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LIBERAL EDUCATION AND THE NATURE OF KNOWLEDGE

Paul H. Hirst

THE phrase 'liberal education' has today become something of a slogan which takes on different meanings according to its immediate context. It usually labels a form of education of which the author approves, but beyond that its meaning is often entirely negatively derived. Whatever else a liberal education is, it is *not* a vocational education, *not* an exclusively scientific education, or *not* a specialist education in any sense. The frequency with which the term is employed in this way certainly highlights the inadequacies of these other concepts and the need for a wider and, in the long run, more worthwhile form of education. But as long as the concept is merely negative in what it intimates, it has little more than debating value. Only when it is given explicit positive content can it be of use in the serious business of educational planning. It is my contention in this paper that whatever vagaries there have been in the use of the term, it is the appropriate label for a positive concept, that of an education based fairly and squarely on the nature of knowledge itself, a concept central to the discussion of education at any level.

THE GREEK NOTION OF LIBERAL EDUCATION

The fully developed Greek notion of liberal education was rooted in a number of related philosophical doctrines; first about the significance of knowledge for the mind, and secondly about the relationship between knowledge and reality. In the first category there was the doctrine that it is the peculiar and distinctive activity of the mind, because of its very nature, to pursue knowledge. The achievement of knowledge satisfies and fulfils the mind which thereby attains its own appropriate end. The pursuit of knowledge is thus the pursuit of the good of the mind and, therefore, an essential

element in the good life. In addition, it was held that the achievement of knowledge is not only the attainment of the good of the mind itself, but also the chief means whereby the good life as a whole is to be found. Man is more than pure mind, yet mind is his essential distinguishing characteristic, and it is in terms of knowledge that his whole life is rightly directed.

That knowledge is equal to its task was guaranteed by the second group of doctrines. These asserted that the mind, in the right use of reason, comes to know the essential nature of things and can apprehend what is ultimately real and immutable. Consequently, man no longer needs to live in terms of deceptive appearances and doubtful opinions and beliefs. All his experiences, life and thought can be given shape and perspective by what is finally true, by knowledge that corresponds to what is ultimately real. Further, the particular way in which reason is here represented as attaining knowledge, results in a view of the whole of man's understanding as hierarchically structured in various levels. From the knowledge of mere particulars to that of pure being, all knowledge has its place in a comprehensive and harmonious scheme, the pattern of which is formed as knowledge is developed in apprehending reality in its many different manifestations.

From these doctrines there emerged the idea of liberal education as a process concerned simply and directly with the pursuit of knowledge. But the doctrines give to this general idea particular meaning and significance; for they lead to a clear definition of its scope and content, and to a clear justification for education in these terms. The definition is clear, because education is determined objectively in range, in structure and in content by the forms of knowledge itself and their harmonious, hierarchical interrelations. There is here no thought of defining education in terms of knowledge and skills that may be useful, or in terms of moral virtues and qualities of mind that may be considered desirable. The definition is stated strictly in terms of man's knowledge of what is the case. The development of the mind to which it leads, be it in skills, virtues or other characteristics, is thought to be necessarily its greatest good.

The justification that the doctrines lend to his concept of education is threefold. First, such an education is based on what is true and not on uncertain opinions and beliefs or temporary values. It therefore has a finality which no other form of education has. Secondly, knowledge itself being a distinctive human virtue, liberal

education has a value for the person as the fulfilment of the mind, a value which has nothing to do with utilitarian or vocational considerations. Thirdly, because of the significance of knowledge in the determination of the good life as a whole, liberal education is essential to man's understanding of how he ought to live, both individually and socially.

Here, then, the Greeks attained the concept of an education that was 'liberal' not simply because it was the education of free men rather than slaves, but also because they saw it as freeing the mind to function according to its true nature, freeing reason from error and illusion and freeing man's conduct from wrong. And ever since Greek times this idea of education has had its place. Sometimes it has been modified or extended in detail to accommodate within its scheme new forms of knowledge: for instance Christian doctrines and the various branches of modern science. Sometimes the concept has been misinterpreted: as in Renaissance humanism when classical learning was equated with liberal education. Sometimes it has been strongly opposed on philosophical grounds: as by Dewey and the pragmatists. Yet at crucial points in the history of education the concept has constantly reappeared. It is not hard to understand why this should be so.

Education, being a deliberate, purposeful activity directed to the development of individuals, necessarily involves considerations of value. Where are these values to be found? What is to be their content? How are they to be justified? They can be, and often are, values that reflect the interests of a minority group in the society. They may be religious, political or utilitarian in character. They are always open to debate and detailed criticism, and are always in need of particular justification. Is there not perhaps a more ultimate basis for the values that should determine education, some more objective ground? That final ground has, ever since the Greeks, been repeatedly located in man's conception of the diverse forms of knowledge he has achieved. And there has thus arisen the demand for an education whose definition and justification are based on the nature and significance of knowledge itself, and not on the predilections of pupils, the demands of society, or the whims of politicians. Precisely this demand was behind the development by the Greeks of an education in the seven liberal arts, an introduction to and a pursuit of the forms of knowledge as they were then conceived. It was precisely this demand that prompted Newman and Arnold in the nineteenth

century to call for an education that aimed at the cultivation and development of the mind in the full range of man's understanding. It is the same demand that today motivates such classical realists as Maritain and R. M. Hutchins.

A TYPICAL MODERN STATEMENT: THE HARVARD REPORT

It may well be asked, however, whether those who do not hold the doctrines of metaphysical and epistemological realism can legitimately subscribe to a concept of education of this kind. Historically it seems to have had positive force only when presented in this particular philosophical framework. But historical association must be distinguished from logical connection and it is not by any means obvious that all the characteristic features of the concept are dependent on such philosophical realism. If the doctrines about mind, knowledge and reality mentioned at the beginning of this paper are regarded as at best too speculative a basis for educational planning, as well they may be, the possibility of an education defined and justified entirely in terms of the scope and character of knowledge needs re-examination. The significance of the concept originally came directly from the place the basic doctrines give to knowledge in a unified picture of the mind and its relation to reality. Knowledge is achieved when the mind attains its own satisfaction or good by corresponding to objective reality. A liberal education in the pursuit of knowledge is, therefore, seeking the development of the mind according to what is quite external to it, the structure and pattern of reality. But if once there is any serious questioning of this relationship between mind, knowledge and reality, the whole harmonious structure is liable to disintegrate. First there arise inevitably problems of definition. A liberal education defined in terms of knowledge alone is acceptable as long as knowledge is thought to be necessarily developing the mind in desirable ways, and hence promoting the good life. But if doubt is cast on these functions of knowledge, must not liberal education be re-defined stating explicitly the qualities of mind and the moral virtues to which it is directed? And if knowledge is no longer seen as the understanding of reality but merely as the understanding of experience, what is to replace the harmonious, hierarchical scheme of knowledge that gave pattern and order to the education? Secondly there are equally serious problems of justification. For if knowledge

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is no longer thought to be rooted in some reality, or if its significance for the mind and the good life is questioned, what can be the justification for an education defined in terms of knowledge alone?

Difficulties of both kinds, but particularly those of definition, can be seen in the well-known Harvard Committee Report: *General Education in a Free Society*.¹ (In the Committee's terminology the aims of a 'liberal' and a 'general' education are identical.) Though certain of the doctrines that originally supported the concept of a liberal education are implicit in this work, the classical view of the significance of knowledge for the mind is considerably weakened, and the belief that in metaphysics man has knowledge of ultimate reality is ignored, if not rejected. The result is an ambiguous and unsatisfactory treatment of the problem of definition and a limited and debatable treatment of the question of justification. Some examination of the Report on both these scores, particularly the former, will serve to show that adequate definition and justification are not only not dependent on the classical doctrines, but can in fact be based directly on an explication of the concepts of 'mind' and 'knowledge' and their relationship.

The Report attempts the definition of a liberal education in two distinct ways: in terms of the qualities of mind it ought to produce and the forms of knowledge with which it ought to be concerned. What the precise relationship is between these two is not clear. It is asserted that they are 'images of each other', yet that there is no escape from 'describing general education at one time looking to the good man in society and at another time as dictated by the nature of knowledge itself'.² Which of the forms of description is to be given pride of place soon emerges, however. First, three areas of knowledge are distinguished, primarily by their distinctive methods: the natural sciences, the humanities and social studies. But it is made plain that 'the cultivation of certain aptitudes and attitudes of mind' is being aimed at, the elements of knowledge being the means for developing these. Liberal education is therefore best understood in terms of the characteristics of mind to which it leads. 'By characteristics we mean aims so important as to prescribe how general education should be carried out and which abilities ought to be sought above all others in every part of it. These abilities in our opinion are: to think effectively, to communicate thought, to make relevant judgments, to discriminate among values'.³ The meaning of each of these four is elaborated at some length. Amongst the many things detailed of

'effective thinking' it is first said to be logical thinking of a kind that is applicable to such practical matters as deciding who to vote for and what wife to choose: it is the ability to extract universal truths from particular cases and to infer particulars from general laws: it is the ability to analyse a problem and to recombine the elements by the use of imagination. This thinking goes further than mere logic, however. It includes the relational thinking of everyday life, the ability to think at a level appropriate to a problem whatever its character. It includes too the imaginative thinking of the poet, the inventor, and the revolutionary. 'Communication', though 'obviously inseparable from effective thinking', is said to involve another group of skills, those of speaking and listening, writing and reading. It includes certain moral qualities such as candour, it covers certain vital aspects of social and political life and even the high art of conversation. 'The making of relevant value judgments' involves 'the ability of the student to bring to bear the whole range of ideas upon the area of experience', it is the art of effectively relating theory to practice, of abstractions to facts, of thought to action. Finally there is 'discrimination among values'. This includes the distinction of various kinds of value and their relative importance, an awareness of the values of character like fair play and self-control, intellectual values like the love of truth and aesthetic values like good taste, and, in addition, a commitment to such values in the conduct of life.⁴

As to how exactly these abilities come to be those developed by the three types of knowledge, little is said. It is noted that 'the three phases of effective thinking, logical, relational, and imaginative, correspond roughly to the three divisions of learning, the natural sciences, the social studies, and the humanities, respectively.'⁵ The difficult connection between education in the making of value judgments and the formation of moral character is noted. Otherwise the remarks are of a general nature, emphasizing that these abilities must be consciously developed in all studies and generalized as far as possible.

This double, if one-sided, characterization of liberal education seems to me unsatisfactory and seriously misleading if what is said of the four abilities is examined more closely. In the first place, the notion that a liberal education can be directly characterized in terms of mental abilities and independently of fully specifying the forms of knowledge involved, is I think false. It is the result of a mis-

understanding of the way in which mental abilities are in fact distinguishable. From what is said of 'effective thinking', it is perfectly plain that the phrase is being used as a label for mental activity which results in an achievement of some sort, an achievement that is, at least in principle, both publicly describable and publicly testable—the solving of a mathematical problem, responsibly deciding who to vote for, satisfactorily analysing a work of art. Indeed there can be effective thinking only when the outcome of mental activity can be recognised and judged by those who have the appropriate skills and knowledge, for otherwise the phrase has no significant application. Thus although the phrase labels a form of mental activity, and such mental processes may well be directly accessible only to the person whose processes they are, its description and evaluation must be in public terms occurring in public language. Terms which, like 'effective thinking', describe activities involving achievements of some sort, must have public criteria to mark them. But in that case, none of the four abilities can in fact be delineated except by means of their detailed public features. Such characterisation is in fact forced on the Committee when they come to amplify what they mean. But their approach is simply illustrative, as if the abilities are directly intelligible in themselves, and the items and features of knowledge they give merely examples of areas where the abilities can be seen. If the public terms and criteria are logically necessary to specifying what the abilities are, however, then no adequate account of liberal education in terms of these can be given without a full account in terms of the public features of the forms of knowledge with which it is concerned. Indeed the latter is logically prior and the former secondary and derivative.

In the second place, the use of broad, general terms for these abilities serves in fact to unify misleadingly quite disparate achievements. For the public criteria whereby the exercise of any one of these abilities is to be judged are not all of a piece. Those that under the banner of 'effective thinking' are appropriate in, say, aesthetic appreciation are, apart from certain very general considerations, inappropriate in, say, mathematical thinking. In each case the criteria are peculiar to the particular area of knowledge concerned. Similarly, for instance, 'communication' in the sciences has only certain very basic features in common with 'communication' in poetic terms. It is only when the abilities are fully divided out, as it were, into the various domains and we see what they refer to in public

terms that it is at all clear what is involved in developing them. To talk of developing 'effective thinking' is like talking of developing 'successful games playing'. Plainly that unifying label is thoroughly misleading when what constitutes playing cricket has practically nothing in common with what constitutes playing tiddly-winks. The implications of the term are not at all appreciated until what is wanted is given detailed specification. It is vitally important to realize the very real objective differences that there are in forms of knowledge, and therefore in our understanding of mental processes that are related to these. Maybe this unfortunate desire to use unifying concepts is a relic of the time when all forms of knowledge were thought to be similar, if not identical in logical structure and that the 'laws of logic' reflected the precise psychological operations involved in valid thinking. Be that as it may, the general terms used in the Report are liable both to blur essential distinctions and to direct the attention of educational planners into unprofitable descriptions of what they are after.

Thirdly, in spite of any protestations to the contrary, the impression is created by this terminology that it is possible to develop general unitary abilities of the stated kind. The extent to which this is true is a matter for empirical investigation into the transfer of training. Nevertheless such abilities must necessarily be characterised in terms of the public features of knowledge, and whatever general abilities there may be, the particular criteria for their application in diverse fields are vital to their significance for liberal education. But to think in these terms is to be in danger of looking for transfer of skills where none is discernible. We must not assume that skill at tiddly-winks will get us very far at cricket, or that if the skills have much in common, as in say squash and tennis, then the rules for one activity will do as the rules for the other.

Failure to appreciate these points leads all too readily to programmes of education for which quite unwarranted claims are made. It is sometimes said, for instance, that the study of one major science can in itself provide the elements of a liberal education—that it can lead to the development of such abilities as effective thinking, communication, the making of relevant judgments, and even to some extent, discrimination among values. But this facile view is seen to be quite untenable if it is once understood how these abilities are defined, and how any one form of knowledge is related to them. Much more plausible and much more common is the attempt

to relate directly the study of particular subjects to the development of particular unitary abilities. The Harvard Committee do this with subdivisions of 'effective thinking' when they suggest that, roughly speaking, logical thinking is developed by the sciences, relational thinking by social studies, and imaginative thinking by the humanities. This, of course, could be said to be true by definition if logical thinking were taken to be just that kind of thinking that is developed by the study of the sciences. But such a straight and limited connection is not at all what is indicated in the Report. The forms of thinking there are much more generalised. It follows then that logical, relational and imaginative thinking must be independently defined. Because of the vagueness of the terms it might appear that this would be simple enough. But in fact this very vagueness makes the task almost impossible, for any one of the three terms might, with considerable justice, be applied to almost any example of thinking. (And the appropriateness of using such a term as 'imaginative' to describe a distinct type of thinking rather than its manner or style is very debatable). Even if this most serious difficulty were overcome somehow, there would remain the problem of establishing empirical evidence, for asserting both the existence of such an ability, and that a particular study leads to its development. Generally speaking there is little such evidence. What there is on transfer of training suggests that it occurs only where there is marked logical similarity in the elements studied.⁶

Finally the characterisation of a liberal education in these terms is misleading owing to the tendency for the concept to be broadened so that it is concerned not only with the development of the mind that results from the pursuit of knowledge, but also with other aspects of personal development, particularly emotional and moral, that may or may not be judged desirable. This tendency can be clearly seen in the Report's comments on the abilities of communication, making relevant judgments and discriminating among values. Stretching the edges of the concept in these ways leads to a much wider, more generalised notion of education. It then ceases to be one defined directly in terms of the pursuit of knowledge as liberal education originally was, and thus cannot be justified by justifying that pursuit. But this is surely to give up the concept in favour of another one that needs independent justification. The analysis of such a concept is beyond our present concern.

On logical grounds, then, it would seem that a consistent concept of liberal education must be worked out fully in terms of the forms of knowledge. By these is meant, of course, not collections of information, but the complex ways of understanding experience which man has achieved, which are publicly specifiable and which are gained through learning. An education in these terms does indeed develop its related abilities and qualities of mind, for the mind will be characterised to a greater or less degree by the features of the understanding it seeks. Each form of knowledge, if it is to be acquired beyond a general and superficial level, involves the development of creative imagination, judgment, thinking, communicative skills, etc., in ways that are peculiar to itself as a way of understanding experience. To list these elements, picking them out, as it were, across the forms of knowledge of which they are part and in each of which they have a different stamp, draws attention to many features that a liberal education must of course include. But it draws attention to them at the expense of the differences among them as they occur in the different areas. And of itself such listing contributes nothing to the basic determination of what a liberal education is. To be told that it is the development of effective thinking is of no value until this is explicated in terms of the forms of knowledge which give it meaning: for example in terms of the solving of problems in Euclidean geometry or coming to understand the poems of John Donne. To be told instead that it is concerned with certain specified forms of knowledge, the essential characteristics of which are then detailed explicitly as far as possible, is to be given a clear understanding of the concept and one which is unambiguous as to the forms of thinking, judgment, imagination and communication it involves.

In his Gulbenkian Foundation Report: *Arts and Science Sides in the Sixth Form*, Mr. A. D. C. Peterson comes considerably nearer than the Harvard Committee to the definition of a liberal education (once more termed here a 'general education') by proceeding in just this fashion. Being concerned that this should not be worked out in terms of information, he shies away from any direct use of the term 'knowledge' and defines the concept modestly as one that 'develops the intellect in as many as possible of the main modes of thinking'.⁷ These are then listed as the logical, the empirical, the

moral and the aesthetic. The phrase 'modes of thinking', it is true, refers directly to forms of mental activity, and Mr. Peterson's alternatives for it, 'modes of human experience', 'categories of mental experience' and (elsewhere) 'types of judgment', all look in the same direction. Yet the 'modes' are not different aspects of mind that cut across the forms that human knowledge takes, as the Harvard Report's 'abilities' are. They are, rather, four parallel forms of mental development. To complete this treatment so that there is no ambiguity, however, it must be made clear in a way that Mr. Peterson does not make it clear, that the four forms can only be distinguished, in the last analysis, in terms of the public features that demarcate the areas of knowledge on which they stand. Logical, empirical, moral and aesthetic forms of understanding are distinguishable from each other only by their distinctive concepts and expressions and their criteria for distinguishing the true from the false, the good from the bad. If Mr. Peterson's 'modes' are strictly explicated on the basis of these features of knowledge, then his concept of education becomes one concerned with the development of the mind as that is determined by certain forms of knowledge. This is to be in sight of a modern equivalent of the traditional conception of liberal education.

(But the reassertion of this concept implies that there is once more the acceptance of some kind of 'harmony' between knowledge and the mind. This is, however, not now being maintained on metaphysical grounds. What is being suggested, rather, is that the 'harmony' is a matter of the logical relationship between the concept of 'mind' and the concept of 'knowledge', from which it follows that the achievement of knowledge is necessarily the development of mind—that is, the self-conscious rational mind of man—in its most fundamental aspect.)

Whatever else is implied in the phrase, to have 'a rational mind' certainly implies experience structured under some form of conceptual scheme. The various manifestations of consciousness, in, for instance, different sense perceptions, different emotions, or different elements of intellectual understanding, are intelligible only by virtue of the conceptual apparatus by which they are articulated. Further, whatever private forms of awareness there may be, it is by means of symbols, particularly in language, that conceptual articulation becomes objectified, for the symbols give public embodiment to the concepts. The result of this is that men are able to come to understand

both the external world and their own private states of mind in common ways, sharing the same conceptual schema by learning to use symbols in the same manner. The objectification of understanding is possible because commonly accepted criteria for using the terms are recognised even if these are never explicitly expressed. But further as the symbols derived from experience can be used to examine subsequent experience, assertions are possible which are testable as true or false, valid or invalid. There are thus also public criteria whereby certain forms of expression are assessable against experience. Whether the 'objects' concerned are themselves private to the individual like mental processes, or publicly accessible like temperature readings, there are here tests for the assertions which are themselves publicly agreed and accepted.

* It is by the use of such tests that we have come to have the whole domain of knowledge. The formulating and testing of symbolic expressions has enabled man to probe his experience for ever more complex relations and for finer and finer distinctions, these being fixed and held for public sharing in the symbolic systems that have been evolved. But it is important to realise that this progressive attainment of a cognitive framework with public criteria has significance not merely for knowledge itself, for it is by its terms that the life of man in every particular is patterned and ordered. Without its structure all other forms of consciousness, including, for example, emotional experiences, or mental attitudes and beliefs, would seem to be unintelligible. For the analysis of them reveals that they lack independent intelligible structure of themselves. Essentially private though they may be in many or all of their aspects, their characteristic forms are explicable only by means of the publicly rooted conceptual organisations we have achieved. They can be understood only by means of the objective features with which they are associated, round which they come to be organised and built. The forms of knowledge are thus the basic articulations whereby the whole of experience has become intelligible to man, they are the fundamental achievement of mind.

← Knowledge, however, must never be thought of merely as vast bodies of tested symbolic expressions. These are only the public aspects of the ways in which human experience has come to have shape. They are significant because they are themselves the objective elements round which the development of mind has taken place. To acquire knowledge is to become aware of experience as structured,

organised and made meaningful in some quite specific way, and the varieties of human knowledge constitute the highly developed forms in which man has found this possible. To acquire knowledge is to learn to see, to experience the world in a way otherwise unknown, and thereby come to have a mind in a fuller sense. It is not that the mind is some kind of organ or muscle with its own inbuilt forms of operation, which if somehow developed, naturally lead to different kinds of knowledge. It is not that the mind has predetermined patterns of functioning. Nor is it that the mind is an entity which suitably directed by knowledge comes to take on the pattern of, is conformed to, some external reality. It is rather that to have a mind basically involves coming to have experience articulated by means of various conceptual schema. It is only because man has over millennia objectified and progressively developed these that he has achieved the forms of human knowledge, and the possibility of the development of mind as we know it is open to us today.

A liberal education is, then, one that, determined in scope and content by knowledge itself, is thereby concerned with the development of mind. The concept is thus once more clearly and objectively defined in precisely the same way as the original concept. It is however no longer supported by epistemological and metaphysical doctrines that result in a hierarchical organisation of the various forms of knowledge. The detailed working out of the education will therefore be markedly different in certain respects. The distinctions between the various forms of knowledge which will principally govern the scheme of education will now be based entirely on analyses of their particular conceptual, logical and methodological features. The comprehensive character of the education will of course remain, since this is essentially part of the definition of the concept, but any question of the harmonious organisation of its various elements will depend on the relationships between them that are revealed by these analyses.

But if the concept is reasserted in these terms, what now of the question of its justification? The justification of a liberal education as supported by the doctrines of classical realism was based on the ultimacy of knowledge as ordered and determined by reality, and the significance of knowledge for the mind and for the good life. Having weakened these doctrines, the Harvard Committee's justification of their concept ignores the question of the relationship between knowledge and reality, and there is a specific rejection of the view

that knowledge is in itself the good of the mind. They assert, however, the supreme significance of knowledge in the determination of all human activity, and supplement this, as is certainly necessary because of the extended nature of their concept, by general considerations of the desirability of their suggestions. When once more the concept is strictly confined so as to be determined by the forms of knowledge, the return to a justification of it without reference to what is generally thought desirable on social or similar grounds becomes possible. And such justification for the concept is essential if the education it delineates is to have the ultimate significance that, as was earlier suggested, is part of its *raison d'être*. This justification must now however stem from what has already been said of the nature of knowledge as no metaphysical doctrine of the connection between knowledge and reality is any longer being invoked.

If the achievement of knowledge is necessarily the development of mind in its most basic sense, then it can be readily seen that to ask for a justification for the pursuit of knowledge is not at all the same thing as to ask for the justification for, say, teaching all children a foreign language or making them orderly and punctual in their behaviour. It is in fact a peculiar question asking for justification for any development of the rational mind at all. To ask for the justification of any form of activity is significant only if one is in fact committed already to seeking rational knowledge. To ask for a justification of the pursuit of rational knowledge itself therefore presupposes some form of commitment to what one is seeking to justify. Justification is possible only if what is being justified is both intelligible under publicly rooted concepts and is assessable according to accepted criteria. It assumes a commitment to these two principles. But these very principles are in fact fundamental to the pursuit of knowledge in all its forms, be it, for instance, empirical knowledge or understanding in the arts. The forms of knowledge are in a sense simply the working out of these general principles in particular ways. To give justification of any kind of knowledge therefore involves using the principles in one specific form to assess their use in another. Any particular activity can be examined for its rational character, for its adherence to these principles, and thus justified on the assumption of them. Indeed in so far as activities are rational this will be possible. It is commitment to them that characterises any rational activity as such. But the principles themselves have no such assessable status, for justification outside the use

of the principles is not logically possible. This does not mean that rational pursuits in the end lack justification, for they could equally well be said to have their justification written into them. Nor is any form of viciously circular justification involved by assuming in the procedure what is being looked for. The situation is that we have here reached the ultimate point where the question of justification ceases to be significantly applicable. The apparent circularity is the result of the inter-relation between the concepts of rational justification and the pursuit of knowledge.

Perhaps the finality of these principles can be brought out further by noting a negative form of the same argument. From this point of view, to question the pursuit of any kind of rational knowledge is in the end self-defeating, for the questioning itself depends on accepting the very principles whose use is finally being called in question.

It is because it is based on these ultimate principles that characterize knowledge itself and not merely on lower level forms of justification that a liberal education is in a very real sense the ultimate form of education. In spite of the absence of any metaphysical doctrine about reality this idea of liberal education has a significance parallel to that of the original Greek concept. It is an education concerned directly with the development of the mind in rational knowledge, whatever form that freely takes. This parallels the original concept in that according to the doctrine of function liberal education was the freeing of the mind to achieve its own good in knowledge. In each case it is a form of education knowing no limits other than those necessarily imposed by the nature of rational knowledge and thereby itself developing in man the final court of appeal in all human affairs.

As here reformulated the concept has, again like the original, objectivity, though this is no longer backed by metaphysical realism. For it is a necessary feature of knowledge as such that there be public criteria whereby the true is distinguishable from the false, the good from the bad, the right from the wrong. It is the existence of these criteria which gives objectivity to knowledge; and this in its turn gives objectivity to the concept of liberal education. A parallel to another form of justification thus remains, and the concept continues to warrant its label as that of an education that frees the mind from error and illusion. Further, as the determination of the good life is now considered to be itself the pursuit of a particular

form of rational knowledge, that in which what ought to be done is justified by the giving of reasons, this is seen as a necessary part of a liberal education. And as all other forms of knowledge contribute in their way to moral understanding, the concept as a whole is once more given a kind of justification in its importance for the moral life. But this justification, like that of objectivity, no longer has the distinct significance which it once had, for it is again simply a necessary consequence of what the pursuit of knowledge entails. Nevertheless, liberal education remains basic to the freeing of human conduct from wrong.

CERTAIN BASIC PHILOSOPHICAL CONSIDERATIONS

Having attempted a reinstatement of the concept without its original philosophical backing, what of the implications of this for the practical conduct of education? In working these out it is necessary first to try to distinguish the various forms of knowledge and then to relate them in some way to the organisation of the school or college curriculum. The first of these is a strictly philosophical task. The second is a matter of practical planning that involves many considerations other than the purely philosophical, and to this I will return when certain broad distinctions between forms of knowledge have been outlined.

As stated earlier, by a form of knowledge is meant a distinct way in which our experience becomes structured round the use of accepted public symbols. The symbols thus having public meaning, their use is in some way testable against experience and there is the progressive development of series of tested symbolic expressions. In this way experience has been probed further and further by extending and elaborating the use of the symbols and by means of these it has become possible for the personal experience of individuals to become more fully structured, more fully understood. The various forms of knowledge can be seen in low level developments within the common area of our knowledge of the everyday world. From this there branch out the developed forms which, taking certain elements in our common knowledge as a basis, have grown in distinctive ways. In the developed forms of knowledge the following related distinguishing features can be seen:

(1) They each involve certain central concepts that are peculiar in character to the form. For example, those of gravity, acceleration,

hydrogen, and photo-synthesis characteristic of the sciences; number, integral and matrix in mathematics; God, sin and predestination in religion; ought, good and wrong in moral knowledge.

(2) In a given form of knowledge these and other concepts that denote, if perhaps in a very complex way, certain aspects of experience, form a network of possible relationships in which experience can be understood. As a result the form has a distinctive logical structure. For example, the terms and statements of mechanics can be meaningfully related in certain strictly limited ways only, and the same is true of historical explanation.

(3) The form, by virtue of its particular terms and logic, has expressions or statements (possibly answering a distinctive type of question) that in some way or other, however indirect it may be, are testable against experience. This is the case in scientific knowledge, moral knowledge, and in the arts, though in the arts no questions are explicit and the criteria for the tests are only partially expressible in words. Each form, then, has distinctive expressions that are testable against experience in accordance with particular criteria that are peculiar to the form.

(4) The forms have developed particular techniques and skills for exploring experience and testing their distinctive expressions, for instance the techniques of the sciences and those of the various literary arts. The result has been the amassing of all the symbolically expressed knowledge that we now have in the arts and the sciences.

Though the various forms of knowledge are distinguishable in these ways it must not be assumed that all there is to them can be made clear and explicit by these means. All knowledge involves the use of symbols and the making of judgments in ways that cannot be expressed in words and can only be learnt in a tradition. The art of scientific investigation and the development of appropriate experimental tests, the forming of an historical explanation and the assessment of its truth, the appreciation of a poem: all of these activities are high arts that are not in themselves communicable simply by words. Acquiring knowledge of any form is therefore to a greater or less extent something that cannot be done simply by solitary study of the symbolic expressions of knowledge, it must be learnt from a master on the job. No doubt it is because the forms require particular training of this kind in distinct worlds of discourse, because they necessitate the development of high critical standards according to

complex criteria, because they involve our coming to look at experience in particular ways, that we refer to them as disciplines. They are indeed disciplines that form the mind.

Yet the dividing lines that can be drawn between different disciplines by means of the four suggested distinguishing marks are neither clear enough nor sufficient for demarcating the whole world of modern knowledge as we know it. The central feature to which they point is that the major forms of knowledge, or disciplines, can each be distinguished by their dependence on some particular kind of test against experience for their distinctive expressions. On this ground alone however certain broad divisions are apparent. The sciences depend crucially on empirical experimental and observational tests, mathematics depends on deductive demonstrations from certain sets of axioms. Similarly moral knowledge and the arts involve distinct forms of critical tests though in these cases both what the tests are and the ways in which they are applied are only partially stutable. (Some would in fact dispute the status of the arts as forms of knowledge for this very reason.) Because of their particular logical features it seems to me necessary to distinguish also as separate disciplines both historical and religious knowledge, and there is perhaps an equally good case, because of the nature of their empirical concepts, for regarding the human sciences separately from the physical sciences. But within these areas further distinctions must be made. These are usually the result of the grouping of knowledge round a number of related concepts, or round particular skills or techniques. The various sciences and the various arts can be demarcated within the larger units of which they are in varying degrees representative in their structure, by these means.

But three other important classifications of knowledge must in addition be recognised. First there are those organisations which are not themselves disciplines or subdivisions of any discipline. They are formed by building together round specific objects, or phenomena, or practical pursuits, knowledge that is characteristically rooted elsewhere in more than one discipline. It is not just that these organisations make use of several forms of knowledge, for after all the sciences use mathematics, the arts use historical knowledge and so on. Many of the disciplines borrow from each other. But these organisations are not concerned, as the disciplines are, to validate any one logically distinct form of expression. They are not concerned with developing a particular structuring of experience. They

are held together simply by their subject matter, drawing on all forms of knowledge that can contribute to them. Geography, as the study of man in relation to his environment, is an example of a theoretical study of this kind, engineering an example of a practical nature. I see no reason why such organisations of knowledge, which I shall refer to as 'fields', should not be endlessly constructed according to particular theoretical or practical interests. Secondly, whilst moral knowledge is a distinct form, concerned with answering questions as to what ought to be done in practical affairs, no specialised subdivisions of this have been developed. In practical affairs, moral questions, because of their character, naturally arise alongside questions of fact and technique, so that there have been formed 'fields' of practical knowledge that include distinct moral elements within them, rather than the subdivisions of a particular discipline. Political, legal and educational theory are perhaps the clearest examples of fields where moral knowledge of a developed kind is to be found. Thirdly, there are certain second order forms of knowledge which are dependent for their existence on the other primary areas. On the one hand there are the essentially scientific studies of language and symbolism as in grammar and philology. On the other hand there are the logical and philosophical studies of meaning and justification. These would seem to constitute a distinct discipline by virtue of their particular concepts and criteria of judgment.

In summary, then, it is suggested that the forms of knowledge as we have them can be classified as follows:

(I) Distinct disciplines or forms of knowledge (subdivisible): mathematics, physical sciences, human sciences, history, religion, literature and the fine arts, philosophy.

(II) Fields of knowledge: theoretical, practical (these may or may not include elements of moral knowledge).

It is the distinct disciplines that basically constitute the range of unique ways we have of understanding experience if to these is added the category of moral knowledge.

THE PLANNING AND PRACTICAL CONDUCT
OF LIBERAL EDUCATION

Turning now to the bearing of this discussion on the planning and conduct of a liberal education, certain very general comments about its characteristic features can be made though detailed treatment

would involve psychological and other considerations that are quite beyond the scope of this paper.

In the first place, as liberal education is concerned with the comprehensive development of the mind in acquiring knowledge, it is aimed at achieving an understanding of experience in many different ways. This means the acquisition by critical training and discipline not only of facts but also of complex conceptual schemes and of the arts and techniques of different types of reasoning and judgment. Syllabuses and curricula cannot therefore be constructed simply in terms of information and isolated skills. They must be constructed so as to introduce pupils as far as possible into the interrelated aspects of each of the basic forms of knowledge, each of the several disciplines. And they must be constructed to cover at least in some measure the range of knowledge as a whole.

In a programme of liberal education that is based directly on the study of the specific disciplines, examples of each of the different areas must of course be chosen. Selection of this kind is not however simply an inevitable practical consequence of the vast growth of knowledge. It is equally in keeping with what a liberal education is aiming at. Though its aim is comprehensive it is not after the acquisition of encyclopaedic information. Nor is it after the specialist knowledge of the person fully trained in all the particular details of a branch of knowledge. Such a specialist can not only accurately employ the concepts, logic and criteria of a domain but also knows the skills and techniques involved in the pursuit of knowledge quite beyond the immediate areas of common human experience. Nor is liberal education concerned with the technician's knowledge of the detailed application of the disciplines in practical and theoretical fields. What is being sought is, first, sufficient immersion in the concepts, logic and criteria of the discipline for a person to come to know the distinctive way in which it 'works' by pursuing these in particular cases; and then sufficient generalisation of these over the whole range of the discipline so that his experience begins to be widely structured in this distinctive manner. It is this coming to look at things in a certain way that is being aimed at, not the ability to work out in minute particulars all the details that can in fact be discerned. It is the ability to recognise empirical assertions or aesthetic judgments for what they are, and to know the kind of considerations on which their validity will depend, that matters. Beyond this an outline of the major achievements in each area pro-

vides some grasp of the range and scope of experience that has thus become intelligible. Perhaps this kind of understanding is in fact most readily distinguishable in the literary arts as critical appreciation in contrast to the achievement of the creative writer or the literary hack. But the distinction is surely applicable to other forms of knowledge as well.

This is not to assert that 'critical appreciation' in any form of knowledge can be adequately achieved without some development of the understanding of the specialist or technician. Nor is it to imply that this understanding in the sciences, the arts or moral issues can be had without participation in many relevant creative and practical pursuits. The extent to which this is true will vary from discipline to discipline and is in fact in need of much investigation, particularly because of its importance for moral and aesthetic education. But it is to say that the aim of the study of a discipline in liberal education is not that of its study in a specialist or technical course. The first is concerned with developing a person's ways of understanding experience, the others are concerned with mastering the details of knowledge, how it is established, and the use of it in other enterprises, particularly those of a practical nature. It is of course perfectly possible for a course in physics, for example, to be devoted to a double purpose if it is deliberately so designed. It may provide both a specialist knowledge of the subject and at the same time a genuine introduction to the form of scientific knowledge. But the two purposes are quite distinct and there is no reason to suppose that by aiming at one the other can automatically be achieved as well. Yet it would seem to be true that some specialist study within a discipline, if it is at all typical of the discipline, is necessary to understanding the form of knowledge in any developed sense. The study of a discipline as part of liberal education, however, contributes practically nothing directly to any specialist study of it, though it does serve to put the specialism into a much wider context.

A liberal education approached directly in terms of the disciplines will thus be composed of the study of at least paradigm examples of all the various forms of knowledge. This study will be sufficiently detailed and sustained to give genuine insight so that pupils come to think in these terms, using the concepts, logic and criteria accurately in the different domains. It will then include generalisation of the particular examples used so as to show the range of understanding in the various forms. It will also include some indication of

the relations between the forms where these overlap and their significance in the major fields of knowledge, particularly the practical fields, that have been developed. This is particularly important for moral education, as moral questions can frequently be solved only by calling on the widest possible range of human understanding. As there is in fact no developed discipline of moral knowledge, education in moral understanding must necessarily be approached in a rather different way. For if it is to cover more than everyday personal matters this has to be by the study of issues that occur in certain particular fields of knowledge. The major difficulty this presents will be referred to briefly later. The important point here is that though moral understanding has to be pursued in contexts where it is not the only dominant interest, the aim of its pursuit is precisely the same as for all other elements in a liberal education, the understanding of experience in a unique way. What is wanted (just as in the study of the disciplines *per se*) is, basically, the use of the appropriate concepts, logic, and criteria, and the appreciation of the range of understanding in this form.

It is perhaps important to stress the fact that this education will be one in the forms of knowledge themselves and not merely a self-conscious philosophical treatment of their characteristics. Scientific and historical knowledge are wanted, not knowledge of the philosophy of science and the philosophy of history as substitutes. A liberal education can only be planned if distinctions in the forms of knowledge are clearly understood, and that is a philosophical matter. But the education itself is only partly in philosophy, and that is only possible when pupils have some grasp of the other disciplines themselves.

Precisely what sections of the various disciplines are best suited to the aims of liberal education cannot be gone into here. It is apparent that on philosophical grounds alone some branches of the sciences, for instance, would seem to be much more satisfactory as paradigms of scientific thinking than others. Many sections of physics are probably more comprehensive and clear in logical character, more typical of the well developed physical sciences than, say, botany. If so, they would, all other things being equal, serve better as an introduction to scientific knowledge. Perhaps in literature and the fine arts the paradigm principle is less easy to apply though probably many would favour a course in literature to any one other. But whatever the discipline, in practice all other things are not in

fact equal and decisions about the content of courses cannot be taken without careful regard to the abilities and interests of the students for whom they are designed.

Yet hovering round such decisions and questions of syllabus planning there is frequently found the belief that the inherent logical structure of a discipline, or a branch of a discipline necessarily determines exactly what and exactly how the subject is to be taught and learnt. The small amount of truth and the large amount of error in this belief can only be distinguished by clarifying what the logic of a subject is. It is not a series of intellectual steps that must be climbed in strict order. It is not a specific psychological channel along which the mind must travel if there is to be understanding. This is to confuse logical characteristics with psychological processes. The logic of a form of knowledge shows the meaningful and valid ways in which its terms and criteria are used. It constitutes the publicly accepted framework of knowledge. The psychological activities of the individual when concerned with this knowledge are not in general prescribed in any temporal order and the mind, as it were, plays freely within and around the framework. It is simply that the framework lays down the general formal relations of the concepts if there is to be knowledge. The logic as publicly expressed consists of the general and formal principles to which the terms must conform in knowledge. (Coming to understand a form of knowledge involves coming to think in relations that satisfy the public criteria.) How the mind plays round and within these is not itself being laid down at all, there is no dragooning of psychological processes, only a marking out of the territory in which the mind can wander more or less at will. Indeed understanding a form of knowledge is far more like coming to know a country than climbing a ladder. Some places in a territory may only be get-at-able by a single specified route and some forms of knowledge may have concepts and relations that cannot be understood without first understanding certain others. But that countries are explorable only in one way is in general false, and even in mathematics, the most strictly sequential form of knowledge we have, many ways of coming to know the territory are possible. The logic of a subject is relevant to what is being taught, for its patterns must be accepted as essential to the form of knowledge. But how those patterns are best discerned is a matter for empirical investigation.

School subjects in the disciplines as we at present have them are

in no way sacrosanct on either logical or psychological grounds. They are necessarily selections from the forms of knowledge that we have and may or may not be good as introductions for the purposes of liberal education. In most cases they have developed under a number of diverse influences. The historical growth of the subjects has sometimes dominated the programmes. The usefulness of certain elements, the demands of higher specialist education, certain general 'psychological' principles such as progressing from the simple to the complex, from the particular to the general, the concrete to the abstract, all these factors and many others have left their marks. This being so, many well established courses need to be critically re-examined both philosophically and psychologically before they can be accepted as suitable for liberal education. Superficially at least most of them would seem to be quite inappropriate for this purpose.

Though a liberal education is most usually approached directly in the study of various branches of the disciplines, I see no reason to think that this must necessarily be so. It is surely possible to construct programmes that are in the first place organised round certain fields of knowledge either theoretical or practical. The study of aspects of power, natural as well as social and political, might for instance be one element in such a scheme: or a regional study that introduces historical, geographical, industrial and social considerations: or a practical project of design and building involving the sciences, mathematics and visual arts. In this case, however, it must be recognised that the fields are chosen because together they can be used to develop understanding of all the various forms of knowledge, and explicit steps must be taken to see that this end is achieved. There will necessarily be the strongest tendency for liberal education to be lost sight of and for the fields to be pursued in their own right developing the techniques and skills which they need. These may be valuable and useful in many ways, and perhaps essential in many a person's whole education. (Certainly liberal education as is here being understood is only one part of the education a person ought to have, for it omits quite deliberately for instance specialist education, physical education and character training.) But a course in various fields of knowledge will not in fact be a liberal education unless that aim is kept absolutely clear and every opportunity is taken to lead to a fuller grasp of the disciplines. Again some fields of study will be better for this purpose than others but

all will demand the highest skill from the teacher, who must be under no misapprehension as to what the object of the exercise really is. Yet it is difficult to see how this kind of approach can be fully adequate if it does not in the end lead to a certain amount of study of the distinct disciplines themselves. For whatever ground may have been covered indirectly, a satisfactory understanding of the characteristically distinct approaches of the different forms is hardly possible without some direct gathering together of the elements of the disciplines that have been implicit in all that has been done.

Whatever the pattern of a liberal education in its later stages, it must not be forgotten that there is being presupposed a broad basic education in the common area of everyday knowledge where the various disciplines can be seen in embryo and from which they branch out as distinct units. In such a basic primary education, the ever growing range of a child's experience and the increasing use of linguistic and symbolic forms lays the foundation for the various modes of understanding, scientific, historical, religious, moral, and so on. Out of this general pool of knowledge the disciplines have slowly become ever more differentiated and it is this that the student must come to understand, not confusing the forms of knowledge but appreciating them for what they are in themselves, and recognising their necessary limitations.

But is then the outcome of a liberal education to be simply the achievement of a series of discreet ways of understanding experience? In a very real sense yes, but in another sense not entirely. For one thing, we have as yet not begun to understand the complex interrelations of the different forms of knowledge themselves, for they do not only have unique features but common features too, and in addition one discipline often makes extensive use of the achievements of another. But we must also not forget that the various forms are firmly rooted in that common world of persons and things which we all share, and into this they take back in subtle as well as simple ways the understanding they have achieved. The outcome of a liberal education must therefore not be thought of as producing ever greater disintegration of the mind but rather the growth of ever clearer and finer distinctions in our experience. If the result is not some quasi-aesthetic unity of the mind neither is it in any sense chaos. Perhaps the most suggestive picture of the outcome is that used by Professor Michael Oakeshott, though for him

it has more literal truth than is here intended. In this the various forms of knowledge are seen as voices in a conversation, a conversation to which they each contribute in a distinctive way. If taken figuratively, his words express more succinctly than mine can precisely what it seems to me a liberal education is and what its outcome will be.

'As civilized human beings, we are the inheritors, neither of an inquiry about ourselves and the world, nor of an accumulating body of information, but of a conversation, begun in the primeval forests and extended (and made more articulate in the course of centuries. It is a conversation which goes on both in public and within each of ourselves. Of course there is argument and inquiry and information, but wherever these are profitable they are to be recognized as passages in this conversation, and perhaps they are not the most captivating of the passages. . . . Conversation is not an enterprise designed to yield an extrinsic profit, a contest where a winner gets a prize, nor is it an activity of exegesis; it is an unrehearsed intellectual adventure. . . . Education, properly speaking, is an initiation into the skill and partnership of this conversation in which we learn to recognize the voices, to distinguish the proper occasions of utterance, and in which we acquire the intellectual and moral habits appropriate to conversation. And it is this conversation which, in the end, gives place and character to every human activity and utterance'.⁸

CONCEPTIONS OF TEACHING

NOTES

1. *General Education in a Free Society*: Report of the Harvard Committee (London: Oxford University Press, 1946).
2. *Ibid.*, p. 58.
3. *Ibid.*, pp. 64-65.
4. *Ibid.*, pp. 65-73.
5. *Ibid.*, p. 67.
6. Precisely the same criticisms might be made of some remarks by Professor P. H. Nowell-Smith in his inaugural lecture, *Education in a University* (Leicester University Press, 1958), pp. 6-11. In these he suggests that the prime purpose of the study of literature, history and philosophy is that each develops one of the central powers of the mind—creative imagination, practical wisdom, and logical thought. Once more we are up against the question of the definition of these 'powers' and if that problem can be solved, the question of sheer evidence for them and the way they can be developed.
7. *Arts and Science Sides in the Sixth Form*: Gulbenkian Foundation Report (Oxford University Department of Education, 1960), p. 15.
8. Michael Oakeshott, *Rationalism in Politics and Other Essays* (London: Methuen, 1962), pp. 198-199.