 112, 120
Antichthones, 105
Anticolaes, 105
Antipodes, 105
Antoeci, 105
Aphrodisiac, 134
Aphthonius of Antioch, 57, 181 n71
Apianus, Petrus, 104
Apodosis, 173 n48
Apollo, 60
Appetible, 73
Appetite, for vision of God, 81
Apprehension, simple, 147
“A-priorizing,” 100
Aquapendente, Fabrizio d’, 129
Arabian sources, 10
Arabius, 122, 195 n73
Aratius, 121
Aratus of Soli, 81
Arbor Entis, 86
App. 73
Archetype, 18
Areopagitica, 33, 142
Argumentation, 48, 50
Aristocracy, 68
Aristotelian cosmos, 90
Aristotelian curriculum, 39
Aristotelianism, 9, 10, 41
Aristotle:

1. TOPICS: 32, 42, 45, 59, 61, 63, 74, 81, 178 n36, 188 n102; on accident, 9; on act, 9; authority of, 9; categories of, 51, 148; on contraries, 22; on definition of physics, 83; on distinguishing general from special physics, 100; on division of arts and sciences, 37; and dualism, 87; eclecticism of, 10; on eternity of world, 99; on ethics, 64, 68; ethics of, weakened, 64; on form, 9; on happiness, 65; on Intelligence of Intelligences, 82; to be judged on own merits, 46; on mathematics, 37; on matter, 9; on metaphysics, 37; metaphysics of, discarded, 64; on mode, 9; on motion, 9; on nature, 9; on object of Physica, 85; overfidelity to, 101; on physics, 37; on potency, 9; predominance of, in seventeenth century, 9; re-systematized, 45; on soul, 9; on space, 187 n73; on substance, 9, 75; system of, 37; and virtue, 66, 148; and will, 65; on women, 189 n129

2. WORKS: Categoriae, 8; De Anima, 42, 101; De Coelo, 27, 42; De Gen. Animal., 189 n129; De Interpretatione, 8, 39; De Meteoris, 101; De Partibus Animalium, 101; De Parvis Naturalibus, 101; De Sophisticis Elenchis, 8; Eight Books of Physics, 42; Ethica, 42; Meteorologica, 42; Meteorominerals [sic], 9; Organon, 42; Physica, 83, 85, 101, 189 n129; Politica, 38; Prior Analytics, 8; Prior and Posterior Analytics, 34; Problems, 14; Topics, 8

Aristotle’s Masterpiece, 133
Arithmetic, 9, 38
Arminianism, 117, 181 n67
Arminians, 81, 116, 128
Ars Amatoria, of Ovid, 59
Art, 37, 38, 96
Artemidorus, 60
Arteries, 132
Astronomical wonders, 101
Astronomy, 38, 70, 85, 149
Asyrius. See Asserius Menevensis
Ataxia, 131
Athanasius, bishop of Parallus, 121, 193 n67
Attwater, A. L., 3
Aubrey, John, 190 n142
Aulus Gellius, 43
Aureolus. See Petrus Aureoli
Averroists, 99, 189 n115
Ayloffe, James, 140
Ayloffe, Thomas, 139, 140, 200 n153
Azarius, 121, 193 n67
Azor, Juan. See Azarius

Baccalaureate sermon, in American universities, 33
Bachelor, 15, 17
Bacon, Francis, 5, 10, 48, 146, 169 n8
Bailey, J. E., 174 n63
Baker Manuscripts, 3, 108
Baker, Thomas, 3
Balderston, John, 12, 65, 66, 179 n38
Baldwin, T. W., 44
Bancks, Mr., 63
Bancroft, Richard, 115
Bañez, Dominicus, 81, 117, 121, 122
Baptism, 115
Baptismal font, 38
Barbara, 49
Barlow, Thomas, 108, 121, 123
Barnes, Joshua, 39; Praelectiones Graecae, 63
Baroco, 49
Baronius, Cesare, 122
Baroque, 49
Barrow, Isaac, 2, 63, 103, 130, 170, n7
Bateson, Thomas, 143
INDEX

Bathing, 170 n7
Battle of the Books, 59
Baxter, Richard, 48, 170 n7
Baedles. See Bedells
Bedells, 15, 16, 17
Being, 71, 72, 73
Belgic Confession, 117
Bellarmine. See Robert Bellarmine, St.
Bensaude, Joaquim, 191 n162
Bentley, Richard, 63
Beraza, B., S.J., 186 n40
Bethell, Samuel L., 1
Beza, Theodore, 114
Bible, 64
Biblical beasts, 106
Biel, Gabriel, 121
Biology, 149
Blackstone, Sir William, 141
Blasphemy, 119
Blind obedience, 120
Body, of man, 94
Boethius, 32
Bois, Mr., 173 n47
Bolde, Alexander, 59, 133
Bologna, University of, 122
Bonaventure, St., 121
"Bonny Nell," 195 n79
Bononia. See Bologna, University of
Bonum apparens, 97
Bonum in communi, 96
Book of hours, 98
Boston, 76, 89
Boughey, Francis, 88, 89
Bourne, Vincent, 179 n39
Boyes, John, 19th., 63
Braggart, 67
Brett, Thomas, 140
Bretton, Lawrence, 30, 84, 91, 94, 121, 175 n71
Bricot, Thomas, 9, 170 n9
Briggs, Henry, 103
Briggs, William, 130, 196 n93
Brinsley, John, 44
Brittain, F., 195 n82
Broadsie, theses, 17
Bruta non habent rationem, 189
n191
Bucer, Martin, 121
Buck, Esquire Bedell, 19, 34, 144
Bulleyn, William, 135, 198 n117
Burgersdicius, Franciscus, 45, 78, 93, 98, 101, 184 n4
Burke’s Peerage, 71
Burleius. See Burley, Thomas
Burley, Thomas, 9, 170 n9
Burtt, E. A., 1
Bury School, 44
Bush, Douglas, 2
Byrd, William, 143
Cabalistc erudition, 79
Caesar, Julius, 59
Caius, John, 129, 135
Caius College. See Gonville and Caius
Cajetan, Gaetanus, Card., 121, 122
Caligula, 49
Calvin, on usury, 119
Calvinism, 114, 115, 117, 118
Cam, 56, 144
Cambridge Review, The, 170 n7, 181 n65
Camden, William, 136
Campion, Edmund, 178 n21
Canon law, 1, 107, 120, 136, 143, 150
“Cantos on Mutabilitie,” of Spenser, 90
Carre’, Meyrick, 1
Carlovingian schools, 7
Carpenter, Nan Cooke, 143
Cartesianism, 4, 132
Carleton, Sir Dudley, 24
Casaubon, Meric, 8
Castelli, Bartholomew, 131, 132;
LEXICON MEDICUM, 131
Casu, 76
Casuistry, 123–125, 150
Cataloging not knowledge, 51
Catches, 143
Catechism, of Anthony Tuckney, 111
Categorical syllogism, 173 n48
Categories, 51; of Aristotle, 148
Categorimaticus, 74
Cathala, M.-R., O.P., 184 n6
Catholic scholastics, influence of,
183 n108
Causa Prima, 81
Causam causae esse causam causati,
72
Cause, final, 76
Causes, four principles, 74–76
INDEX

Causinus, Nicholas, 43, 56, 57, 177 n21
Cavalier, 69
Caxton, 201 n171
Cecil, Robert, 8; reform decree of, 12
Certitude and faith, 116
Chalcedon, Council of, 195 n73
Chamberlain, John, 24
Chance, 75
Chancellor, office of, 169 n4
Change, 88
Charity, 118, 119
Charles I, 191 n8
Charles II, 130, 141
Cheese, 134
Chemistry, 149
Cherbury, Lord Herbert of, 24
Chicago, 89
Chichester, 195 n72
Chillingworth, William, 109
Chlorophyll, 133
Cholera, 132
Choleric, 188
Christopherson, John, 122, 195 n72
Christ's College, 138, 178 n21
Church lands, 138
Church of England, 115; and orthodoxy, 108
Churchill, Sir Winston, 72
Cicero, 10, 32, 43, 58, 61, 63, 178 n56; tags from, 33
Circumscription of bodies, 89
Circuncolae, 105
Citation, 72
Civil law, 107, 150; factors making for decay of, 136; lectures in, 13; and usurious abuses, 136; weakened, 136
Civil society, 68
Clare College, 129
Clarendon, Edward Hyde, first earl of, 107
Clark, Andrew, 190 n142
Clark, Donald Leman, 178 n30
Clarke, John, 4
Clarke, Samuel, 44, 174 n56, 178 n27
Classical geography, 39
Claudian, 43
Clement of Alexandria, St., 122
Clerum, 33, 112, 147
Cluverius, Philippus, 43, 178 n21
Cobbler, 75
Cocktail, 92
Coctile, 92
Code law, 140
Coffey, Peter, 176, n3
Coke, Sir Edward, 196
Collins, John, 129
Colombo, Matteo Realdo, 129
Colurus Aequinoctionum, 105
Colurus Solstitialium, 109
Cole, John, 37, 58, 174 n4
Colloquia of Erasmus, 43
Colonialism, 69
Cometa, 190 n131
Commencers, 15, 17
Commissioners of the Scottish universities, 14
Common law, 136, 150
Commonplace book, 57
Commonplace headings, 32
Communion, under both species, 120
Comparative religion, 104
Compositio, 52, 53
Concept, 47, 50
Conception, 134
Conceptualism, 8, 194 n71
Concurrence, 113, 115; freedom from, 114
Confessional, 123
Confusion, of philosophy and science, 84; of phìsica with science, 85
Conges, 16
Congressional Medal, 66
Conjunctive form, of syllogism, 173 n48
Conning, 58
Consent, in marriage, 139
Consequentis, fallacy of, 54
Constitutional law, 139
Consuetudo Anglicana, 137, 139
Constancy, Council of, 193 n49
Contingent causes, 79
Continuum, 89
Contracts, 159
Conversion, logical, 48; religious, 116; permanency of, 116
Cooper, Charles, 3, 169 n6
Corbet, Richard, 195 n79
<table>
<thead>
<tr>
<th>INDEX</th>
<th>207</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corona, Oratio de, 63</td>
<td></td>
</tr>
<tr>
<td>Corporeal Presence, 120</td>
<td></td>
</tr>
<tr>
<td>Cosin, John, 125</td>
<td></td>
</tr>
<tr>
<td>Cosmography, 41, 104-106, 148; definition of, 70</td>
<td></td>
</tr>
<tr>
<td>Cosmos, 55; Aristotelian, 90</td>
<td></td>
</tr>
<tr>
<td>Cossack, 75</td>
<td></td>
</tr>
<tr>
<td>Cotton, John, 112</td>
<td></td>
</tr>
<tr>
<td>Courage, 66</td>
<td></td>
</tr>
<tr>
<td>Counterdistinction, 173 n51</td>
<td></td>
</tr>
<tr>
<td>Courtly Love tradition, 98</td>
<td></td>
</tr>
<tr>
<td>Covarruias. See Covarruivas</td>
<td></td>
</tr>
<tr>
<td>Covarruias y Leyva, Diego, 67, 121, 193</td>
<td></td>
</tr>
<tr>
<td>Covenant, 42</td>
<td></td>
</tr>
<tr>
<td>Cowardice, 66</td>
<td></td>
</tr>
<tr>
<td>Cowell, John, 13</td>
<td></td>
</tr>
<tr>
<td>Crates, 59</td>
<td></td>
</tr>
<tr>
<td>Creation, 149; known by reason, 99</td>
<td></td>
</tr>
<tr>
<td>Crellius, Fortunatus, 190 n136; Liber de Deo, 99</td>
<td></td>
</tr>
<tr>
<td>Crooke, Helkiah, 130, 196, n93</td>
<td></td>
</tr>
<tr>
<td>Croone, William, 130, 147 n93</td>
<td></td>
</tr>
<tr>
<td>Crossinge, Richard, 63, 106, 179 n98, 183 n105; quoted, 191 n161</td>
<td></td>
</tr>
<tr>
<td>Cudworth, Ralph, 2</td>
<td></td>
</tr>
<tr>
<td>Culling, 58</td>
<td></td>
</tr>
<tr>
<td>Cummell, Francis, 122</td>
<td></td>
</tr>
<tr>
<td>Cummins, Francis, 182 n87</td>
<td></td>
</tr>
<tr>
<td>Curls, 123</td>
<td></td>
</tr>
<tr>
<td>Curtsyng, 16</td>
<td></td>
</tr>
<tr>
<td>Custom, 188, 139; Jewish, 106</td>
<td></td>
</tr>
<tr>
<td>Cynaethus of Chios, 60</td>
<td></td>
</tr>
<tr>
<td>Czechoslovakia, 83</td>
<td></td>
</tr>
<tr>
<td>Davenport, Edward, 100</td>
<td></td>
</tr>
<tr>
<td>Davenport, John, 174 n55</td>
<td></td>
</tr>
<tr>
<td>Davenport, Alexander, 196 n85</td>
<td></td>
</tr>
<tr>
<td>Davenport, Christopher, 122, 194 n70</td>
<td></td>
</tr>
<tr>
<td>Dead Sea, 29</td>
<td></td>
</tr>
<tr>
<td>Death, 32</td>
<td></td>
</tr>
<tr>
<td>De Amicitia, of Cicero, 43</td>
<td></td>
</tr>
<tr>
<td>De Anima, of Aristotle, 101</td>
<td></td>
</tr>
<tr>
<td>De Cive, of Hubbes, 137</td>
<td></td>
</tr>
<tr>
<td>De Defensione Fidei, of Suarez, 121</td>
<td></td>
</tr>
<tr>
<td>De Elegantia, of Erasmus, 43</td>
<td></td>
</tr>
<tr>
<td>De Eloquentia, of Causinus, 43</td>
<td></td>
</tr>
<tr>
<td>De Finibus, of Cicero, 43</td>
<td></td>
</tr>
<tr>
<td>De Interpretatione, of Aristotle, 39</td>
<td></td>
</tr>
<tr>
<td>De Mixtis, of Aristotle, 92</td>
<td></td>
</tr>
<tr>
<td>De Meteoris, of Aristotle, 101</td>
<td></td>
</tr>
<tr>
<td>De Officiis, of Cicero, 43</td>
<td></td>
</tr>
<tr>
<td>De Oratore, of Cicero, 43</td>
<td></td>
</tr>
<tr>
<td>De Partibus Animalium, of Aristotle, 101, 188 n102</td>
<td></td>
</tr>
<tr>
<td>De Parvis Naturalibus, of Aristotle, 101</td>
<td></td>
</tr>
<tr>
<td>De Senectute, of Cicero, 43</td>
<td></td>
</tr>
<tr>
<td>Declaration, 31-34, 35, 146, 147, 175 n71</td>
<td></td>
</tr>
<tr>
<td>Declarations, 8</td>
<td></td>
</tr>
<tr>
<td>Decretals, of Gratian, 135</td>
<td></td>
</tr>
<tr>
<td>Deductive science, 49</td>
<td></td>
</tr>
<tr>
<td>Defendant, in disputation, 15</td>
<td></td>
</tr>
<tr>
<td>Definition, logical, 47, 50</td>
<td></td>
</tr>
<tr>
<td>δεκτικόν, 74</td>
<td></td>
</tr>
<tr>
<td>Delavinus, 122, 195 n71</td>
<td></td>
</tr>
<tr>
<td>Democracy, 68</td>
<td></td>
</tr>
<tr>
<td>Demons, true faith in, 117</td>
<td></td>
</tr>
<tr>
<td>Demosthenes, 32, 43, 61, 63; First Olynthiac, 64; Oratio de Corona, 63</td>
<td></td>
</tr>
<tr>
<td>Denzinger, H., Euchiridion Symbolorum, 185 n98</td>
<td></td>
</tr>
<tr>
<td>Descartes, René, 76, 101</td>
<td></td>
</tr>
<tr>
<td>Desdemona, 106</td>
<td></td>
</tr>
<tr>
<td>Determinationes, 8, 35, 147</td>
<td></td>
</tr>
<tr>
<td>Deuteromelia, 143</td>
<td></td>
</tr>
<tr>
<td>Devils, 117</td>
<td></td>
</tr>
<tr>
<td>D'Ewes, Sir Simonds, 32, 41, 42, 44, 63, 111, 125, 136, 144, 175 n80; autobiography, 43</td>
<td></td>
</tr>
<tr>
<td>Dialectics, 9</td>
<td></td>
</tr>
<tr>
<td>Dickenson, Mr., 44</td>
<td></td>
</tr>
<tr>
<td>Dionysius of Syracuse, 49, 106</td>
<td></td>
</tr>
<tr>
<td>Dioptrics, 101</td>
<td></td>
</tr>
<tr>
<td>Directions, of Holdsworth, 43</td>
<td></td>
</tr>
<tr>
<td>“Directions,” of Duport, 56</td>
<td></td>
</tr>
<tr>
<td>Discipline, directive, 37, 39; objective, 37</td>
<td></td>
</tr>
<tr>
<td>Discorsi, 109</td>
<td></td>
</tr>
<tr>
<td>Dismissal speech, in disputation, 24</td>
<td></td>
</tr>
<tr>
<td>Disputation, scholastic exercise, 8, 14-31, 35, 146</td>
<td></td>
</tr>
<tr>
<td>Disputationes Metaphysicae, 81</td>
<td></td>
</tr>
<tr>
<td>Dissembler, 67</td>
<td></td>
</tr>
<tr>
<td>Distinction, 173 n51; explaining of, in disputation, 23; in disputation, 21</td>
<td></td>
</tr>
<tr>
<td>Distributive justice, 66</td>
<td></td>
</tr>
<tr>
<td>“Diting,” 13, 14, 111</td>
<td></td>
</tr>
</tbody>
</table>
Divide, mathematically, 90
Divinations, of astronomers, 91
Divine attributes, 80
Divinity, 80
Divisio, fallacy of, 52, 53
Division, logical, 47
Docker, Henry, 47, 82; logical exercises of, 180 n42
Dogma, i, 123
Dogs, making syllogisms, 25
Domestic society, 68
Dominicans, on predestination, 81
Dominium temporale, 119
Dove, Thomas, 171 n90
Downes, Andrew, 63
“Down-right Scholler,” of John Earle, 70
Drake, James, 130
Drake, Richard, 91
Drake, Roger, 129
Drama, 39
Dreams, 94, 101
Dryden, John, 142, 143, 145, 146, 147
Dualism, of potency and act, 74
Ductor Dubitantium, of Jeremy Taylor, 123
Duns Scotus, 9, 51; form of lecture, 11; on matter, 86
Duport, James, 9, 20, 29, 32, 33, 56, 61, 63, 80, 95, 97, 99, 102, 169 n7, 170 n7, 173 n48, 173 n49, 178 n36, 187 n68
Durandus, 121, 122
Duration, 88
Durham, college at, 174 n63
Dury, John, 179 n38
Dyer, George, 3
Dyke, Jeremiah, 33, 175 n87
Earle, John, 70, 141, 181 n47
Earth, 90
Earwigs, 124
East Indies, 106
Ecclesiology, 115
Eclogues, of Virgil, 43, 61
Economics, 32, 68
Edictum, 140
Education of form from matter, 85–86
Edward VI, 109, 143
Edwards, Jonathan, 116
Efficient cause, 75
eidos, 74
Election, 117
Elementa Mixta, 91–93
Elements, 91, 92, 149
Elia, 120
Eloquens, 92
Elizabeth I, 7, 109, 136, 143, 173, n47
Ellesmere, Thomas Egerton, baron, 136
Ellis, William, 183 n121
Eloquence, patterns of, 70
Eloquentia, 147
Emmanuel College, 25, 42, 57, 63, 65, 100, 102, 110, 111, 125, 126, 127, 142, 170 n13
Enborn School, 44
Enchiridion Symbolorum of Denzinger, H., 185 n98
Encratites, 195 n73
End. See Finis
Englishman’s Doctor, The, of Sir John Harington, 134, 188 n90
Ens, ab alio, 71, 76; a se, 71, 76; contingens, 71; in alio, 76; in se, 76; necessarium, 71; participial, 73; per alud, 76; per se, 76; substantive, 73
Entitatulum, 174 n64
Ent, Sir George, 130, 196 n93
Enthymeme, 173 n48
Epicureans, 65
Epilepsy, 131
Episcopacy, 108
Epistemology, 93
Epistola Dedicatoria, of Janich, 84
Epistolae, of Cicero, 43
Epistolae, of Ovid, 43
Epistolary prose, 39
Equator, 105
Equivocation, 53
Erasmus, 43
Esquire bedells, 15, 16
Essence, 50, 53, 70, 73
Essex, Robert Devereaux, second earl of, 30
Estius, William, 122, 194 n70
Ether, 91
Ethical dialogues, 39
INDEX

Ethical gentleman, 67
Ethical saint, 66
Ethics, 10, 32, 38, 41, 55, 64-69, 147, 148, 183 n117; Aristotelian, 69; Aristotelian, and Maritain, 67; as practical science, 176 n111
Eucharist, 113, 120
Eucharistic Presence, 89
Euclidean geometry, 46
Eudemian ethics, of Aristotle, 68
Eudaemonia, according to Aristotle, 65
Euripum, 59
European Archipelago, 106
Europeans, 68
Eustachius of St. Paul, 45, 93
Evil, 97
Evelyn, John, 195 n78
Evensong, 125
Exceptio, 140
Execratio, 62
Exercises, Latin, 58; rhetorical, 58
Ex opere operato, 115
Extension, 70

Faber Faventinus, Philip, 122, 194 n70
Fabritius, Alexander, 122
Faculties, 95
Fairness, 66
Faith, 117, 118
Fallacia, 52, 117
Fallacies, logical, 52-55, 147
Fallopio, Gabriello, 129
False stress, 53
Falstaff, 67
Family, 67, 68
Fanfani, Aminatorii, 118
Far East, 106
Fasting, 100
Father, patron of defendant, 17, 19, 34; speech of, 27
Faventinus. See Faber
Fawcett, George, 109
Fearfulness, 66
Felsted, 44
Felton, Nicholas, 12, 81, 170 n112
Female, 97; characteristics of, 98
Ferrar, Nicholas, 44, 178 n25
Ferrara, Francisco Silvestro di. See Ferrariensis
Ferrariensis, 122, 194 n70
Fides salvifica, 117
Final cause, 75, 185 n26; of human soul, 94
Finis, 75, 76, 185 n26
First cause, 75, 79
"First Philosophy," 72
Fisher, John, S.J., 109
Fisher, St. John. See John Fisher, St.
Fitzherbert, Nicholas, 2, 10, 56, 150
Flaccidity, 92
Flora, 104
Florus, Lucius Annaeus, 43, 177 n21
Fluency, 58
Form, 74, 75, 93, 98
Formalism, 5
Fornication, 119
Foro externo, in, 64
Foro interno, in, 64
Fortescue, Sir John, 199 n118
Fortune, 118
Fossils, 98
Frank, Mark, 198 n112
Fredegis of Tours, 7
Freedom, 65, 96
Free will, 113, 114
Friendliness, 67
Friendship, 67
Frigidity of Saturn, 91
Frizzled foreheads, 124
Függers, 106
Fuller, Lon L., 200 n137
Fuller, Thomas (of Sidney Sussex), 3, 27, 29, 48, 146, 174 n55, 174 n63
Fuller, Thomas (of Christ’s College), 174 n63
Furnivall, Frederick J., 169 n3
Further Adventures of E. Gordon Pym, of Edgar Allan Poe, 130
Fyll, Robert, 192 n28
Galen, 129, 133, 134
Galileo, 5, 7, 103, 129
Garlic, 134
Garth, Sir Samuel, 104, 197 n93
Generation and decay, 79
Genus, 51
Geography, 9, 104
Geology, 149
Geometry, 38
Geophysics, 104
George of Brussels, 9, 170 n9
Georgics, of Virgil, 43, 61
Germany, 102, 106
Gerson, Jean le Charlier de, 122, 195 n71
Gervase of Canterbury, 175 n74
Gibbons, Ellis, 143
Gibbons, Orlando, 143
Gill, Alexander, 18
Gilson, Etienne, 72, 184 n74
Glanvill, Joseph, 2, 74
Glisson, Francis, 130, 196 n93
Good and evil, not immediately contrary, 22; not dependent on human law, 64
Goodness, natural, 24, 51
Gossin, Thomas, 43, 177 n21
Gossip, 119
Gostlin, John, 109, 129, 135
Gouge, William, 178 n23
Grace, 113, 114
Grammatica analysis, 62
Gratian, Decretals of, 135
Great Enlightenment, 116
Grecians, 68
Greek, preuniversity training in, 44; study of, 45, 62-64
Greek Testament. See Testament
Greek to the Temple, A, 55
Greene, Robert, 51
Gregorius Arminensis, 122, 194 n71
Gremium materiae, 74
Gresham College, 129
Grierson, Sir Herbert, 169 n8
Grotius, Hugo, 64, 123
Gyges, 59

Habit, category of, 52, 77, 78
Habitus, referring to dress, 185 n28; of style, 61
Hadley, Patrick, 144
Haecceitas, 74, 174, n64
Hair, 94
Hale, William, 199 n119
Hall, John, 3, 5, 43, 178 n22
Hall, Joseph, 127, 175 n71, 196 n85
Halliwell, James O., 175 n80
Hamlet, prevarication in, 31
Hampton Court, 127
Hanger, John, 175 n71
Hannibal, 59
Happiness, according to Aristotle, 65
Hardwicke, Philip, first earl of, 174 n55; papers of, 26
Harington, Sir John, 188 n90, 188 n100; The Englishman’s Doctor, 134
Harkness, John, 170 n11
Harmony, 145
Harrison, G. B., 175 n75
Harrison, William, 2, 169 n1, 169 n3
Harvard University, 33, 142, 146
Harvey, William, 128, 129, 135
Havers, Clopton, 130, 197 n93
Haversian canals, 197 n93
Heare, Thomas, 178 n28, 190 n146, 190 n149
Heavens, 149; motion of, 187 n80; moved by angels, 78
Hebrew, study of, 44
Heërebrod, Adrianus, 45, 179 n38
Heidelberg, University of, 99
Helen of Troy, 59
Hemispheres, 105
Henoch, 120
Henry III, 1
Henry VIII, 1, 135, 136, 137, 143, 170 n9; reforms of, 9
Hereditary monarchy, 17
Herodity, 139
Herodotus, 60
Hesiod, 43, 61
Hesychius of Miletus, 60
Heterogeneities, 74
Hecameron, 98
Heylyn, Peter, 190 n152
Heywood, John, 31
Hierarchy, 115
Highmindedness, 67
Hilton, John, 143
Historia, of Justinus, 43
Historia Generalis, of Cluverius, 43
Historians, Greek, 63
History, 39
Histriomastix, 191 n8
INDEX

Hitler, 50
Hobbes, Thomas, 64; *De Cive*, 137
Holbech, Martin, 44
Holdsworth, Richard, 32, 41, 42, 43, 45, 46, 55, 56, 57, 58, 61, 63, 102, 133, 137
Holdsworth, Sir William, 137, 199
Holland, Henry Rich, first earl of, 17
Holland, Philemon, 136
Holmes, Edmund, 71
Holmes, Oliver Wendell, Jr., theory of law, 138
Holy Land, 106
Homer, 43, 59, 61, 81; *Iliad*, 63; *Odyssey*, 63
Homo politicus, 68
Homogeneities, 74
Homogeneous plurality, 75
*Homonymia*, 52, 53
*Homonyms*. See *Homonymia*
Hood, Thomas, 104
Hook, Charles, 44
Hookes, Nicholas, 142, 143, 201
Hope, 118
Horace, 43, 56, 61; *Satyræ*, 61, 62
Horizon, 105
Hotham, Charles, 95, 99, 188 n108, 190 n137
Howell, Wilbur, 2
Huber, V. A., 5
*Hudibras*, 177 n21
Human nature. See *Nature*
Human soul. See *Soul*
Humors, 132, 197 n97
Hurtado, Casper, 194 n71
Huss, John, 4
Hylomorphism, 98
Hypnoticus, 131
Hypo-mixolydian modes, 107
Hypostatizing, of words, 179 n99
Hypothetical form, of syllogism, 173 n48
*Hysteron proteron*, 54
Idioms, 56
*Idiotisma*, of Vigerius, 43
*Ignoramus*, 141
*Ignoratio elenchi*, 52, 54
*Iliad*. See *Homer*
Images, sacred, 113
*Imaginatio*, 91, 93, 175 n74
Imitation, 56
Immaculate Conception, 115, 195 n71
Immanent power, 93
Immaterial beings, 65
Immaterial soul, 94
Immaterial substances, 78
Immortality, of the soul, 95
Impatience, 119
Imputation, 113
Inceptions, 34
Indians, 105
Index, Roman, 194 n70
Indies, 106
Indifference, moral, 22
Individual, and the state, 68
Induction, 49, 50
Infallibility, 120
Infralapsarianism, 107
Ingram, Bedell, 173 n47
Inns of Court, 137
*Institutes*, of Justinian, 140
*Institutionum Oratoriarum*, of Quintilian, 43
Integration, of curriculum, 39
Intellect, 95, 96, 189 n115
*Intellectio*, 39
*Intellectus, qua dirigibilis*, 51
Intelligence of Intelligences, 82
Interaction of will and intellect, 96
*Interrogatio*, 62
Invention, 57
Isaacson, Henry, 171 n30
Isaacson, Stephen, 171 n30
Istis, 144
Italy, and mathematics, 102
Jaeger, Werner, 184 n6
James, Henry, 144, 179 n38
James I, 7, 8, 24, 109, 127, 156, 174 n55, 191 n8
James, St., 118
Janich, Peter, *Epistola Dedicatoria*, 84
Japan, 106
Jegon, John, 108, 116
Jeffray, Mr. (of Pembroke), 111
INDEX

Jesuits, 14, 109, 117, 120, 121; at Cambridge, 30, 31; on predestination, 81; Portugese Relations of, 106; ridiculed, 29
Jesus College, 125, 130
Jolyffe, George, 130, 197
John Fisher, St., 135
John of Rada, 122, 194 n70
Johnson, James, 140
Jones, Charles W., 201 n170
Jones, Richard Foster, 2
Journals of all the Parliaments, 136
Judgment, logical process, 47, 50, 147
Junian (i)us. See Justinus
Junius, Otho, 62
Jurisprudence, 98
Justice, highest of virtues, 66
Justification, 119, 150
Justin Martyr, St., 122
Justinian, 137, 140
Justinus, Marcus Junian (i)us, 43, 177 n21
Juvenal, 43, 61, 62
Keckermann, Bartholomaus, 39, 45, 46, 85, 86, 90, 93, 99, 101, 149, 178 n56; gynics of, 98; on heavens, 90–91; on memory, 96; on sleep, 95; on women, 97; Systema Physicum, 84
Kepler, Johann, 7
King’s Chapel, 143
King’s College, 126
King’s Parade, 16
King’s touch, 133
Kirk, 127
Klotzstock-und-steintheorie, 114
Klubertanz, George P., S.J., 72, 184 n8
Knowability of God, natural, 79
Knowledge, 96; of accidents prior to knowledge of substance, 95; object of the sciences, 38
Kόλλωροι, 104
Kreisler, Fritz, 74
Kremlin, 50
Laboratory accidents, 49
Lactantius, 122
Lambeth, 125
Lambeth Articles, 108
Latin, grammar, 46; preuniversity training in, 44; style, 148
Latinity, of students, 60
Latitude, 105
Laud, William, archbishop of Canterbury, 125, 126, 181 n67
Laughter, 97
Laughton, John, 141
La Vigne, Andre de. See Delavinus
Law, 10, 107, 135–141
Lawes, Henry, 142
Lectures, 8, 11–14, 35, 146; length of, 13
Lee, Francis, 54
Lee, Sidney, 174 n54
Legacy, 139
Legerdemain, 78
Leigh, Henry, 132
Leprechauns, 72
Lessius, Leonard, 64, 119
Letter to a Young Gentleman, A, of Swift, 123
Lexicon Medicum, of Bartholomew Castelli, 131
Leyden, University of, 107, 181 n67
Liber de Deo et Eius attributis, of Crellius, 99
Liberality, 67
Licetus. See Licethus
Lichettus, Fortunius, 122, 194 n70
Lindewode, William, 93, 189 n130
Lipsius, Justus, 178 n36
Lister, Martin, 130, 197 n93
Liturgy, 115, 126
Literary play. See Ludus literarius
Little, A. G., 108
Liver, 94
Livy, 32, 43, 61
Locke, John, 2, 4, 74, 137; abuse of words, 179 n39; on substance, 76
Locomotion, 94
Logic, 10, 38, 39, 41, 44, 45–55, 147
Logica, of Seton, 44
Logica analysis, 62
Logical exercise, of Docker, 180 n42
Logical fallacy, 51
Logical-positivists, 50
Logic-chopping, 51
Lombard. See Peter Lombard
Long, Roger, 63, 103
<table>
<thead>
<tr>
<th>Term</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longevity, of those in northern hemisphere</td>
<td>105</td>
</tr>
<tr>
<td>Longitude</td>
<td>105</td>
</tr>
<tr>
<td>London, Richard</td>
<td>134</td>
</tr>
<tr>
<td>Lopez, Dominicus</td>
<td>123</td>
</tr>
<tr>
<td>Lord's Supper</td>
<td>125</td>
</tr>
<tr>
<td>Love, Richard</td>
<td>17</td>
</tr>
<tr>
<td>Lucan, See Lucanus</td>
<td></td>
</tr>
<tr>
<td>Lucanus, Marcus Annaeus</td>
<td>43</td>
</tr>
<tr>
<td>Lucentio</td>
<td>102</td>
</tr>
<tr>
<td>Lucifer</td>
<td>73, 89</td>
</tr>
<tr>
<td>Ludus literarius</td>
<td>41, 176 n14</td>
</tr>
<tr>
<td>Lugo, John de</td>
<td>64, 119</td>
</tr>
<tr>
<td>Lutetia</td>
<td>89</td>
</tr>
<tr>
<td>Lutheranism</td>
<td>114</td>
</tr>
<tr>
<td>Luther, Martin, on usury</td>
<td>119</td>
</tr>
<tr>
<td>Macalaster, Alexander</td>
<td>129, 196 n90</td>
</tr>
<tr>
<td>Macaronics, used by lawyers</td>
<td>199 n118</td>
</tr>
<tr>
<td>Mace, Thomas</td>
<td>145</td>
</tr>
<tr>
<td>Macrobius</td>
<td>43, 105</td>
</tr>
<tr>
<td>Madrigalian Era</td>
<td>143</td>
</tr>
<tr>
<td>Madrigals</td>
<td>143</td>
</tr>
<tr>
<td>Maecenas</td>
<td>61, 62</td>
</tr>
<tr>
<td>Magdalen College</td>
<td>31, 55, 137, 142</td>
</tr>
<tr>
<td>Magdalen Hall, Oxford</td>
<td>177 n21</td>
</tr>
<tr>
<td>Magiro, Antonio</td>
<td>103</td>
</tr>
<tr>
<td>Magistratus</td>
<td>107</td>
</tr>
<tr>
<td>Magnificence</td>
<td>67</td>
</tr>
<tr>
<td>Main, Sir Henry Sumner</td>
<td>200 n142</td>
</tr>
<tr>
<td>Maitland, F. W.</td>
<td>199 n118</td>
</tr>
<tr>
<td>Male,</td>
<td>97</td>
</tr>
<tr>
<td>Maleficia</td>
<td>78</td>
</tr>
<tr>
<td>Man,</td>
<td>51; intrinsically corrupt, 114; uncorrupted nature of, 114</td>
</tr>
<tr>
<td>Manlius, Titus</td>
<td>59</td>
</tr>
<tr>
<td>Mansell, John</td>
<td>175 n71</td>
</tr>
<tr>
<td>Manuductio ad Artem Rhetoricam</td>
<td>57</td>
</tr>
<tr>
<td>Manuductio ad Philosophiam Teutonicam</td>
<td>188 n108</td>
</tr>
<tr>
<td>Mariology</td>
<td>115</td>
</tr>
<tr>
<td>Maritain, Jacques</td>
<td>67, 180 n44; on ethics, 176 n11</td>
</tr>
<tr>
<td>Market Square</td>
<td>16</td>
</tr>
<tr>
<td>Marriage</td>
<td>199</td>
</tr>
<tr>
<td>Marsilius of Padua</td>
<td>122, 195 n71</td>
</tr>
<tr>
<td>Martial</td>
<td>43, 61</td>
</tr>
<tr>
<td>Mary Tudor, Queen</td>
<td>143</td>
</tr>
<tr>
<td>Mass,</td>
<td>115</td>
</tr>
<tr>
<td>Materia appetit formam</td>
<td>186 n55</td>
</tr>
<tr>
<td>Materia ingenerabilis</td>
<td>186 n54</td>
</tr>
<tr>
<td>Materia prima prima</td>
<td>87</td>
</tr>
<tr>
<td>Materiality</td>
<td>86</td>
</tr>
<tr>
<td>Mathematics</td>
<td>10, 13, 38, 41, 70, 102–104, 148</td>
</tr>
<tr>
<td>Matrimony, of clergy</td>
<td>120</td>
</tr>
<tr>
<td>Matter</td>
<td>70, 74, 86, 90</td>
</tr>
<tr>
<td>Matthews, James E.</td>
<td>201 n172</td>
</tr>
<tr>
<td>Mayor, J.E.B.</td>
<td>184 n2</td>
</tr>
<tr>
<td>Mean,</td>
<td>65, 66, 67</td>
</tr>
<tr>
<td>Mede, Joseph</td>
<td>130, 144</td>
</tr>
<tr>
<td>Mediatrix of Grace</td>
<td>115</td>
</tr>
<tr>
<td>Medical degrees</td>
<td>128–129, 130</td>
</tr>
<tr>
<td>Medicamenta</td>
<td>197 n97</td>
</tr>
<tr>
<td>Medication</td>
<td>132</td>
</tr>
<tr>
<td>Medicine</td>
<td>98, 107, 128–135; lectures in, 13</td>
</tr>
<tr>
<td>Medicis</td>
<td>84</td>
</tr>
<tr>
<td>Mεγαλοψυχία</td>
<td>67</td>
</tr>
<tr>
<td>Mela, Pomponius</td>
<td>32</td>
</tr>
<tr>
<td>Melancholy</td>
<td>188 n90</td>
</tr>
<tr>
<td>Melanchthon</td>
<td>98, 64</td>
</tr>
<tr>
<td>Memory, definitions of</td>
<td>96</td>
</tr>
<tr>
<td>Mendoza, Francisco Sarmiento de</td>
<td>121, 193 n67</td>
</tr>
<tr>
<td>Meridian</td>
<td>105</td>
</tr>
<tr>
<td>Merisse</td>
<td>122</td>
</tr>
<tr>
<td>μεσότης</td>
<td>65</td>
</tr>
<tr>
<td>μετὰ τὰ φυσικὰ, definition of</td>
<td>72</td>
</tr>
<tr>
<td>Metals,</td>
<td>98</td>
</tr>
<tr>
<td>Metamorphosis, of Ovid</td>
<td>43, 64</td>
</tr>
<tr>
<td>Metaphor</td>
<td>57</td>
</tr>
<tr>
<td>Metaphysica, of Aristotle</td>
<td>82</td>
</tr>
<tr>
<td>Metaphysical Philosophy</td>
<td>83</td>
</tr>
<tr>
<td>Metaphysics</td>
<td>10, 38, 41, 44, 71–83, 144 n6, 100, 148</td>
</tr>
<tr>
<td>Meteorology</td>
<td>85, 98, 149</td>
</tr>
<tr>
<td>Method, scholastic vs. modern in science</td>
<td>83</td>
</tr>
<tr>
<td>Methodology</td>
<td>11</td>
</tr>
<tr>
<td>Metz, Rudolph</td>
<td>5</td>
</tr>
<tr>
<td>Midas,</td>
<td>59</td>
</tr>
<tr>
<td>Middle term</td>
<td>53</td>
</tr>
<tr>
<td>Mildmay, Sir Walter</td>
<td>91</td>
</tr>
<tr>
<td>Mildness</td>
<td>67</td>
</tr>
<tr>
<td>Miller, Perry</td>
<td>2</td>
</tr>
</tbody>
</table>
INDEX

Milton, John, 5, 17, 18, 33, 43, 57, 73, 86, 87, 88, 97, 137, 142, 146, 178 n23
Minima, 89-90
Ministry, 118, 120
Minutius, Felix, 122, 195 n73
Miserliness, 67
Mixta, 92
Mixtum vivens, 93
Mnemonic device, 52
Mode, 174 n64
Moderator, of disputation, 16, 26
Modestia, statute on, 27
Modesty, in dress, 123
Mohammed, corpse of, 32, 59
Mohammedans, 120
Molina, Luis de, S.J., 81, 117, 119, 121, 185 n40, 186 n40
Molineus, Petrus, 44
Molus, 92
Monarchy, 68; constitutional, 139
Monstra, 98, 190 n131
Montgomey, Philip Herbert, first earl of, 17
Montpelier, University of, 134
Moral activity, 65
Moral behavior (ethics), patterns of, 70
Moral instinctivist, 64
Moral science, 65
Moral theology, 115
Moral universe, 49
Morality, 55
More, Henry, 2, 79
More, Thomas. See Thomas More, St.
Mores, 104
Morison, Samuel Eliot, 3, 107, 177 n18
Morland, Master, 29
Morley, Thomas, 141, 143
Mornay, Philip de, 123, 195 n74
Mortal sin, 119
Mortality, 115
Morton, Richard, 84
Mosul, 193 n67
Motion, 70
Mullinger, J. B., 3, 63, 110, 183 n101
Multi-location, 88
Mundo, De, 98
Music, 9, 10, 32, 38, 107, 141-145
Musica quadrata, 201 n170
Mussolini, 50
Musuulve. See Shakako, James (Se- verus) bar
Mutuum, 119
Mystagogus Poeticus, 43, 177 n18
Nails, 94
Napier, Alexander, 183 n102
Natural bodies, 74
Natural history, 85
Natural law, 139, 140
Natural science, 70
Natural theology, 80
Nature, 149; corrupt or incorrupt, 23; definition of, 73; defined by Keck- ermann, 86; external, 86; human, and natural law, 140
Navy Cross, 66
Necessary, and the contingent differ, 80
Needham, Walter, 190, 197 n93
Neoplatonism, 4, 18, 19, 99
Nero, 49
Nerves, 132
Newberry, Berks., 44
New England, 69
Newman, John Henry, 41
Newmarket, 24
New Philosophy, 6, 101
New Science, 4, 148
Newton, Isaac, 1, 2, 4, 101, 104, 170 n7, 196 n93
Nichols, John, 174 n55
Nicomachean ethics, of Aristotle, 68
Nomen, 47
Nominalism, 8
Nominalists, 170 n9
Non causa pro causa, 52, 54
North, Francis, 44, 142, 143, 171 n16, 178 n29
North, Roger, 39, 44, 84, 142, 171 n16
Notebooks, at Cambridge, 76
Note-taking, 170 n7, 181 n65, 182 n92
Numismatics, 106
Objecor, in disputation, 15
Occam. See William of Occam
Oeconomica, 58
Odium theologicum, 108
Odyssey. See Homer
Old Schools, 13
Oligarchy, 68
INDEX

Olynthiac, First, of Demosthenes, 64
Omne ens bonum, 73
One and the Many, problem of the, 68
Oneness, 51
Operations, of human soul, 94
Operationum, 38
Opponent, in disputation, 20
Opposers, in disputation, 16
Opposition, logical, 48
Optics, 38, 183 n107
Orations, of Campion, 58; of Turner, 43
Orations, of Cicero, 43; of Demosthenes, 43; of Turner, 58
Oratory, 42, 55, 57
Order, in the world, 99
Origin, of human soul, 94
Original sin, 95
Ornateness, 57
Orto botanico, at Padua, 129
Othello, 106
Otho. See Junius
Overall, John, 16, 113
Overdaring, 66
Overindulgence, 66
Ovid, 43, 56, 61; Ars Amatoria, 59; Metamorphosis, 64
Oxford, University of, 16, 136; change at, 3; disturbance at, 2; had theological faculty in thirteenth century, 108; men of, 17; and music, 144
Padua, university of, 7, 107, 129, 134
Palmer, Edward, 63
Pammelia, 143
Pamphlet war, 35
Pandects, 107
Panzani, Gregorio, 194 n70
Papacy, 113
Paperbook, 56
Papistry, 29
Paradise Lost, 4, 57, 78, 86, 89, 98
Parallius. See Athanasius, bishop of Paralallis
Paralysis, 131
Paris, University of, 7, 14, 129, 134; had theological faculty in thirteenth century, 108
Parisienensis, Gulielmus, 122
"Pariter-distinguished," 173 n51
Parker, George, 196 n87
Parkin, Charles, 190 n150
Parr, Richard, 198 n111
Parsimony, 67
Parsons, Talcott, 118
Patristic sources, 10
Patterns, of eloquence, 70; of moral behavior, 70; of thinking, 70
Passion, 52, 55, 57, 77
Passivity, 67
Peace, 32
Peacock, George, 3, 169 n2, 171 n26, 171 n31, 171 n40, 172 n42
Pegasus, 72
Pelagianism, 117
Pembroke College, 15, 59, 111, 113, 145, 170 n12
Penelope, 32, 59
Pepys, Samuel, 142
Perioeci, 105
Peripatetics, 65, 179 n39; philosophy of, 46
Periitii, 105
Periwigs, 124
Persons, Robert, 136
Persius, 43
Petitio principii, 52, 54
Peterhouse, 16, 125
Peter Lombard, 9, 11, 121, 122
Petri principii, 52, 54
Petrus Aureoli, 122, 194 n71
Pettit Cury, 16
Phalaris of Acragas, 49
Philippines, 106
Philosophy, 10
Philosophy without Metaphysics, 71
Phlegmatic, 188 n90
Physica, 78; in genere, 85; in specie, 90–102. See also Physics
Physica, of Aristotle, 83, 85, 101, 189 n129
Physical accidents, 77
Physics, 10, 11, 32, 38, 41, 70, 83–102, 148, 149
Physiology, 149
Piles, 133
Pindar, 60
Place, 77, 88
Plague, 133, 198 n111
Planets, 91
Plants, 98; souls of plants not divisible, 189 n131
Plato, 10, 32, 63
<table>
<thead>
<tr>
<th>INDEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platonism, 4, 30; divergence of, 75</td>
</tr>
<tr>
<td>Platonists, 8, 65</td>
</tr>
<tr>
<td>Plautus, 43, 61</td>
</tr>
<tr>
<td>Playfere, Thomas, 16</td>
</tr>
<tr>
<td>Pleasure, Epicurean, 65</td>
</tr>
<tr>
<td>Pliny, 10, 32</td>
</tr>
<tr>
<td>Plotinus, 5</td>
</tr>
<tr>
<td>Plures interrogantes, fallacy of, 52, 54</td>
</tr>
<tr>
<td>Plutarch, 32, 60, 61</td>
</tr>
<tr>
<td>Pneumococcus, 73</td>
</tr>
<tr>
<td>Poetry, 39</td>
</tr>
<tr>
<td>Poets, Greek, 69</td>
</tr>
<tr>
<td>Poles, geographical, 105</td>
</tr>
<tr>
<td>Politica, of Aristotle, 38</td>
</tr>
<tr>
<td>Politics, 32, 68</td>
</tr>
<tr>
<td>τοιοντες, 68</td>
</tr>
<tr>
<td>Polonius, 67</td>
</tr>
<tr>
<td>Polychronicon, 142, 201 n171</td>
</tr>
<tr>
<td>Pope, Alexander, 86, 145</td>
</tr>
<tr>
<td>Pope, Roman, 120, 175 n74</td>
</tr>
<tr>
<td>Pope, Walter, 190 n148</td>
</tr>
<tr>
<td>Portuguese, on geography, 106</td>
</tr>
<tr>
<td>Position, 77</td>
</tr>
<tr>
<td>Possevinus, Anthony, 14, 171 n20</td>
</tr>
<tr>
<td>Post hoc, ergo propter hoc, 54</td>
</tr>
<tr>
<td>Posteriorums, 34</td>
</tr>
<tr>
<td>Potency, 32; and act, principles of, 73</td>
</tr>
<tr>
<td>Potentiality, 73, 74</td>
</tr>
<tr>
<td>Practical intellect, 97</td>
</tr>
<tr>
<td>Praelection, 13</td>
</tr>
<tr>
<td>Praelectiones Graecae, of Barnes, 63</td>
</tr>
<tr>
<td>Praelectiones theologicae, 120</td>
</tr>
<tr>
<td>Praestigiae, 78</td>
</tr>
<tr>
<td>Predestination, 81</td>
</tr>
<tr>
<td>Predicables, 51</td>
</tr>
<tr>
<td>Predicaments, 51</td>
</tr>
<tr>
<td>Prelaty, 184 n16</td>
</tr>
<tr>
<td>Precisiones formales, 74</td>
</tr>
<tr>
<td>Precisiones objectivae, 74</td>
</tr>
<tr>
<td>Preston, John, 25, 26, 111, 170 n12</td>
</tr>
<tr>
<td>Preternatural perfections, 114</td>
</tr>
<tr>
<td>Preuniversity training, 43-45</td>
</tr>
<tr>
<td>Prevarication, 174 n63</td>
</tr>
<tr>
<td>Prevaricators, 27, 125</td>
</tr>
<tr>
<td>Priam, 59</td>
</tr>
<tr>
<td>Priesthood, 115, 150</td>
</tr>
<tr>
<td>Prime matter, 74, 86-87</td>
</tr>
<tr>
<td>Primogeniture, 139</td>
</tr>
<tr>
<td>Primrose, James, 129</td>
</tr>
<tr>
<td>Principle of intelligence, 94</td>
</tr>
<tr>
<td>Printing, cause of decline in lecture, 14</td>
</tr>
<tr>
<td>Prior Analytics, of Aristotle, 34</td>
</tr>
<tr>
<td>Priorums, 34</td>
</tr>
<tr>
<td>Private lectures, 13</td>
</tr>
<tr>
<td>Private property, right of, 66</td>
</tr>
<tr>
<td>Privatio et materia, 186 n57</td>
</tr>
<tr>
<td>Probability, 50</td>
</tr>
<tr>
<td>Problems of Aristotle, The, 134</td>
</tr>
<tr>
<td>Prodigality, 67</td>
</tr>
<tr>
<td>Progymnasmata, 57, 181 n71</td>
</tr>
<tr>
<td>Promulagation, 138, 139</td>
</tr>
<tr>
<td>Property, 51, 139</td>
</tr>
<tr>
<td>Proportionality, 80</td>
</tr>
<tr>
<td>Proposition, 47; logical, 47</td>
</tr>
<tr>
<td>Proprium, 51</td>
</tr>
<tr>
<td>Protasis, 173 n48</td>
</tr>
<tr>
<td>Protestant, 112</td>
</tr>
<tr>
<td>Protestantism, 64</td>
</tr>
<tr>
<td>Prudence, 66, 96</td>
</tr>
<tr>
<td>Prynne, William, 136</td>
</tr>
<tr>
<td>Psalms, rhyming, 126</td>
</tr>
<tr>
<td>Pseudo-Bede, 142</td>
</tr>
<tr>
<td>Psychology, 149; of man, 94</td>
</tr>
<tr>
<td>Public lectures, 13</td>
</tr>
<tr>
<td>Pulpit controversies, 111</td>
</tr>
<tr>
<td>Pulses, 132</td>
</tr>
<tr>
<td>Pun, 53</td>
</tr>
<tr>
<td>Punishment, a sufficient deterrent of crime, 19ff.</td>
</tr>
<tr>
<td>Purcell, Henry, 144</td>
</tr>
<tr>
<td>Purchas, Samuel, 104</td>
</tr>
<tr>
<td>Puritan, 69; on liturgy, 125</td>
</tr>
<tr>
<td>Puritanism, 57</td>
</tr>
<tr>
<td>Puritanizing, 124, 127</td>
</tr>
<tr>
<td>Purpose, 75</td>
</tr>
<tr>
<td>Pythagorean theory, 145</td>
</tr>
<tr>
<td>Pythagorean Tree, 37</td>
</tr>
<tr>
<td>Quadragesimals, 30, 35, 147</td>
</tr>
<tr>
<td>Quadrant, 105</td>
</tr>
<tr>
<td>Quaestio complexa, 53, 117, 118</td>
</tr>
<tr>
<td>Quale, 74</td>
</tr>
<tr>
<td>Qualified being, 70</td>
</tr>
<tr>
<td>Quality, 52, 77</td>
</tr>
<tr>
<td>Quantified being, 70</td>
</tr>
<tr>
<td>Quantity, 52, 77, 86</td>
</tr>
<tr>
<td>Quantity, in Latin prosody, 56</td>
</tr>
<tr>
<td>Quantum, 74</td>
</tr>
<tr>
<td>Question-spraying, 54</td>
</tr>
<tr>
<td>Questionist, 30</td>
</tr>
<tr>
<td>Queens’ College, 61, 121, 175 n71</td>
</tr>
<tr>
<td>Quibbling, 54</td>
</tr>
<tr>
<td>Quid, 74</td>
</tr>
<tr>
<td>Index Term</td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td><strong>Quid pro quo</strong>, 66</td>
</tr>
<tr>
<td><strong>Quiddity</strong>, 73, 74, 184 n16</td>
</tr>
<tr>
<td><strong>Quinta essentia. See Quintessence</strong></td>
</tr>
<tr>
<td>Quintessence, 70, 91</td>
</tr>
<tr>
<td>Quintilian, 43</td>
</tr>
<tr>
<td>Quintus Curtius, 43</td>
</tr>
<tr>
<td>Rabelais, 199 n121</td>
</tr>
<tr>
<td>Ramist prejudices, of Milton, 43</td>
</tr>
<tr>
<td>Ramus, Petrus, 46, 178 n23</td>
</tr>
<tr>
<td>Ranulf Higden, 142</td>
</tr>
<tr>
<td>Raphael, archangel, 78, 86, 89</td>
</tr>
<tr>
<td><strong>Ratio Studiorum</strong>, 14, 41</td>
</tr>
<tr>
<td>Rationality, 51</td>
</tr>
<tr>
<td><strong>Ready and Easy Way to Establish a Free Common-</strong></td>
</tr>
<tr>
<td><strong>wealth, The</strong>, 57</td>
</tr>
<tr>
<td>Real, 72</td>
</tr>
<tr>
<td>Reason, 55, 65, 66</td>
</tr>
<tr>
<td>Reasoning, 47, 48</td>
</tr>
<tr>
<td>Reasoning process, 147</td>
</tr>
<tr>
<td>Rede, Sir Robert, 137</td>
</tr>
<tr>
<td><strong>Rede Lecture</strong>, 137</td>
</tr>
<tr>
<td>Reform statutes, 7</td>
</tr>
<tr>
<td><strong>Reformation, Protestant</strong>, 1, 64</td>
</tr>
<tr>
<td><strong>Regimen Sanitatis</strong>, 184</td>
</tr>
<tr>
<td>Registry, of Cambridge University, 131, 175 n73</td>
</tr>
<tr>
<td>Reifying, 179 n39</td>
</tr>
<tr>
<td>Relation, 52, 77</td>
</tr>
<tr>
<td>Relational categories, 78</td>
</tr>
<tr>
<td>Reminiscentia, 96</td>
</tr>
<tr>
<td>Renolds, John, 58, 181 n78</td>
</tr>
<tr>
<td>Reparatio, John, 93</td>
</tr>
<tr>
<td>Rebetitio, 13</td>
</tr>
<tr>
<td>Reproduction, 117</td>
</tr>
<tr>
<td>Respiration, 94</td>
</tr>
<tr>
<td><strong>Respondent, in disputation</strong>, 16, 20</td>
</tr>
<tr>
<td><strong>Responsall. See Respondent</strong></td>
</tr>
<tr>
<td>Revelation, 10</td>
</tr>
<tr>
<td>Revenge, 67</td>
</tr>
<tr>
<td>Rhabanus Maurus, 7</td>
</tr>
<tr>
<td>Rhada. <em>See John of Rada</em></td>
</tr>
<tr>
<td>Rhetoric, 9, 10, 39, 41, 55–64, 147</td>
</tr>
<tr>
<td>Rhetorical analysis, 62</td>
</tr>
<tr>
<td><strong>Rhetorical Compendium, The. See Vossius</strong></td>
</tr>
<tr>
<td>Rhetorical exercise, of J. Alsop, 60</td>
</tr>
<tr>
<td>Richardson, John, 174 n55</td>
</tr>
<tr>
<td>Ridley, Humphrey, 130</td>
</tr>
<tr>
<td>Ridley, Sir Thomas, 136</td>
</tr>
<tr>
<td>Righteousness, 66</td>
</tr>
<tr>
<td>Risk capital, 119</td>
</tr>
<tr>
<td>Rites, Jewish, 106</td>
</tr>
<tr>
<td><strong>Ritual</strong>, 125–128, 150</td>
</tr>
<tr>
<td><strong>Ritus Anglicanus</strong>, 109</td>
</tr>
<tr>
<td>Rivet, André, 194 n71</td>
</tr>
<tr>
<td>Robert Bellarmine, St., 121, 136, 196 n85</td>
</tr>
<tr>
<td>Robinson, John, 135</td>
</tr>
<tr>
<td>Robinson, Matthew, 71, 85; autobiography of, 184 n2</td>
</tr>
<tr>
<td>Rogers, Nehemias, 179 n8</td>
</tr>
<tr>
<td><strong>Roman Antiquities</strong>, of Goodwin, 43</td>
</tr>
<tr>
<td>Roman law, 136</td>
</tr>
<tr>
<td>Rome, 89</td>
</tr>
<tr>
<td>Ross, Alexander, 177 n18</td>
</tr>
<tr>
<td>Rounds, 143</td>
</tr>
<tr>
<td>Sacramentology, 115</td>
</tr>
<tr>
<td>Sacred images, 120</td>
</tr>
<tr>
<td>Sacred scripture, 39</td>
</tr>
<tr>
<td>St. Catherine’s College, 197 n93</td>
</tr>
<tr>
<td>St. Cecilia’s Day, 201 n180</td>
</tr>
<tr>
<td>St. Clement’s Church, 111</td>
</tr>
<tr>
<td>St. John’s College, 7, 16, 17, 42, 59, 80, 85, 104, 106, 112, 121, 122, 129, 142, 171 n99, 182 n88, 183 n108</td>
</tr>
<tr>
<td>St. Mary’s Church, 8, 24, 108, 111, 112, 125, 126</td>
</tr>
<tr>
<td>St. Paul’s Cross, 115</td>
</tr>
<tr>
<td>Salutarie, 118</td>
</tr>
<tr>
<td>Salamanca, University of, 7</td>
</tr>
<tr>
<td>Sallust, 43, 61</td>
</tr>
<tr>
<td><strong>Salvare phaenomena</strong>, 101</td>
</tr>
<tr>
<td>Salvation, 113, 118</td>
</tr>
<tr>
<td>Salviati, 103</td>
</tr>
<tr>
<td>Sanchez de Arevalo, Rodericus, 121</td>
</tr>
<tr>
<td>Sancta Clara, Franciscus a. <em>See Davenport</em></td>
</tr>
<tr>
<td>Sanctius. <strong>See Sanchez de Arevalo</strong></td>
</tr>
<tr>
<td>Sancto Amore, Gulielmus de, 122</td>
</tr>
<tr>
<td>Sanderson, Robert, 179 n38</td>
</tr>
<tr>
<td>Sandys, Sir Edwin, 82</td>
</tr>
<tr>
<td>Sanguine, 188 n90</td>
</tr>
<tr>
<td>Sapientia, 96</td>
</tr>
<tr>
<td>Satan, 89</td>
</tr>
<tr>
<td><strong>Saturnalia</strong>, of Macrobius, 43</td>
</tr>
<tr>
<td>Saturnus, 91</td>
</tr>
<tr>
<td>Satyrae, of Horace, 61, 62</td>
</tr>
<tr>
<td>Scaliger, Julius Caesar, <em>De Subtilitate</em>, 42</td>
</tr>
<tr>
<td>Schneemann, G., S.J., 185 n38</td>
</tr>
</tbody>
</table>
INDEX

Scholastic science, 70
Scholes, Percy A., 201 n178
Scholiasts, Greek, 63
Science, 38; natural philosophers in, 102
Scientia, 96
Scientia media, 82, 185 n40, 188 n40
Scientia simplicis intelligentiae, 185 n40
Scientia visionis, 185 n40
Scientific categories, 83
Scotists, 8; on primacy of will, 96
Scotus, Duns, 87, 119, 121, 122, 170 n9
Scurvy, 132
Seasons, 105
Second matter, 74
Secundae notiones, 51
Secondary causes, 75
Secundum quid, 74
Seisin, 139
Selden, John, 136
Seneca, 42, 43, 61, 64
Senses, 93
Sensus communis, 93
Sentiiency, 93
Separatist, 109
Sermones, of Horace. See Satyrae
Sermons, 126
Serry, J.H., O.P., 185 1138
Seton, John, 44
Shaftesbury, Anthony Ashley Cooper, third earl of, 64
Shakako, James (Severus) bar, 193 n67
Shakespeare, William, 31, 67
Shamelessness, 67
Shelton, Thomas, 179 n38
Sherman, John, 55
Shipwrecked goods, 139
Sidney, Mr., 16
Sidney Sussex College, 33, 102, 110, 126, 174 n69
Significatio, 99
Signo priori, in, 186 n40
Signum praedestinationis, 118
Simple donation, 138
Simplicio, 103
Simpliciter, 74
Simplicity, of heavens, 91
Sin, 32; mortal, 119; venial, 119
Sincere man, 67
Singulars, 95
Sita. See Situs
Situs, 53, 77
Slaves, 68
Sleep, 93–94
Smith, Gerard, S.J., 184 n8
Smith, Robert, 187 n80
Smith, Sir Thomas, 136
Smyth, John, 179 n88
Social conduct, 67
Society, 55
Socinianizer, 123
Socinus, Faustus, 80, 123
Sociology, 74
Somerset, Robert Carr, earl of, 136
Somnium Scipionis, 109
Sophisms, 55
Sophisters, 14, 15, 17, 30
Sophists, 52, 89
Sophocles, 63
Sophomes, 34, 147
Sorbonnists, 46
Sorcery, 78
Soteriology, 115
Soto, Dominicus a, 64, 121, 193 n67
Soul, 17, 78, 94, 95
Space, 88; Aristotle on, 187 n73
Spaceship, 72
Spaniards, 105
Spasmodic affections, 131
Species, 51
Species impressa, 95
Specific difference, 51
Speculative habits, 96
Speech, 67
Spenser, Edmund, 66, 146; Cantoes on Mutabilitie, 90
Spiazzii, R.M., O.P., 184 n6
Sports, 170 n7
Stahl, Georg Ernst, 131
Stansfield, Mr., 182 n87
State, 67, 68
State after death, 113
Statius, Publius, 43
Statutes, of Elizabeth, 169 n2
Sterne, Richard, 125
Stimulus peccati, 113
Stoics, 17, 65
Stomach, 134
Stokeys, Esquire Bedell, 16; Stokey's Book, 34
Strabo, 61, 63
Strachey, Lytton, 1
INDEX

Strada, Famiano, 43, 177 n21
Strapado, 43
Strype, John, 199 n120
Stuarts, 141
Strada antemeridiana, 42
Strada pomeridiana, 42
Style, 57; in Latin, 56
Suarez, Francis, 11, 64, 87, 95, 121
Substance, 52, 73, 76
Substantial form, 94
Suetonius, 43, 61
Sulfa derivatives, 133
Summa Theologica. See Thomas Aquinas, St.
Summun bonum, 65
Supernatural, 80
Supernatural perfections, 114
Supplicat speech, 60, 182 n88
Supposita, 74
Supralapsarianism, 107
Survivorship, 139
Swift, Jonathan, geography in Gulliver's Travels, 191
A Letter to a Young Gentleman . . . , 123
Swynnerton Hall, 169 n4, 170 n11
Sydenham, Thomas, 130, 197 n93
Syllogism, 53, 147; illegitimate and legitimate, 48
Sydenham, Thomas, 130, 197 n93
Syllogism, 53, 147; illegitimate and legitimate, 48
Sydenham, Thomas, 130, 197 n93
Syllogism, 53, 147; illegitimate and legitimate, 48
Tabor, James, 175 n73
Tallis, Thomas, 143
Taming of the Shrew, The, 64, 183 n107
Tate, Nahum, 201 n180
Tatianus, 195 n73
Tawney, Richard Henry, 118
Taylor, E.G.R., 104
Taylor, Jeremy, 147; Doctor Dubitantium, 123
Tears, 97
Temerity, 66
Temperament, 92
Temperance, 66, 67
Temporal dominion, 118
Temptations, 78
Tennyson, Alfred, 138

Tentationes, 78
Tenure of Kings and Magistrates, The, 137
Terence, 43, 61
Terminists, 170 n9
Testament, Greek, 45, 63
Testator, 139
Testimony and knowledge, 79
Theft, 119
Theme, 50
Theocritus, 43, 61
Theodosius, 174 n55
Theognis of Megara, 43, 61, 177 n21
Theology, 11, 13, 38, 107, 110, 123–125
Theological virtues, 118
Thigdom, kingdom of, 72
Thinking (logic), patterns of, 70
Thirty-Nine Articles, 125, 194 n70
Thomas Aquinas, St., 1, 8, 9, 12, 51, 79, 118, 121, 122, 176 n6, 176 n9, 176 n11, 184 n6, 194 n71; on angels, 78, 87; division of disciplines, 37; and dualism, 87; harmonizes dogma, 10; knowledge of God, 79; Summa Theologica, and liberal arts, 176 n10; method in Summa Theologica, 11; and perfection of universe, 185 n30; position on the universal, 95; prime matter, 86; on science, 38; on usury, 119
Thomas More, St., 135
Thomists, on abstractive power of soul, 95; on primacy of intellect, 96
Thorpe, Robert, 108
Thucydides, 60
Timaeus, 63
Time, 70, 77, 88
Topography, classical, 106
τότος, 88
Tories, 110
Totalitarian, 68
Touchstonian logic, 31
Toulouse, 195 n71
Tractate on Education, 178 n24
Tranio, 64, 102
Transaction, 138
Transcendency, 72
Transcendental being, 73, 76
Transcendentals, 51
Translations, 61
Transmission, of original sin, 95
Transphysica, 184 n6
Imprimi potest: Henry J. Schultheis, S.J.
Provincial of the Oregon Province
February 7, 1956

Imprimatur: † Edward D. Howard, D.D.
Archbishop of Portland in Oregon
August 14, 1956
covered concrete details in what might be considered the miscellaneous contents of the seventeenth-century student's wastebasket. The material was often fragmentary, and much of it was nondescript, but out of the scraps a pattern began to appear, and by a critical and interpretive résumé Fr. Costello has given a true idea of the seventeenth-century mind as it was being shaped at the university.

These are the facts of everyday academic life at Cambridge, and they are presented in an extremely entertaining manner. Other studies will surely enlarge on knowledge in certain areas, but this book has established a pattern which can be followed profitably from now on in re-creating seventeenth-century intellectual life.

As a scholastically trained philosopher and theologian, necessarily at ease with seventeenth-century Latin, Fr. Costello is very much at home in this area. At present he is Associate Professor of English at Gonzaga University.

HARVARD UNIVERSITY PRESS
CAMBRIDGE 38, MASSACHUSETTS