The Battle of the Books

If the question set for us had been, “What knowledge is worth having?” the answer would have been, “All knowledge.” But if that answer were given, we should have become involved in equivocations concerning what constitutes knowledge, and (if it is worth having by definition) by whom it is thought to be worth having (the demand for knowledge is exceeded by many other demands on the open market), and for what purpose it is thought to be worth having (the answer “for its own sake” might seem to depend on circularity in argument). Still more equivocations arise in discussing the question, “What knowledge is most worth having?”—equivocations concerning the order of acquiring knowledge, the manner of discovering it, the means of imparting and disseminating it, and, finally, the supreme equivocation of our times, the comforting anxiety that for the first time in history no one man could survey the accumulations of knowledge in all fields as the virtuosi of the Renaissance and the eighteenth century were still able to master all knowledge. It is important to understand, before undertaking the discussion of education, why that discussion, like any other fundamental discussion, is involved in equivocation. To achieve such understanding, however, it is necessary to avoid becoming involved in the total equivocation that is frequently the mark of a fundamental discussion. I have therefore chosen to discuss what knowledge is most worth having in terms of a single equivocation, one of the most persistent and inclusive of controversies, the battle of the books, or the quarrel of the ancients and the moderns.

The title is borrowed from Swift’s An Account of a Battle between the Ancient and Modern Books in St. James Library, published in 1704 together with A Tale of a Tub. They were written in defense of Swift’s patron, Sir William Temple, who had published An Essay upon the Ancient and Modern Learning in 1690. The very considerable amount of scholarship that has been devoted to the quarrel makes it difficult to understand. There had been a similar quarrel between the ancients and the moderns in France, but again there is little scholarly agreement about
the influence of the one on the other. If it is true that the battle of the books still goes on and that the discussion of liberal education and general education are skirmishes in it, the determination of what knowledge is most worth having shares with other phases of the battle both a tendency to ask questions which run into quibbles, confutations, and satirizations and yet to raise issues which determine major stages in the evolution of education and culture. The questions seem trivial because of their basic and far-reaching ambiguity; the issues are major because they affect our conception of art, science, and practice and our use of them in the development of character and communication. In both respects, the battle of the books at the turn of the seventeenth and eighteenth centuries may serve as an introduction to the knowledge most worth having.

The ambiguities of the battle of the books are of three sorts: an ambiguity about the arts and the sciences, an ambiguity about the relation of the arts and sciences to religion and politics, and an ambiguity about the old and the new in the knowledge most worth having. The first ambiguity has led to the supposition that the quarrel was between ancient and modern philosophy and science and only secondarily about literature in England, whereas it was between ancient and modern literature and only secondarily also about philosophy and science in France. All the important words, like “discipline,” “art,” and “science,” are ambiguous precisely because what they stand for was in process of growth and transformation. To treat them as if they had a single meaning is to make the discussion a series of absurdities. When we talk about the interrelations of the “disciplines” today, we think of the disciplines as subject matters and bodies of knowledge. Late medieval, Renaissance, and early modern battles of the books marked the transition from disciplines conceived as arts and methods to disciplines conceived as fields and established bodies of knowledge. The sciences borrowed from the humanities in the late Middle Ages and the Renaissance: the first formulations of scientific method were derived from rhetoric, dialectic, and sophistic; philosophy and the humanities had begun to seek a scientific method in the seventeenth and eighteenth centuries; the Newtonian and Cartesian methods were used to form sciences of human nature, morals, and criticism. The Renaissance revolt against Aristotle made use of other ancient philosophers, like Plato and Democritus; the eighteenth-century revolt against Aristotle made use of modern philosophers like Bacon, Descartes, and Locke.

The second ambiguity arises from the relation of the arts and the sciences to values and society, to religion and politics. When the use of reason and arguments is considered, instances or problems are usually sought in science and literature. Yet the problems of the interrelations among the disciplines are determined by and include the relations of the disciplines to actions and to values. The disciplines are actions and affect values. Swift states the reason for the extension satirically in the opening sentence of the preface to A Tale of a Tail: the Wits of the present are so very numerous and penetrating that the Grandees of Church and State begin to fall under horrible apprehensions lest they pick holes in the weak sides of Religion and Government. The problem of education is the problem of the relation of reason and argument to society and religion as well as to morals, arts, and sciences; it is the problem of the relation of reason and argument to social values and ultimate realities.

The third and fundamental ambiguity in a battle of changing fronts and of regrouping contestants is in the identity of the opponents, that is, the recognition of the ancients and the moderns, the determination of what is established and what is new. It is not a simple question to be answered by calling classical scholars ancients and contemporary satirists moderns. Swift was an ancient; his opponent, Richard Bentley, the modern, was a great classical scholar, one of the innovators of modern methods of studying the classics. The use of “modern” philological and scholarly methods often made “ancient” methods of interpreting texts irrelevant and understanding them unnecessary, as when Bentley undermined Sir William Temple’s judgment and commendation of the letters of Phalaris and the fables of Aesop by showing them to be inauthentic. Bentley gave no interpretation of what the texts said once he had shown them to be spurious, in spite of the fact that apocryphal works have been important and influential and that our interpretation of Aristotle is still influenced by the works of pseudo-Aristotle and the commentaries of the pseudo-Aristotelians as well as by the works of Aristotle. Dr. Bentley was Royal Librarian of St. James Library, in which the Battle of the Books took place.

The ambiguity concerning the ancients and the moderns is not removed by placing the battles of the seventeenth and eighteenth centuries in the sequence of other quarrels of ancients and moderns: in the Renaissance, the “moderns,” who affected Greek and called themselves “neotics,” cultivated the arts that Peter Ramus had instituted to repair the imperfections of the ancient and medieval liberal arts; in the fourteenth century, the “antiqui” and the “moderni” were logicians who battled about the principles and methods of one of the liberal arts; in ancient Rome, where the liberal arts were enumerated and described, the quarrels were political and social: one could not be a “modern,” since “modernus” is a postclassical word, but one might take pride in being a “homo novus,” that is, the first of one’s family to hold high office (and therefore—favorable or pejorative—a man newly ennobled or an upstart). Cato the Censor, who was a staunch opponent of Greek learning as a danger to native Roman virtues and who was said to have been taught Greek in his old age by the poet Ennius, was a homo novus and the remains of his writings are the beginning of Latin prose literature. When they are placed in the series of changing circumstances and applications, the battles of the ancients and the moderns seem puzzling and pointless, and to have no significant relation to each other or to the circumstances and problems of their times. Neither the ancients nor the moderns won at any stage in the two thousand years of war; or, more accurately, since there is so little agreement concerning what they were fighting about, both sides won and both lost. The battles of the books could easily be ignored, except for literary diversion or literary scholarship, if the battle were not
still raging and if the arguments did not state problems of profound importance in terms that still waver on the edge of nonsense.

The battles of the ancients and the moderns mark the major stages in the development of Western education and (what is the same thing) Western culture and learning; and the significance of the battles for the onward march can be seen by placing them in the context of the methods of the liberal arts and the problems of the arts and sciences on which they were practiced. The battle of the antiqui and the moderni in the fourteenth and the fifteenth centuries was a battle of logic. It was based on the newly translated works of Aristotle. The translation of Aristotle in the twelfth and thirteenth centuries was an event of overwhelming importance, since it made available in one block a new method of inquiry and proof and a body of sciences and scientific problems treated according to that method. It was a quarrel concerning the problems and the principles of the sciences. Humanistic studies were concerned with Roman literature and Latin Christian poetry and prose. Both sides of the quarrel were based on the works of Aristotle, variously interpreted and developed by Arabic, Greek, and Latin commentators. The differences concerning the principles of the sciences prepared the background of method and of material for Galileo’s investigation of motion.

The battle of the neoterics in the sixteenth and seventeenth centuries was a battle of rhetoric and of the reduction of other arts to rhetoric. It broadened the province of rhetoric from persuasion in the narrow sense of oratory to include all discourse and communication, prose and poetry, science and art. The two parts of rhetoric—discovery (or invention) and disposition (or proof)—were applied to all disciplines. Plato and Greek literature were studied in the humanities, and the mathematical arts of the quadrivium were elaborated in the sciences. Ramus reformed all the liberal arts and Alsted compiled the first modern encyclopedia. In this dispute Aristotle was given a bad name, but he was not guilty of as many errors as Cicero and Quintilian.

The battle of the ancients and the moderns in the seventeenth and eighteenth centuries was a battle of the liberal arts as a whole or a battle of learning. The moderns based their positions on the philosophy of Bacon, Descartes, Newton, or Locke, and they defended modern poetry against ancient poetry. In the humanities, modern as well as classical literature was studied and the new science of philology was used. Indeed, the complexities of the battle are contained in the ambiguities of the word “philology,” which is the love of logos, or the study of “learning” or of “literature” or of “language.” In Martianus Capella’s De nuptiis philologiae et Mercurii in the fifth century, Mercury represents eloquence, philology “love of learning;” Mercury presents his bride with the seven liberal arts as handmaidens. In Budé’s De philologia in the sixteenth century, philology is the study of letters or literature. With the instauration of modern philology in the eighteenth and nineteenth century, it became the study of the language of literature. This is the battle treated by Swift. In that battle the Royal Librarian of St. James Library, a classical philologist, is characterized as a “fierce champion of the Moderns.” He sometimes lost his head in replacing books on the shelves and put Descartes next to Aristotle and Hobbes next to Plato. In the battle itself, Aristotle shot an arrow at Bacon, whom he missed, but he hit and killed Descartes, much in the manner of the heroes of classical epics.

The last two phases of the battle of the books were so important in the history of American education that it is difficult to account for American education and culture without taking them into account. The programs of the early universities in America were neoteric. The early lists of theses of Harvard College reproduced in Morison’s History of Harvard College are neoteric doctrines, and Perry Miller produces evidence to support his contention that the logic of Ramus was no less influential as a source of Puritanism than the theology of Augustine and Calvin. The transition from the revolution of the “neoterics” to the new learning of the “moderns” and the significance of that transition for the arts and their subject matters may be seen in the education of one man whose career touched the beginnings of two universities, Dr. Samuel Johnson, student and tutor in the Connecticut colleges which developed into Yale University and first president of King’s College which developed into Columbia University.

Samuel Johnson received the A.B. at Saybrook College in 1714 at the age of eighteen. Among his notebooks was one dated 1714 and entitled Technologia sine technometria; Ars encyclopaedia manualis seu philologia; Systema liber artis. Its preface is a brief (one and a half pages long) history of philosophy, which ends: “Among these innumerable men the principal sects were Platonists, Peripatetics, and Eclectics. The leader of the eclectic sect was that great man Ramus, at whose feet, as it were, there followed Richardson and then Ames, the greatest of them, followed him and we follow Ames. (From all these a new eclectic sect has sprung, viz., the Neoterics.)” The Technologia or Encyclopaedia exhibits several neoteric characteristics that were also notable in the teaching at Harvard: the interest in encyclopaedia and “rule of encyclopaedia” (“orbis ille et circulus artium,” “enckyklia paedia,” the cycle of learning, or of education, or of culture, or, as it might also be translated, general education), the conception of education as art, or technè, or technology, and the organization of all knowledge in a series of dichotomous divisions of the arts. The treatise consists of 1,271 numbered theses, of which the first is the definition of “art” as “the idea representing and directing eupraxia,” the ninth a definition of “eupraxia” as “the orderly motion or action

2. Ibid., p. 226.
3. Ibid., pp. 244—45.
of an agent in acting,” followed by a division of the arts into archetypal and
typal, entypal and ectypal, and a classification and treatment of the ectypal arts
(which have universal rules and methods) under logic, grammar, rhetoric, arith-
metic, geometry, physics (including biology and psychology), and theology. The
last four theses are concerned with encyclopedia (the universal and circular
comprehension of all the arts), with philosophy (the love of encyclopedia), and
with pansophia (the knowledge of all things).

More than fifty years later in his _Autobiography_ (1768–70), Johnson complains
of the low state of learning in those times. Students had been taught “scholastic
cobwebs,” and the works of Ramus and Alsted were considered as the high-
est attainments; “they were not allowed to vary an ace in their thoughts from
Dr. Ames’ _Medulla Theologiae and Cases of Conscience_.” They had heard, in 1714,
of “a new philosophy that of late was all in vogue and of such names as
Descartes, Boyle, Locke and Newton,” but they were cautioned against it as
dangerous to religion. No books of learning were available. Johnson lighted ac-
cidentally on Bacon’s _Advancement of Learning_, remarking parenthetically that it
was perhaps the only copy in the country and that nobody knew its value. A
well-chosen library was brought to the colony in 1714: it contained Shake-
speare and Milton, Locke, Boyle, and Newton. In the ambiguities of the
changes recorded by Dr. Johnson, the Neoterics had become scholastics with
the advent of the New Learning. Johnson’s pupil, Jonathan Edwards, who was
to become third president of the College of New Jersey, later Princeton Uni-
versity, probably learned about Locke from Johnson.

Dr. Johnson continued to revise his work. The influence of Locke’s division
of the sciences into physics, practica, and semiotics is apparent in the first
printed editions of the _Encyclopedia_ in 1731, republished and enlarged in 1743 for
his Yale students: the division of philosophia, the universe of learning, is into
semiotical or rational (logic, grammar, rhetoric, poetry) and real, subdivided
into general (or ontology) and particular (physics concerned with creature and
theology concerned with creator and our duty). The title of the 1744 edition em-
phasized the encyclopedic character of philosophy: _An Introduction to the Study
of Philosophy, Exhibiting a General View of All the Arts and Sciences_. Johnson became
a friend of Bishop Berkeley during his stay in America and corresponded with him
about philosophy in 1729–30; Berkeley is quoted in the _Elementa philosophica_,
published by Benjamin Franklin in 1752, which was used as a textbook at King’s
College during the seven years of Johnson’s presidency. It opens with definitions
of the “circle of learning,” “art,” “science,” “philology,” and “philosophy.”

"1. Learning (which the Grecians called Cyclopaedia) implies the knowledge
of every thing useful to our well-being and true happiness in this life, or our
supreme happiness in the life to come. And as our happiness consists in the
enjoyment of truth and good, by the right exercise of our understandings, affec-
tions, wills and active powers, it must take in every thing that relates both to the-
ory and practice, i.e. both to science and art; for science is the knowledge of
truth considered speculatively, and art is the knowledge of truth considered as
directive of our practice for the attaining of our true good and happiness. And
all the various parts of learning may be reduced to these two, philology, or the
study of words and other signs, and philosophy, or the study of the things
signified by them.” This is familiar ground for later discussion of education:
philology “is called also, _Humanity and the Belles Lettres_,” philosophy or “the
knowledge of things signified together with a practice correspondent thereto” is
divided into the study of bodies, or sensible things which constitute the natural
world, called physics, and the study of spirits or intelligent moral beings which
constitute the moral world, called metaphysics and moral philosophy. The
disciplines have become subject matters, and the subject matters have begun the
struggle to settle down within the nineteenth- and twentieth-century boundaries
of the humanities, the natural sciences, and the social sciences.

The questions raised in the battle of the books were basic and therefore am-
biguous questions: neither position in such a controversy is clear or demonstra-
ble, and the old and the new seem to be on both sides of all arguments. Yet
the stages and changes of education and learning are determined by positions taken
in that controversy because they remove ambiguities to treat unambiguous
problems. As controversy, it has been alleged that there has been an antagonism
between the humanities and religion, a warfare between science and religion,
and a split between the humanities and the sciences. As stages of progress, the
humanities, the sciences, and religions have contributed data, methods, and ins-
ights to each other, but the meanings of each of the terms and its scope of ap-
lication change as the progress is traced. Johnson’s change from his neoteric
position to his espousal of the new learning may be described in two ways: it may
be stated controversially as a discovery that the neoterics were in fact scholastics
or ancients; or the two stages may be examined to discover the common
marks of modernity which they shared and the differences of problem and cir-
cumstance by which the modern becomes ancient in a later modernity.

The old and the new, the ancient and the modern, as their names suggest,
have no fixed and absolute marks, but are defined by methods used and subjects
treated, under conditioning circumstances and facilitating knowledge, in which
ambiguous questions relate matters which are unrelated in the unambiguous
answers that are given successively to the questions. It is not a question of the
relation of the humanities to the sciences but a question of the meanings of “hu-
nanities” and “sciences” under which the humanities are conceived and de-
veloped as sciences, and the sciences are practiced as arts, and sciences and arts
are mutually exclusive, in the encyclopedia of learning. In these transitions, the

had written fifty years earlier, “See about anything D. R. G. Ames in _Medulla Theologiae and Cases of
Conscience._”

7. Ibid., 2:361.

8. Ibid., 2:441.
trivial oppositions of the ancients and the moderns contribute to the progress of education. The contribution can be isolated by examining the determination of the ambiguous questions. Johnson's use of "encyclopedia" carries the identifying marks of the neoteric and modern meanings of a critical term or method. The encyclopedia was involved in the ancient Roman quarrel concerning Greek literature and learning. Some, like Cato, opposed its introduction in Rome, as a debilitating influence; others, like the Scipionic circle, advocated its use as a basis for Roman new greatness. The advocates applied the word "humanitas" to the arts, since "humanity" or "human nature" is understood only by understanding the greatest achievements of man, in appreciating and advancing those achievements, the liberal arts are a cycle of learning, an enkuklios paideia. As in later quarrels, there is an ambiguous touch of modernity and antiquity in both sides; Scipio praises Cato for recognizing that the Roman commonwealth, unlike Greek commonwealths, was based upon the genius, not of one man but of many, and that it was founded, not in one generation, but over a period of several centuries and many ages of men. The mark of the modern, however, is in the "encyclopedia" and interrelation of the arts that permit them to be put to new uses on new subject matters, as in the plea addressed to Cicero himself (in a dialogue written by Cicero) by his brother and his friend to make up for the lack of a history of Rome by applying the art of rhetoric to the writing of history. With the coming of Christianity and in the medieval developments of Judaism and Islam, there were quarrels concerning the use of the pagan arts. The outcome of these controversies is itself a matter of controversy, for the controversies still go on, but there is no doubt that the ancient liberal arts were profoundly modified by the medieval arts or that the preservation of ancient learning is due to the industry and devotion of medieval scribes. The "old logic" in the twelfth century was based on translations of the first two books of Aristotle's Organon, the "new logic" on new translations, of the remaining four books. Logic is an integrated study, however, and writers in the tradition of the old logic made use of the arts of rhetoric and grammar to treat problems that were to be treated otherwise in the new logic. The new logic opened up the problems of the principles of knowledge and proof and led to the opposition of the "ancient logic" and the "modern logic": the ancient logic used the methods of the Posterior Analytics (which were unknown before the coming of the new logic) to base principles on causes and interrelations, while the modern logic used the methods of rhetoric and dialectic or the methods of sophist and grammar (elaborated from beginnings in the old logic) to base principles on rational agreements or verbal paradoxes.

During the Renaissance the encyclopedia was rediscovered and the liberal arts were revolutionized. The word encyclopedia was used as the name both for programs of education in the liberal arts and for ready reference handbooks of facts and doctrines. There is a natural tendency for a method of discovery to become solidified into a fact or a datum and for commonplace to cease to be instruments of invention and to become instead topics of iteration and quotation. Peter Ramus and the neoterics used the rhetorical methods of invention and proof to refurbish the encyclopedia of the liberal arts: with success and repetition it became a mechanical method of dichotomous division to order recognized doctrines rather than an inventive method of inquiry concerning new problems. The encyclopedia as organization of knowledge became a classification of branches of knowledge in terms of what was known in each, a dictionary of facts to supplement and correct dictionaries of words. The encyclopedia as program of education became an organization of branches of study in terms of the interrelation of arts of words and of things in the knowledge of all things requisite for acting well.

During the seventeenth and eighteenth centuries the encyclopedia became a universal dictionary of the arts and sciences. It sometimes had a historical organization, as did Moréry's Le grand dictionnaire historique, or Hofmann's Lexicon universalis historico-geographico-chronologico-politico-philologicum, and Bayle's Dictionnaire historique et critique, it sometimes sought to supplement the new dictionaries of the vulgar tongues by distinguishing between vocabularies that give the significance of words and dictionaries of notions that describe things indicated by words, as did the dictionaries of Furetière, of Corneille, and of Trévoux; it sometimes presented a philosophic basis of the arts and sciences, as did Chauvin's Lexicon rationale sive thesaurus philosophicum; it sometimes undertook to explain not only the terms of art but the arts themselves with emphasis on the natural and applied sciences, as did Harris' Lexicon technicum, or an Universal English Dictionary of Arts and Sciences. Harris' Lexicon was an episode in the seventeenth-century version of the battle of the books over the Royal Society and the new sciences. That battle marks a stage in the separation of the arts from the sciences, and it finds a natural explanation in the battle over modern literature and the new science of philology. When humanitas became plural as "the humanities" in the modern languages, the modified term took its meaning not from the nature of man as disclosed in the great achievements of men but from the creative arts and their scientific study, that is, it became a synonym for "beaux arts," "belles lettres," or "philology." The progress of education was by increase in the study of sciences as contrasted to the study of letters, or humanities, or the arts; and the social sciences later developed a scientific method to treat man, humanity, communities, communications, and values. The fragmentation of the subject matter of the arts and sciences continued in the succeeding centuries, and oppositions arose not only from the major distinctions but also between each of the subdivided subjects.

The history of education in the United States has been a history of the battle of the books. In the twentieth century the encyclopedia has become general education, enkuklios paideia. In the development of general education all the forces that have led to major changes in education at various stages in the past have

been operative. In the changed circumstances of the twentieth century they have determined the definition of "general education." The aims of general education have been "general" in four senses adapted to the needs of our times.

1. General education is general in the sense of involving or underlying all knowledge. There has been an evolution from the survey courses of the 1920s, which covered all knowledge, to the general courses of the present, which examine and use methods to solve problems of explanation and action and to bind knowledge together. In that evolution, disciplines have tended to become arts to be practiced rather than fields to be mastered.

2. General education is general in the sense of providing the means of communication and bases of community to all men. As the "new men" of Rome were agents in the preparation for world empire, the "new men" of the twentieth century are agents with new possibilities of action because of changed world relations resulting from economic, social, and political revolutions. The art of resolving problems by discussion, rather than by expert or authoritative knowledge, constitutes the general education in public affairs requisite for the preservation of democratic communities and the formation of a world community under the rule of law.

3. General education is general in the sense of forming a framework to organize all experiences of individual men. It is education for character, which is a second nature, formed to realize the potentialities of human nature in accordance with free choice and right reason. The evolution from subject matter and information to discipline and discussion has been accompanied by an evolution in the education of the whole man from harmonizing preferences and passions to ordering powers and actions.

4. General education is general in the sense of building on the values of all cultures and traditions of the world. Our approach to knowledge of other peoples has evolved since the Second World War from an area-language descriptive communication based on images which peoples construct of each other to an examination of common problems faced by the members of a world community, and from the divisive confrontation of Greco-Roman, Judeo-Christian, Islamic, Hindu, Chinese, and other traditions to the integrative interplay among the opportunities of one world.

The disputes concerning general education have been continuations of the battle of the books. The neoterics or moderns have continued to defend the encyclopedia and to advocate liberal education as the liberal arts and as general education. The moderns in general education have identified new problems and have experimented with new methods for their solution. General education has been learning and teaching new disciplines and new arts adapted to the recognition and solution of new problems. The paleoterics or traditionalists have sought to return subjects that were parts of liberal education at its last stage to the effectiveness which they once had. They defend training in the liberal arts and therefore advocate liberal education but not general education.

Liberal education is the acquisition of the knowledge and methods of particular subject matters, taught by experts in those fields, who can bring creative insight to imparting skills and knowledge in particular subject matters. The approach is interdisciplinary, but it is an approach to subjects, and traditionalists tend to be dubious about the general or the universal.

As in the earlier battles, the oppositions are sharply stated antagonistic differences; when stated fairly in their own terms, as in the preceding paragraph, they tend to seem trivial or reconcilable differences of emphasis. Both sides recognize the need of innovation and tradition; both use the past to solve the problems of the present. Yet, despite such likenesses in the opposed positions, the resolution of this battle will lead, like the resolution of past battles, to a new form of education, and the new form that uses the past to form new disciplines will differ from the new form that uses the past to rehabilitate established or accepted disciplines. The neoterics must go on to a new form of education; they cannot return to the philosophy of Greece, the liberal arts of Rome or the Middle Ages or the Renaissance, or even to the general education of the Hutchins college of twenty-five years ago. The traditionalists must go back to the liberal education of experts teaching what they know with confidence and creativity; it cannot be a development of general education in which a structure of problems and methods is used to prepare all students to recognize and face the novelties of thought, action, and experience in the modern world, and in which instructors adapt their teaching to a common pattern rather than teaching what they please as they please. There is talk of pluralism and universality in both camps. The one is a pluralism of disciplines to treat common problems; the other is a pluralism of fields and of approaches that experts think proper to different fields. The one is a universality or commonality of inclusiveness and connection; the other is a universality or commonality of distribution and selection. To bring out the differences, it is wise to abandon the effort to state both sides fairly in their own terms and to set forth instead a statement of the issues as viewed by the neoterics, who continue the tradition of Ramism and the New Learning in American education, but abandon the specific forms of those traditions to traditionalists.

As in the past, it is not possible to distinguish a neoteric from a traditionalist by determining whether he reads and teaches ancient or modern books. The influence of the neoterics in the transition from medieval to modern education was to reformulate the liberal arts for the study of Greek literature and modern literatures and for the study of ancient mathematics, medicine and cosmology, and modern sciences. Bentley was a modern in the seventeenth and eighteenth centuries; he was one of the inventors of the new methods of classical philology. The neoteric innovations at the University of Chicago have sometimes been called "Aristotelian," and I was somewhat surprised to discover, after I had come to the University of Chicago, that I too was an Aristotelian. It might seem that an Aristotelian philosophy, an Aristotelian literary criticism, and an Aristotelian general education are traditionalist. As they emerge in the long line of neoteric and modern encyclopedias and programs of study in American education,
I have always been a neoteric. From the beginning of my teaching career I have worked with committees and staffs forming and teaching general education courses. Even my interest in Aristotle was a neoteric discovery. During many years of undergraduate and graduate study at Columbia University and the University of Paris, I never took a course on Aristotle because none was given at those universities in those years. I had many courses on Plato in which I learned that he dichotomized the world into two worlds of changeless ideas and changing things, and that Socrates played sophistical tricks on his adversaries. I had also learned that Aristotle had enslaved men's minds for two thousand years. When I read Aristotle I found the experience interesting and rewarding, and therefore I gave courses on Aristotle, edited collections of the works of Aristotle, and wrote papers on philosophic problems that he treated and on the methods he used in stating and solving them. I was amazed to be called an Aristotelian for two reasons. In the first place, my interpretation of Aristotle does not agree with what are commonly held, on the authority of recent scholars, to be Aristotelian doctrines and errors. In the second place, the positions I have taken on many philosophic problems are not the positions I have attributed to Aristotle, and the methods by which I have discussed the issues and established my conclusions are different from those I attributed to Aristotle in important respects. I have never troubled to point these differences out because the name “Aristotelian” is used not to describe a person or a position but to be kind, and if I was to be charged with guilt by association, I could not do better than be associated with the Master of Them That Know.

Several of my colleagues at the University of Chicago and I published a collaborative work, Critics and Criticism, Ancient and Modern (Chicago: University of Chicago Press, 1952). Battles were recounted in the work, but they were not battles between the ancients and the moderns, despite their appearance in the title. It was a neoteric pluralistic work. One of the approaches that we made to criticism was based on Aristotle’s Poetics which we held, perhaps somewhat arrogantly, had never been interpreted correctly or used effectively in the period of almost twenty-four hundred years since its composition. Our uses of other approaches and our expositions of the advantages of pluralism were barely noticed. The position of the “Chicago school” was Aristotelian. We were convinced that the treatment of a work of art as an artificial object to be examined in itself brought important properties of the work of art to attention and heightened appreciation of it. None of our critics criticized our novel approach to Aristotle. The method was assumed to be Aristotelian, possibly because we acknowledged that it was; it was assumed that it was not a good method of criticism, possibly because it was ancient. The neoteric approach is to discover the new and the stimulating even in the familiar and the forgotten. We were not being pluralistic in the sense of reporting that one can approach poetry in this way, in that way, and in still other ways. We viewed the appreciation of poetry as a complex experience, and we sought to bring out different aspects of that experience in criticism. We were not practicing eclecticism but applying aesthetics: there are wrong as well as pertinent ways of philosophizing, but among the wrong ways the one which operates on the assumption that there is one right way which is recognized easily by the meanings it sets forth and the nonsense it detects in all other approaches is more prolific of errors and stultifications than most other misused methods or misguided assumptions.

During the thirty years of the evolution of the general education program at the University of Chicago, I learned repeatedly during visits to New York and Washington, Boston and New Haven (opinions were less uniform in the West than in the East) that the general education programs were Aristotelian in Chicago. I never knew how to relate that judgment to what we were doing or what we were saying. I knew no Aristotelians, in the sense of men who adhered to the principles, methods, and doctrines of Aristotle, among my colleagues. In my own contributions I have borrowed more from Dewey than from Aristotle, but the common borrowing may still have been “Aristotelian” since I am convinced that Dewey shares much with Aristotle if account is taken of appropriate neoteric transformations of a common method to changed circumstances. Moreover, we did borrow from the language and distinctions of Aristotle in constructing the encyclopedia essential to neoteric education, and we were convinced that metaphysics provides the basis for that encyclopedia and for the higher learning in America. The Ramist encyclopedia, which influenced early American education and gave form to Alsted’s and Commenius’ compilations of knowledge, had moved from the arts of discovery to the recitation of discoveries. The encyclopedia of the new learning based on Bacon and Locke, which influenced American education in the eighteenth and nineteenth centuries and gave form to the French Encyclopédie, had moved from the augmentation of knowledge to the subdivision of the branches of knowledge. In the face of the resultant fragmentation of knowledge, the new encyclopedia should bring out the connections among the branches of knowledge and should make the methods used to form and connect them available in general education. It is possible that a single method may be adapted to the unification of all sciences and all knowledge, but a pluralism of methods, disciplines, and arts is better adapted to the neoteric orientation to new problems, new situations, and new discoveries. General education based on the methods of the natural sciences, the social sciences, and the humanities may with justification be viewed as an adaptation of Aristotle’s distinction of the theoretic, practical, and poetic sciences. More important than establishing the remote ancestry of the program is recognition of the fact that it has grown and changed constantly, and neoticies may hope that changes made today will build on past accomplishments to go on to a new program. It would be disastrous if a traditionalist abandonment of general education brought us back to a program indistinguishable from the requirements and distributions of the 1920 or the 1892 form of liberal education.
The forces of our times make for neotericism as did the forces operative in ancient Rome and in Renaissance Europe. The basic force is the appearance of "new men" everywhere, and the education proper to the new men of the present is determined by the contacts of cultures, in which humanity or mankind emerges in a new normative and effective form while the individual or man faces new possibilities and new dilemmas. One of the first actions of the government of India after its establishment in 1947 was to appoint a University Education Commission in 1948 under the chairmanship of Radhakrishnan. The report of the commission, published in 1950, contains an excellent statement of "The Aims of University Education" based on the five objectives set forth in the Draft Constitution of the Republic of India adopted in August 1949. The problems of educational theory and practice are taken up under the five heads of democracy, justice, liberty, equality, and fraternity. "Professional education is different from general education, not so much in its subject matter as in its method, outlook and objective. To give a basic understanding of the principles of science, history and literature is the aim of the general course; to train experts in them is the aim of the specialized course." The treatment of general education in chapter 5 makes use of the American experience in general education. A committee of Indian educators visited the United States in 1954 to study the forms that general education had taken in the United States. A second team came in 1956. The representatives of seven American universities went to India in 1957 to continue the discussion and to help Indian universities develop general education.

The emergence of new men in Europe and in the Americas stimulated general education in long established educational systems as well as in newly formed colleges and universities. In 1957 the French Office of Higher Education invited the four American Research Councils—the American Council of Learned Societies, the National Research Council, the Social Science Research Council, and the National Council of Education—to send two representatives each to meet in discussion of problems of general education with a like number of French educators representing the disciplines of the humanities, the natural sciences, the social sciences, and education. The committee of eight then went to Norway to hold a like conference in Oslo. The problems of general education that had arisen in France and Norway were consequences of changed conditions. In both countries students with approximately the same background and training had for a long time sought entrance to universities and technical schools in fairly constant or moderately increasing numbers. What should be done when greatly increased numbers from more diversified backgrounds sought higher education? What is general education for all citizens? How should the new kind of students be given some acquaintance with and some competence in all knowledge? What is a unified experience in education and how should education contribute to the formation of character? The rapidly expanding University of Puerto Rico set up a separate undergraduate Faculty of General Studies for variations of like reasons. In the United States the problem of general education has arisen, as it has more recently in India, from phases of the relation of technical or professional education to the broader and more basic aims of education: the fear that the land-grant colleges might debase academic standards by emphasizing technology and agriculture early earned them the name "cow colleges"; the new junior colleges, community colleges, and the old teachers colleges transformed into liberal arts colleges have recently developed in a cloud of controversy about their experimental contributions to general education and their susceptibility to local pressures or their abandonment of education for vocational and community training.

The programs of general education for new men in new conditions are affected by new influences in the proliferation of knowledge, the contacts of cultures, growing awareness of mankind and world community, and new problems in the formation of the individual and the integration of character. New methods of teaching fundamental disciplines and making available the ideas and the methods developed in the various branches of human knowledge and activity provide the basis for new encyclopedias and new synoptic programs of studies. A sense of the importance of understanding the values of other cultures and promoting communication among the peoples of the world has broken the rigidity of divisive cultural traditions. Humanity in the sense of a common awareness of mankind has prepared a reorientation from the differences of the humanities and the sciences to a search for common solutions to common problems despite differences of cultural traditions, ideological beliefs, and local loyalties. The recognition that education is an activity and a practice of the arts of living has reduced the artificial separation of reason, attitude, and feeling in translating the methods of knowing, doing, and making into a general education for the formation of character.

The University of Chicago has made important contributions to general education: it has promoted the adaptation of the encyclopedia and the disciplines of learning to the problems of men knowing, deliberating, and perceiving. The changes in the program that are now under consideration are one more stage in the battle of the books. How can the new program recast the disciplines that have been the continuing strength of general education to equip men to take hold of new possibilities and to face new problems? There are many ways to treat the structure of problems and methods of the modern world. One will be formed and put into effect as a result of discussion and agreement at the University of Chicago during the next few months. It would be unwise to predict the outcome, since the future is uncertain; and it would be imprudent to advertise my preferences, since I shall be a participant in the deliberations, and

12. Ibid., p. 36.
13. Ibid., p. 42.
15. Ibid., p. 121.
foreknown positions seldom survive to the end in the dialectic of discussion. On
the other hand, the general lines of the battle of the books in which we are en-
gaged are clear, and the possible courses of action should be seen concretely. To
avoid the restrictive vagueness of cautionary abstraction I suggest that we aban-
don the perspective of faculty program construction for the perspective of stu-
dent educational planning. Imagine a student who came to the university about
twenty-five years ago. When he was ready to graduate, the A.B. was the degree
for general education, and he had passed fourteen comprehensive examinations
to qualify for it. He is now planning an education for his son and daughter.
Since he is a neoteric he is convinced that new disciplines, different from those
he acquired, are now needed, and that those new disciplines will not correspond
to the four subject matter divisions of the graduate school. He is also convinced
that the new disciplines will be based on the old disciplines but will avoid the
rigidities and limitations into which they had fallen, and that the liberal arts will
preserve the continuity that contributed to their effectiveness when they were
adapted to new problems and circumstances in past renaissances and revolu-
tions in education. His meditation is therefore a neoteric revolution of four gen-
eral courses to fit a new encyclopedia or cycle of learning. It runs as follows:

"I had a good course in the humanities in which I acquired arts of apprecia-
tion, analysis, and criticism. It did not extend beyond the fine arts, but I learned
to read books—history, philosophy, rhetoric, drama, epic, prose fiction, lyric
poetry. I hope that the disciplines have been extended now to include the read-
ing and interpretation of works of science, law, and policy as well. The human-
ities are the study of the great achievements of man. It was an accident of his-
tory that they were limited in modern times to the fine arts. The works of Eu-
clid, Newton, and Adam Smith have humanistic aspects; poetry, music, and
mathematics have comparable structures, and tropes, analogies, and propor-
tions are basically the same; my understanding of plot as the argument of drama
was improved by studying related arguments of orators and related facts of his-
tory, and I should have liked to extend that understanding further by relating
those structures of discourse to the structures of arguments in philosophical
and scientific inquiry and proof. The humanities ought to become again not a study
of philology or the language of the arts but a study of the arts themselves in
which the manner of presentation is related to what is presented. Philosophy be-
tongs in the humanities because it is the art of arts and the science of sciences
and arts are practiced in the discovery and transmission of the sciences.

"I had a good course in the social sciences in which I learned about the be-
behavior of individuals and communities, about character, action, and institu-
tions. The disciplines of the behavioral sciences had already been extended to
include intellectual and cultural behavior. But there was a tendency to explain
away philosophy and science, morals and justice, art and taste by social cir-
cumstances, mores, and ideology. I hope that the reciprocity of the humanities
and the social sciences has become more apparent as they come to be seen
as arts of making and practices of doing rather than as independent and
contrasted subject matters to which antagonistic methods are appropriate.
They will then be related as architectonic disciplines, for the arts or human sci-
ences are architectonic because man's great accomplishments in all fields are
accomplishments of the arts he has acquired, and the practical or social sciences
are architectonic because men's characters, values, and accomplishments are
conditioned by the social and cultural circumstances in which they are reared
and by the attitudes, available materials, and sanctions that determine their
common activities. Behavior and community affect interests and criteria in art,
science, and philosophy; art, science, and philosophy are behavior affecting
men and communities. In antiquity, Aristotle thought of political science as a
single science with two parts: politics concerned with the institutions of states
and ethics concerned with the habits of men; economics was a prerequisite to
politics and the intellectual virtues—including art, prudence, and science—
were treated in ethics. In the eighteenth century political economy was a single
science, and in the twentieth century the sociology of knowledge is restrained
in its imperialistic tendencies by the philosophies of sociology. We have been
developing new architectonic disciplines in the social sciences.

"I had a good course on the nature of the physical world, including the nat-
ural functions and evolution of animate beings. I hope that the disciplines of the
natural sciences have been extended to reconstruct natural philosophy to ac-
quire students with the interplay of ideas and methods that relate the particles
of quantum mechanics to the cosmos of relativistic physics, the changes in math-
ematics that have made possible and have resulted from changes in physics to
the changes in knowledge which they embodied and produced, and the use of
models and explanations in the whole intermediate region. I hope that the dis-
clines of natural philosophy are extended to include the bearing of the nature
of things on the values and the activities and the communities of men and to the
influence of the concepts and methods of science on other disciplines. World
order has a meaning in the social sciences as well as in the natural sciences, and
the institution of world order by the one science and the discovery of world
order by the other science are not unrelated to the world order exemplified in
practice of the arts of humanity or mankind. Natural philosophy is an archi-
tectonic discipline that influences and is influenced by the practice of the
architectonic disciplines of arts and of practical actions.

"In each of these three courses I was taught to use disciplines that cut across
the subject matters of the humanities, the social sciences, and the natural sci-
ences. That was an essential aspect of general education, and the changes that
I suppose have occurred make the scope and importance of the disciplines
clearer and depart from the supposition that they are applied to distinct and
separate subject matters. I also took two courses that integrated the knowledge
presented in the other courses—the History of Western Civilization, and Ob-
ervation, Interpretation, and Integration (which later became the Organiza-
tion, Methods, and Principles of Knowledge). I hesitate to speculate on the new
form that the discipline of history and the discipline of theory-formation might
take, but provision should be made for the disciplines by which historical facts are determined and theoretic laws are formulated, and in which the student is made familiar with important facts and ideas of history and with basic structures of phenomena and conception. They should both treat facts and communications, ideas and facts, words and actions, and the interpretation and explanation of statements and activities. We live in a world of concrete facts, which are recounted in history once they have occurred, and which are observed, interpreted, and integrated as they occur and after they occur, to be projected in statements and actions based on history and theory designed to determine facts when the future becomes the present."

Our imaginary student did not go beyond the A.B. degree in his formal education, but he had received a general education and he has continued to use it. His plan was thought out hastily, and it did not have the benefit of expert academic debate and refinement. But he is a neoteric and a pluralist, and he realizes that the structure of problems and methods which he seeks is an encyclopedia that may be made a program of teaching and learning in other courses than those which he has constructed. What is important is that education should acquaint men with such problems and methods, and I share our student's confidence that it can be done better by planning the structure than by waiting for its emergence from the accidental joining of particular skills and individual collections of facts and information.