

EDUCATION AND THE DISCIPLINES

RICHARD MCKEON

IT WOULD be difficult to conceive a theory of education untouched by philosophy, uninfluenced by the results of past efforts in education, or unconcerned with achievements in the arts and sciences, and the feat, if possible, would be of doubtful utility. Yet it is perhaps inevitable that a proposal to consider education explicitly in terms of subject matter and philosophy should arouse inquietudes. Such fears would doubtless be the result not so much of opposition to these sources and criteria as of the anticipation, awakened by words used in the statement of the proposal or by hints concealed in it, that the selection of past achievements had been made without benefit of historical erudition, that the subject matter and knowledge invoked had been misconceived, and that the philosophy which guided the inquiry was inexpert and erroneous. The reactions to President Hutchins' lectures have been too numerous and disparate to afford reliable indication of the importance of his views on education. They have, however, shown a uniform tendency to intersperse remarks concerning history, philosophy, art, science, or literature among statements concerning Mr. Hutchins and to justify criticisms of his doctrines by setting up opposed theories of knowledge and of the nature of science and by seeking substitutes to serve in the place of the intellectual disciplines as training for inquiry, knowledge, or life. For the most part it would appear that President Hutchins is correct in his criticism of present practices in education, but his positive suggestions would seem to show sometimes that he is mistaken in his conception of science, sometimes that his political devices are inconsistent with democratic ideals, sometimes that his notion of psychology is not in accord with principles which have recently guided educators, sometimes that he is impractical, unprogressive, or even retrogressive, sometimes that he has been badly educated.

Yet *The Higher Learning in America* is a short book, simply written, and it gives at least a preliminary impression of being clear. The principal device which is presented in it as a means of remedying some of the defects in general education consists in training in the techniques and disciplines requisite for precise, pondered, and appreciative reading of books. We who read this book and the statements and criticisms that have been elicited by it, and in turn write interpretations, criticisms, and defenses, illustrate in our own reading and writing at least one of its theses. The defects of Mr. Hutchins' philosophy and the peculiarities of the intentions which it masks have been proclaimed for him authoritatively; but for those of us to whom textual interpretation is still a serious enterprise

it is sometimes difficult to find the passages in *The Higher Learning* on which to construct the dogmatic, antiquated, asocial, and unscientific philosophy which its expositors have found in it. Perhaps the task is not one for the textual critic to solve. Some future student of intellectual history may undertake the investigation of the social and intellectual currents by which ominous implications are attached to that group of words by which the discussion has been enlivened.

In Professor Perry's penetrating analysis of President Hutchins' lectures, paradoxes similar to those involved in the reception of the book turn up in the very center of the argument. Just as the book encountered difficulties inasmuch as author and reader were without benefit of the education advocated in it, so, viewed theoretically, nothing can be learned except in so far as the relevant principles are known, but principles can be discovered and known only from, and in the context of, the data to which they are relevant; viewed practically, the proposed reform in education is impossible because an insufficient number of educators possess the education requisite to put it into effect. One paradox, if Professor Perry's statement of it is correct, can be traced to an error in the philosophical foundations of Mr. Hutchins' position; the other, dependent likewise on the accuracy of the restatement, may be attributed to the good or ill fortune of the times. The problem which Professor Perry poses is, in any case, central to the difficulties which have been found in President Hutchins' writings, and the answer to the fundamental question of determining the content of education is, as Mr. Perry points out, dependent on the solution of the philosophic problem of the kinds and modes of knowledge. Professor Perry has stated so clearly the intricacies of interrelation involved in President Hutchins' discussion of ideas and facts that one might expect him to find principles less sharply separated from data in the system of education based on that discussion. If Professor Perry is correct, President Hutchins is committed to two doctrines which are easily shown to be erroneous: (1) his position would require that ideas or principles be known, detached from their subject matter and use, in much the fashion that the data of experience might be supposed to be known detached from principles and (2) his position would require that what is logically first in importance be taught first in time.

President Hutchins' numerous references to principles seem all to take a form which would justify the supposition that they are, to his mind, not *what* is known, but rather *that by which* anything is known. His statements concerning principles are reducible to two heads: that science and life may be, and indeed to a large degree are, organized in rational order by means of principles, and that principles should therefore be studied

explicitly, carefully, and with the aid of techniques as well suited to that purpose as the techniques of the sciences are to the proper inquiries of the sciences. Such a conception would require that the principles of the sciences be discovered by the study of the subject matter of the sciences; it would require that they be the proper study, in turn, of a science concerned with the characteristics of principles and designed to test statements formulated as basic in a science, much as the demonstrative processes of science are studied in logic. This science of first principles Mr. Hutchins names—with that infelicity of nomenclature which constitutes the chief of the rare defects in his prose style—metaphysics. After using a word with so long and equivocal a history, President Hutchins says little to elucidate the meaning he gives to metaphysics. He does not explain in greater detail, to be sure, what he means by the social and natural sciences which he discusses with metaphysics, but those terms he could presume his reader would understand and accept. He does specify that the need he sees is for metaphysical analysis and not for any specific metaphysical system,¹ and again he says that the unity he hopes to achieve from the return of metaphysics to the company of the sciences is not the unity of an authoritatively enunciated metaphysics but the unity of an understood diversity in which the fundamental grounds for scientific differences are stated and examined.² So interpreted, what Mr. Hutchins advocates is not the introduction of metaphysics into an educational and scientific system to which it is foreign, but the recognition of a philosophic activity in a system in which it is already present, practiced best, perhaps, in the sciences which have achieved the greatest rigor. Yet, notwithstanding that metaphysics and its companion sciences are treated in much the same detail and manner, neither praise nor blame seems to have been elicited by the large place which is given science in education, while

¹ *The Higher Learning in America*, p. 105.

² "In order to obtain these results you must have a faculty which can distinguish knowledge from opinion because of having been trained in the liberal arts or their modern equivalent, whatever it may be. Such a faculty, for example, would know what its own metaphysical presuppositions were, or would be able to eschew metaphysics. Its members would know that they were engaging in metaphysical propositions; they would try on these occasions to use a method appropriate to such speculations; and they would be as conscientious in acquiring proficiency in these methods before announcing their conclusions as they would be to practise the method of mathematics before coming to a mathematical conclusion. Under such conditions we may have a unified university, not because an official dogma has been imposed upon it, but because teachers and students can know what they are talking about and can have some hope of understanding one another. In this view the ideal of a university is an understood diversity" ("A Reply to Professor Whitehead," *Atlantic Monthly*, November, 1936, p. 588).

the introduction of metaphysics seems cause for general amazement and disapproval. It is probable that Mr. Hutchins would have difficulty, short of writing a treatise on metaphysics, in winning credit for, or if credited, interest in, any given principle he might adduce, for principles have an architectonic function in a subject matter, but emptied of subject matter little can be said which is of obvious interest or significance concerning any one of them. For this reason, possibly, physicists and mathematicians have in recent years continued to discuss the problems of metaphysics more successfully than have philosophers. In the sciences, in any case, principles are employed to the end of knowing the subject matter or data; whatever the manner in which they may be studied or known in metaphysics, principles cannot be known in the same manner as the data of science.

Since he conceives metaphysics to be the study of first principles and since he conceives it to treat of principles present in the sciences, it is highly improbable that President Hutchins should think that education must begin with the presentation of abstract principles of order; it is even less probable that he should think that the sequence of education might involve a simple progress from principles of order to a later consideration of conceptual systems, or that he should provide no place in formal education for the actual application of conceptual systems. Consultation of his book reveals nothing to destroy that initial improbability. The three levels of abstraction which Professor Perry sets up may be found there, but, far from being arranged in a chronological order of presentation which duplicates the order of logical importance, all three seem to be presented to the student, though in varying proportions dependent on his special interest, at one stage of his studies.

In his Junior year, on the level of the higher learning, the student begins the study of metaphysics, which seems to be the science corresponding to Professor Perry's study of the abstract principles of order; at the same period of his training he begins the study of the natural and social sciences, which might be supposed, since they involve the application of principles, to correspond in part to Professor Perry's conceptual systems.³ But these sciences, as President Hutchins treats them, do not permit the hard, sharp line between principles and empirical data which Mr. Perry seems to draw between conceptual systems and their application, and similarly the various sciences are not cut by a sharp line from metaphysics. "The social sciences embrace the practical sciences of ethics, politics, and economics, together with such historical and empirical materials as may be needed to supplement them for the guidance of

³ *The Higher Learning in America*, p. 106.

human action.”⁴ “In the study of them [*sc.*, the physical sciences] such recent observations as serve to illustrate, exemplify, or confirm these principles must be included.”⁵ President Hutchins seems, then, to treat the three levels of abstraction as formally distinct portions of a single stage of training in any subject matter. They are not presented to the student successively but simultaneously, and though distinct in character, they are relevant to the same problems and subjects. They are partially reflected in the organization of the university into three faculties in accordance with the three sciences, and the sciences likewise “deal with the same propositions and facts, but with different ultimate references.” When Mr. Hutchins supplements such statements by others as “the study would not proceed from the most recent observations back to first principles, but from first principles to whatever recent observations were significant in understanding them,”⁶ which seem to suggest a temporal order, it is pertinent that Aristotle, to whom it is fashionable to refer in discussing this book, distinguished five meanings of “priority,” and the context suggests that President Hutchins does not, or should not, mean priority in time. If recent observations are relevant to the principles of a science and if they are important among such relevant observations, it is a pedagogical nicety, to which the answer would vary in different problems or at different points of the career of the student, whether efficiency and clarity would be served better by taking the student to the field or laboratory first or by presenting first the principles involved in the resultant findings. “In due subordination in the teaching of these [*sc.*, the social and natural sciences],” Mr. Hutchins writes, “we include historical and current empirical materials.” Yet despite such repeated statements Mr. Perry is at pains to summon history and the descriptive sciences to bear witness for him while he chides Mr. Hutchins for excessive zeal “since he insists that facts be completely excluded from college and university curriculums.”

More disheartening, however, than Mr. Hutchins’ apparent inability to express often or emphatically enough the conviction that all levels of abstraction, from observation in the laboratory to scrutiny of first principles, should be presented to the student in the university is the fatality by which his reasoned and timely recommendations concerning the prior stage of general education in the four years of the college are translated into sterile and premature exercises in metaphysics. Much that he says in criticism of contemporary education in the first two chapters of his book is directed against the unprofitable intrusion into the curriculum of unimportant, insignificant, and unrelated information or against practice

⁴ *Ibid.*, p. 107.

⁵ *Ibid.*, p. 108.

⁶ *Ibid.*, p. 106.

in useless techniques and operations. For remedy he seeks to organize general education about a group of books chosen as examples of excellence of thought and expression and about the disciplines of grammar, rhetoric, logic, and mathematics studied as means of penetrating to the significance and estimating the value of the ordered materials and problems treated in those works. Principles would enter into this education as the ordering principles of what the student reads and as the guiding principles of the manner of his reading, to be considered explicitly, however, only by his instructors in formulating such a program of studies and in determining what books deserve a place among the classics in contemporary education. Here, as in so many of the criticisms which he has faced, Mr. Hutchins is betrayed by current, though apparently unsuspected, meanings which his words have acquired for many of his readers. Concerned as he is with educational ideas, he assembles words of different ages, many of them in desuetude and bad repute, confident that they will still express ideas which they once conveyed.

*Multa renascentur, quae jam cecidere, cadentque
quae nunc in honore vocabula, si volet usus,
quem penes arbitrium est et jus et norma loquendi.*

Grammar was not limited in antiquity to the bare enumeration of the formal rules of usage. It was primarily exegetical, and training in grammar involved the study of the poets—later of the prose writers as well—with full attention to the problems of understanding a text and of imitating the qualities which analysis disclosed in it. Rhetoric, likewise, once involved not merely the enumeration of formal rules or the routine of composition but the analysis and emulation of masters of cogent expression, as logic once involved the study not merely of syllogisms and fallacies but of the great and influential examples of rational and scientific analysis. If Mr. Hutchins had written that the graduates of our colleges, and even the candidates for the doctorate, are unable to write correct, expressive, and fluent English; to understand arguments and demonstrations or to formulate rational grounds on which to defend their own positions; to organize the sequence of their thoughts clearly, order them relevantly, or present them persuasively—most educators would grant the criticism and agree that it is important to find means to train students to read and write and think. But few would recognize the indictment in the form of a need for grammar, rhetoric, and logic; and philosophers, who like Mr. Perry are not alarmed by the formal sound of terms, would have those disciplines so rigorous that no more than three men now living would possess the training and ability to give a course in logic of sufficient scope and thoroughness. The situation, while discouraging, is more hope-

ful than that. We are doubtless rapidly losing the ability and desire to read the ancient languages, and the newer education is making the teaching of foreign languages increasingly difficult, but it should be possible still to defend the ideal of universal instruction in reading and writing English and to find the means of approximating it.

The advocate of any reform must face the danger that, by emphasizing what is imperfect in the present system and in need, consequently, of modification, he will be thought to scrap the good with the bad in the interest of the changes he advocates. If he is convinced that education is too little intellectual today, whatever he says is evidence that he thinks it should be exclusively intellectual. If he thinks that principles are neglected, the plan of education which he defends must, notwithstanding careful statement to the contrary, be concerned with principles alone. So, too, if education is to include the classics, the arts by which the classics are to be read and by which the problems involved in such reading are to be treated, mathematics, social sciences, natural sciences, metaphysics, the plan tends to be simplified until only metaphysics and the trivium remain. Grammar, rhetoric, and logic are companion sciences to mathematics on Mr. Hutchins' list of the disciplines needed in general education, and all four might be conceived to serve analogous ends. Mathematics, however, would attract little attention—save in the case of those extreme educators who would limit mathematics to the modicum of arithmetic which they conceive will suffice for the daily transactions of the citizen—for the mathematician has successfully preserved the formal rigor which should be the chief object of training in the related arts, without—thanks to the applications of mathematics in the sciences—falling victim to the accusation of impracticality which effected the ruin of the other arts. Under the circumstances the sequence and purpose of study in grammar, rhetoric, and logic could be indicated most clearly by the example of mathematics. On the first level the student in any of the arts would be taught simple operations which embody principles not explicitly discussed as such at this level. On the second level in more advanced studies sequential to these, on the one hand, he would use the materials of his earlier studies to serve as a basis for the study of problems of greater generality; and, on the other hand, since the propositions of greater generality would be relevant to the same or related subjects, he would understand the operations as he had not understood them before. Principles should enter into early studies in any of the disciplines as they do in mathematics—only in the form of requisite discipline and information or negatively as criteria for the necessary exclusion of irrelevant operations and useless information from introductory courses. On

the third level, as a graduate, the student would proceed finally to questions concerning the theoretic bases which underlie even the simplest of the operations which he learned at the beginning of his career; and at this stage in any of the arts he might return to those operations with new interest to inform and alter his earlier concepts and operations.

In most subjects in the modern university there is unfortunately little sequential training of this kind. Even in the sciences there is repetition of subject matter from course to course, and conversely the instructor in an advanced course is faced with the yearly discovery that students seldom possess the desirable preliminary training. In the humanistic studies the situation is worse. Any device by which to insure that attention is directed, as the attention of students in sciences is directed by the techniques of the sciences, to the elements of his subject which are available for progressive education and that the sequence of his studies is not a mere repetition of the unordered reactions of his first course applied with somewhat more sophistication to related subjects, would represent a valued improvement in methods of education. Whether it is called the trivium or not, whether it is applied to old books or new books or even oral presentations, whether or not principles are thought to determine the sequence, a student should emerge from such a general education with a knowledge of how problems, whether of life or of science or of art, have been treated, and with some insight therefore into how problems may be treated; and, joined to that knowledge, he should possess an ability to understand positions other than his own, to present his own convictions relevantly, lucidly, and cogently, and finally to apply informed critical standards to his own arguments and those advanced by others. It is highly probable that, although possessed of such knowledge and its companion ability on the completion of college, he would be unable to formulate an abstract principle and be unacquainted with conceptual systems and the problems involved in them. In the higher learning he should be made aware of the difficulties and problems involved in the choice and use of principles. In general education he should be taught to use materials in accordance with principles, and their presence should be indicated not by metaphysical jargon in his conversation but by the quality of his thought, his speech, and his ordered information.

The loci of criticism of President Hutchins' proposed educational system, then, are properly metaphysics and the use of the trivium relative to a group of books chosen as classics. But if, as seems generally agreed, Mr. Hutchins' criticism of current educational practices is sound and if his proposed means of solving the difficulty are unsound, some preferable substitutes must be available. The only alternatives that suggest them-

selves to careful, laborious examination of first principles with all the devices that reason or the assembled experience of mankind can effect are not attractive. First principles are frequently accepted by habit and inertia, or by whim and emotional preference, or by authority, whether of church or academy or class. The objectionable features of these substitutes for the examination of principles would constitute a good list of characteristics which the opponents of metaphysics would attribute to that science. Why should not principles be uniquely determined by the data to which they are relevant, or why should they not be examined sufficiently by the operations in which the propositions which depend on them are tested, or why should not the syntax of propositions which have no empirical reference reveal all the significant traits of the fundamental propositions of the sciences? It would seem that, just as the opponents of metaphysics attack as metaphysics precisely what Mr. Hutchins means by a lack of metaphysics, so the more energetic and systematic of the antimetaphysical philosophers today are engaged in inquiries that would fall under the head of what he calls "metaphysics." Carried to the limit, formulated rigorously, and applied so that the results are comparable with those of alternative analyses, the widespread and intelligent development of such techniques should do much to satisfy the need for a metaphysics which he indicates.

In the college, on the other hand, general education should be ordered, not about metaphysics, but about excellences of thought and expression as displayed in the classics and as considered formally in the liberal arts. A trivial, verbal training it might seem, condemned to look to the past instead of applying itself to the problems of the present and the future, perpetuating unreal problems, tenuous verbiage, and useless distinctions. Why not look to nature instead of to the books of men, consider the problems which face men in everyday life, equip students to solve the difficulties which they will encounter when they go into the world, adapt them to their environment? Philosophers have encountered serious difficulties in the attempt to differentiate the book of nature and the book of life from the books which men have written. The two are usually read simultaneously, and the same or comparable disciplines are needed to treat the ambiguities which are found indifferently in both. Nature has meant many things to many ages, and its discovery in any age which we are willing to believe had a proper conception of it is mediated by books. The Renaissance discovered nature by turning from the scholastic Aristotle to the Greek classics and in good part by reinterpreting Aristotle. Copernicus' observations and instruments were not as accurate as they might in his time have been, but he used his readings in the Greek astrono-

mers to excellent advantage in formulating the observations and demonstrations he found in the works of his immediate predecessors. The British Empire may not have been founded on Cicero, Virgil, and Seneca, but references to them and imitations of them entered into the clarification and formulation of the discussions that attended its formation. We, too, have rediscovered nature; and later historians may discern more clearly than we are able the classics by which our glance was turned in its present direction. That conception of nature has in turn been formulated in symbols and must be presented to the student who is to be instructed in it in documents which face all the difficulties that attended the interpretation of Aristotle, of Cicero, and of Newton.

Even if it be granted, however, that such techniques are desirable in education, it might seem more profitable to apply them to more recent and therefore more accurate and more relevant works. Alternatives might be found to take the place of the classics as materials by which to acquaint the college student with nature and the experiences of man. We might draw up a synoptic history of mankind, or prepare inclusive compendia of scientific information or broad selections of current events and contemporary problems, or elaborate some other devices designed to supply a broad foundation of related information to be of use to the student in the course of a successful, useful, and happy life. To organize a course of studies about history as a foundation, however, might mean either the survey in rapid series of the latest generalizations concerning the sequence of events and the achievements of man or instruction in the methods and techniques of the historian, the principles which govern his selection of materials as well as those presupposed in his demonstrations, and study among his literary sources. In the latter sense education based on history would coincide in part with education based on the classics and the disciplines; in antiquity such critical appraisal was part of the discipline of the grammarian. For history is not made up exclusively of unquestionable descriptions of particulars, and the reading of textbooks is as fertile of tenuous discussions as the worst of metaphysics. It is still profitable to read in the works of Petrarch, Boccaccio, Machiavelli, and Erasmus, but without such reading generalizations concerning the thought of the Renaissance are of doubtful educational value. In like fashion the study of current events which have grown out of past situations would be without intellectual basis unless proper historical methods were applied to our information and to the long history which should serve as natural background to such problems and unless proper critical appraisal were directed to the series of writings in which analogous problems are discussed. It is doubtful pedagogy to train the young by plung-

ing them into the discussion of problems which the wisest men have been unable to solve and the proper methods of whose solution are in dispute, without informing them of the problems that have been solved and of the methods that have proved successful. Even if textbooks and recent discussions could be estimated at their proper worth by contemporaries, and even if lectures were universally effective educational devices, there are no alternatives for the constant return to the great works of the past. In the light of the record of ages that have abandoned the study of the past, it is surprising that purely contemporaneous concerns should be thought a sufficient means for solving contemporary problems. To read great books is not desertion of the actual but the use of an instrument of precision without which it is not always easy to separate the significant from the insignificant in the actual.

The reverence due to writings that have long subsisted [Dr. Johnson wrote] arises therefore not from any credulous confidence in the superior wisdom of past ages, or gloomy persuasion of the degeneracy of mankind, but is the consequence of acknowledged and indubitable positions, that what has been longest known has been most considered, and what is most considered is best understood.

Consistent with this conviction one may grant that nothing will ever be formulated in such fashion as to win universal consent and that judgments concerning the preferred modes in the expression of knowledge must introduce an irreducible relativity into the statements of science. But we must in that case use all the devices that are available for clarity and accuracy, and only cultural provincialism would suggest that all that was best, and only what was best, has survived from the past and that what is current is therefore sound.

There is ambiguity in even the most acceptable statements of educational objectives. Education must be suited to adapt the student to his environment, but what constitutes the environment of man is a question to which many answers may be given. It is being answered today by some schools of education in such fashion that *Tom Jones*, let us say, is improper to the education of a present day American because the problems, manners, and life of an eighteenth-century Englishman are different from his own, and no books except contemporary books are pertinent to his needs; that dead languages are irrelevant to his education because he will never speak them, nor will he, in the normal course of life, find occasion to read what was written in them; that modern languages are similarly irrelevant because few Americans will travel abroad and few will therefore speak any except their native language; that mathematics are useless beyond some simple arithmetic and the sciences beyond their useful applications to

everyday problems. The cultivation of intellectual interests, moreover, is itself an abnormal or an asocial activity by some versions of that theory, a symptom of psychological aberration or an assertion of class interests, and continued in our educational institutions only because of ignorance and inertia. It is already the case that the colleges must undertake training that was once the task of the high schools, and they have faced in consequence new and increasingly difficult curriculum problems. The predicament is not rendered easier by the realization that the reaction against the older teaching in American universities was not unjustified and that perhaps the most important single factor contributing to the demise of the classics is the teaching of the classics. Mr. Hutchins suggests that the lists of the classics may require new scrutiny by scholars; his insistence on grammar, rhetoric, and logic indicates the need of work to formulate disciplines in such fashion as to suit them to the task they no longer perform; and to these problems, conceived as linguistic, must be added the problems involved in instruction in the languages. Great and stable civilizations in the past required as minimum basis some common understanding of a common background and common problems. Our words today convey univocal and acceptable meanings only within small groups; we have little in the way of common knowledge of the past or common intellectual background in science or art; we have built a society suspicious of reasons and at the mercy of a vast multiplication of experts; and we have constructed a model of life in which the solemn business is practical and the leisure has grown progressively more purposeless and relaxed. It is a situation in which President Hutchins has been a prophet whose voice at least has been heard. His words have sometimes betrayed him, but despite metaphysics and the trivium he has indicated a task to which the universities must address themselves if they are to continue to serve the function in society which has been theirs for centuries.