

THE DAUGHTERS OF MEMORY

An essay on the nature, function and guiding principles of
education in the liberal arts and sciences.

Boerhave utilior Hippocrate,
Newton tota antiquitate
. Sed gloria primis

(Voltaire, Journal entry made around 1750)

In the first book of Plato's Laws there occurs the
following short myth about the human condition:

We may regard each of us living things as a puppet of divine powers, put together by them either as a plaything or for some serious purpose. For certainly we do not know what their purpose is, but this we do know, that these passions in us [fear, confidence, rational decision] are like cords or strings in us which being opposed pull us in different directions towards opposite actions; and therein lies the difference between virtue and vice. For in fact, our present argument says that we should always be controlled by one of the drawstrings, never letting go of it, but pulling against each of the others: and this drawstring is the guidance of reasoning; the sacred golden string which we have called the common law of the city. The other strings are iron-hard, but this one being made of gold is soft, whereas they are like substances of the most various kinds. So anyone ought always to pull together with the noble guideline of the law; for since reason is noble and gentle rather than violent, its guiding needs supporters in order that the golden stuff in us may vanquish the other kinds. And in this way the story about our being puppets would have been told to good purpose and what "being master of oneself" or "slave of oneself" means would become clear up to a point; it would be clear that both the city and the individual ought to comprehend for themselves the true account and the right ratio of these tensions and live in obedience to it, and that the city, having received this true account and right ratio either from some god or from the man who knows it, ought to make it into

law both for internal and for foreign affairs. Then too, we should be able to trace the anatomy of both vice and virtue more accurately; and when they are made plainer perhaps education and the other institutions of society will show up more clearly ... (Laws 644d - 645c).

If we seek from this parable the enlightenment that Plato expected us to derive from it we may well find that the differences between our city and his, radical and far reaching as they are, are rather less important than we thought at first. Every social group, human or animal, has something at least distantly analogous to an education system, and in human groups generally, several quite distinct though interrelated functions or levels of the system can be distinguished. There are many problems about the ultimate purpose of human life that do not appear to be resolvable by purely rational means, but the conditions and requirements of a harmonious social life seem to me to be objectively determinable, and to be more or less invariant, regardless of our public or private views about ultimate aims.¹ For these two reasons I think that the only approach to educational planning that holds out any hope of securing rational agreement is through the analysis of the institutional context in which education occurs and not through arguments about what is right or good from the point of view of the individuals who are engaged in teaching and learning. Whatever insights a person may believe (s)he has acquired as a result of his/her educational experience, there is no way, save the analysis of institutions, in which (s)he can either

test their general validity for her/himself or communicate it to others.

Primitively the educational process is the way in which the pattern of life or activity that is required for the maintenance of the group is habitually established in, or in some other way imprinted upon, the behaviour of individuals. This established pattern is what entitles us to speak of the group as a "community" and of the individuals as "members."² The crucial instrument for this purpose in human societies is language; and although much habituation of a systematic (and even deliberate) kind often precedes the child's working mastery of his mother tongue, it ought not to be counted as education in the human sense any more than the training of pets and domestic animals. None of this takes place at the human level of communication; the patient subjected to it cannot tell us what (s)he feels about it, and so, in the terms of Plato's myth, we do not know which string (s)he is pulled by, whether (s)he is responding to, and pulling along with, the drawstring of reason or not.

Natural justice, or the "drawstring of reason" itself, appears to me to require that if someone with whom we can communicate misbehaves, we should not merely restrain him or her, but also endeavour to explain why we are restraining her/him. This use of persuasion in the service of the "common law of the city" is the primitive function of the education system. It should not concern the University at

all, and in normal circumstances it does not. It belongs essentially to the home, to the primary school, and to the face-to-face society of each individual.

There is another function that the educational system of a society must have, and which affects the University, however. This is the selection and training of particular individuals for special tasks in the community. We know that there have been highly developed societies in which the selection of personnel for the different jobs and crafts involved in the maintenance of the community was not regarded as a problem for the employment of reason at all; it was already settled by the natural bonds of kinship in which the puppets were placed by the higher powers. I cannot pause here to argue this point; and I am not sure that it is really open to argument.³ Luckily I do not need to argue it since the law of our city, at least, presupposes that the problem ought to be rationally settled and that rational settlement involves freedom for experiment.

Free experiment is the essence of education at the human level. The community that is founded on a publicly established agreement (Plato's "law of the city") requires that all parties should understand and take account of one another's reactions, attitudes and feelings. It is only on this basis, of an assured conviction that one's private consciousness is understood and respected -- a conviction that is continually open to reverification by experimental

tests -- that the public agreement can become for all parties something more important and fundamental than their own private feelings. The public agreement is more important only because it is shared, and by being shared, by being public, it provides a secure channel of communication about everything that is not, or perhaps may not be, "shared" -- i.e. rightly understood by others to whom it is, or ought to be, a matter of concern.

Experiment is thus the essence of education, because it is the establishing of free communication. Free communication is what education is, simpliciter; and wherever effective communication is going on, or effective communication systems are being established, education is taking place.⁴ Education in a more technical sense, the "education system," is the system of social institutions by which effective communication systems are either established or extended. The first such system, the one that we all share, and the one upon which all the others are ultimately parasitic, is the natural language system. The most basic "law of the city" is the enormously complex system of conscious or half-conscious conventions and unconscious habits that we master or build up when we learn the language; and respect for this system, the conscientious desire to subject oneself to it and not to violate it, is the end of the "drawstring of reason" that we must at all costs hang onto.⁵

To say that formal education is identical with the establishing or extending of effective systems for free communication may well seem in itself to be a violation of the established norms and usages of language. For I have already admitted that one essential task of the education system is the selection and training of individuals for different social tasks; and surely this training involves not just the establishment of a communication system, but the transmission of information. This seems to be what the system is for, and it is this therefore, rather than the establishment of the system which ought to be called "education"; and at the higher level, towards which a quick-witted and sympathetic critic may perhaps have perceived the argument to be moving, it is the discovery of the truth that is the end of the process of inquiry. The establishment of the communication system is only the means.

There is no doubt that my insistence upon regarding the system as the end imposes a strain on language because it conflicts with our normal assumptions. In my own terms I am attempting to extend the existing communication system, because I think that it needs extending if we are to see the process of education in its proper perspective as a social institution. In the ordinary way we assume that the world is there waiting for us to discover it, that each of us makes the discovery independently, and that in her/his private discovery (or at least in some aspects of it, which philosophical specialists can single out for us) (s)he has a

criterion of certainty which is the foundation of public truth and the yardstick of effective communication. My assumption is, rather, that the experience of effective communication, and of public agreements freely entered into, provides the only reliable yardstick for distinguishing the true from the false, reality from illusion. Thus I am far from wishing to deny that information is conveyed in the process of establishing effective communication: that is what is meant by calling it "effective." But I do want to assert that it is only through the process that the information gets the status of being true information or "knowledge" at all. Thus the customary distinction between end and means in the educational process is, in my view, a mistake.

It is not necessary for present purposes, however, that I should convince anyone of this. To anyone who is doubtful, or wishes to suspend judgement, I can simply apologize for the strain I have imposed on the term "education," and say that it is not the nature of education as such, but rather the meaning of the qualifying adjective "liberal" that is my proper concern. By thus shifting my ground I can be reasonably sure of securing general agreement, since the claim that it is the character of the process, not the informational content, that makes education "liberal" does not seem to me to put any strain on our normal assumptions and habits of thought.

On my view, however, the expression "liberal education" is pleonastic, since everything that can properly be described as education has a liberating tendency, i.e. it must widen one's conceptual horizons, or increase the range of one's effective choices, and in general enlarge the community of which one is a member. The reason I have chosen to focus on this point, rather than take the easier path of accepting established usage, is that the established usage embodies assumptions which are in conflict with the structure of the industrial society that has come into existence as a result of the scientific revolution. As a result the traditional ideal of liberal education is a danger to freedom itself, and those most enthusiastically devoted to "the humanities" are the unwitting but extremely potent enemies and destroyers of humanitas.

Traditionally, "liberal" education has been opposed to "vocational" education. The education suitable for a "free" man, the education that is "liberal," is supposed to aim at nothing save the active enjoyment and contemplation of his own humanity. The only object of the free man is to be free, and to enjoy his freedom. This ideal presupposes the social possibility of such freedom; and it was Plato, the great architect of the ideal, who saw that its social possibility can only be guaranteed by the acceptance of responsibility for the governance of society. Thus "liberal" education was recognized from the first as the proper concern of the "ruling classes." In the early modern

period, when the humanist ideal that still dominates much of our thinking and planning for general education was clearly formulated, the ruling classes were clearly distinguishable from their subjects by virtue of the fact that they were literate not only in the vernacular but in Latin. The knowledge of Latin gave them access to a communication system that was shared by rulers everywhere, and thus made them members of the "republic of the learned"; and at the same time it gave access to the literae humaniores, that storehouse of memory where they could find all of the knowledge that was thought to be essential for the successful performance of the function of government.

The irrelevance of this ideal to our existing society is clearly evidenced by the low estate into which "the more humane letters" have fallen. How many students are there now who know who the daughters of memory were, or how many of them there were, or who their father was?⁶ It never was a sound or properly human ideal in the first place. The man who brought it to full consciousness and clear expression, Plato, did not live in a society to which it was applicable, and I do not believe that anyone living in a society where it seemed to be applicable could actually have formulated it clearly as Plato did.

Plato's ideal is not liberal or humane because it assumes that the fundamental human capacity of rational communication can be made into a science which is the special

province of a professional class having the customary right to control and limit its own membership. This assumption is in conflict with the nature of rational communication itself; but at least Plato's ideal is sound in that he has rightly identified membership in a community of rational inquirers as the condition of effective human freedom. No one was further from the true lesson of Plato than the humanist Petrarch when he writes of the interest of the Schools in natural history: "And even if these doctrines about animals were true, they would not contribute anything whatsoever to the blessed life."⁷ In the Christianized Platonism of our educational tradition the aristocratic intellectual prejudice of Plato is further compounded by a slavish anti-intellectual prejudice that creates a gulf between man and nature. This second prejudice is even more disastrous than the first because it is far more deeprooted in our educational system, and because, being non-rational in origin, it is not so easily removed or healed by the maturing of reason in society.

Since 1600 the organized community of scientific investigators has come to have an influence in society at least as great as any influence Plato supposed that human reason ever could have. But because this influence was brought to bear in the general context of an ethics of individual acquisitiveness and competition which Plato abominated -- and perhaps also for reasons inherent in scientific inquiry itself -- we have largely avoided the Platonic error of

polarizing society into the planners and the doers, the thinkers and the craftsmen. In fact we have destroyed the older agricultural society from which this ideal was derived.

Only in our educational system does a flickering shadow of the social distinction between nobles and serfs, gentlemen and labourers, freemen and craftsmen, survive. For three or four years of higher education we ask as many of our young men and maidens as we can find places for to live in a Greek myth; to pursue an ideal of active leisure that is unrelated to their lives before or afterwards; and many of us, devotees of "the humanities" who have managed to create for ourselves the illusion of a permanent abiding place in the Elysian fields, bewail in tones of grief mingled with indignation the fact that the sense of reality is too strong in most of our pupils to allow them to share our illusions.

Every child in our society becomes accustomed from an early age to being faced with the question "What are you going to be?" It is typically this question that makes him/her aware of her/himself as a free agent capable of exercising a deliberate and responsible control over his/her own life and destiny. The frustration of her/his efforts to exercise the faculty of free choice teaches him/her how far our society is from the achievement of the ideal of equality of opportunity which is implicit in the question; and the

disappointment of her/his hopes when (s)he does succeed in making a choice teaches him/her how far (s)he is from possessing that understanding both of her/himself and of the world, which is the necessary condition of a rational choice -- i.e. a choice which will not suffer, or will at least minimize the risk of, frustration or disappointment. These facts of life are familiar to children either through experience or through observation from an early age, and insofar as their "education" deserves the name, i.e. insofar as they freely accept it and actively collaborate in it, it is because they recognize in it the means by which they will be enabled both to do what they wish, and to get what they want. A liberal education for our society is only possible as the actual resolution of the vocational problem of every citizen.

Some individuals, perhaps a great many, manage to solve their vocational problem without much difficulty or conscious discomfort, often indeed without any conscious intellectual effort. Save for the operation of that "divine chance" upon which Plato relies to produce a philosopher even in democratic Athens, such individuals are beyond the reach of liberal education altogether. Many academics, busily improving the shining hours of their leisure and bewailing the crass utilitarianism of their students, seem to belong in this category. They fell in love with the life of contemplation or research the first time they caught a glimpse of it and they think that it ought to be valued for

its own sake and not for the service that it performs for the city -- a service of whose very existence they show themselves all too often to be woefully ignorant. It is only the experience or the sympathetic observation of frustration and disappointment that makes us aware of the need to be guardians as well as craftsmen.

The real task of the University (i.e. of the whole complex of higher schools and institutes) in society, the social function of a community of scholars devoted to the accumulation and preservation of theoretical knowledge, is this: to create a system of communication so nearly all-embracing as to provide individuals with the experience and information that will save them from false expectations and consequent disappointment, and to provide society with the means to continually restructure itself in such a way as to eliminate the frustration of legitimate expectations. The community of investigators cannot, as Plato thought, create a system of control. They can only create a system in which experience is freely shared so that the control both of society and of its individual members by reason is made effectively possible.

It is not now difficult to see, in principle, how the education system must go about its task of aiding the individual student to solve his/her own problem. Everyone has her/his own vocation and over it presides a Muse peculiar to him/ her. We must make the child's question

"What are you going to be?" the central focus of our concern; the curriculum (at all levels) must be flexible enough to be visibly adjustable in the light of different answers (even answers that are only slightly different) and to different types of perplexity and tentativeness in the answers. This much is obvious and almost empty; to give it some teeth or some content we should add that the school system must put far more time and effort into the counselling and advising of each individual student than before. Every relaxation in the rigidity of any curriculum, every point at which academic planners cease to act like philosopher-kings issuing commands, involves the acceptance of responsibility for aiding in a multitude of individual decisions; and the conscientious discharge of this responsibility involves a continuing concern with whether the best decisions are in fact being made. Thus the education system must pay far more attention than it has done hitherto (except from economic motives) to the subsequent careers of its graduates. Research into such questions as where the graduates of a particular curriculum go, how far they are successful, and how far they are satisfied or dissatisfied with their lot, and with the contribution that their formal education made to it, is one of the most basic, and most widely neglected, essentials of intelligent curriculum planning.

In order for the University and the education system generally to fulfil its function in relation to society as a

whole, a far more radical transformation of existing habits and thought patterns is essential. To correct Plato's original mistake and to make education a liberating force for all members of society is not difficult: if everyone finds in the education system the means of solving the problem which the Guardians no longer presume to solve for him or her, the relevance of her/his education will be apparent to him or her, and all that can be done to generate in him/her by outside agency the disposition to become educated will have been done. But if we suppose for a moment that (s)he is now aroused to an awareness of his/her intellectual responsibilities as a citizen, then if (s)he begins actively to seek an understanding of the forces that the city has to contend with and the forces that it has at its disposal, and if (s)he wants to estimate the consequences of a proposed social policy, it is virtually certain that (s)he cannot do it. For like the Greeks of Plato's time (s)he is either one of the majority who has received his/her schooling from the poets and sophists or one of the minority who has studied under the natural philosophers. The science that (s)he needs (which certainly cannot be safely identified with anything presently called "political science") does not exist because the communication system required for its production has not yet been created, and is hardly even recognized to be necessary. Even if it did exist (s)he would not have ready access to it, for the "humanities" and the "sciences" are as far apart for him/her as they were for Petrarch on

one side or Descartes on the other. The idea that "mathematics" leads to "dialectic," as Plato would have said, is one that (s)he may still be able to grasp, but it is not easy for him/her to put it to use.

This problem of what C.P. Snow miscalled the "two cultures" (they are not two, they are only the symptoms of imminent breakdown in one) is only the most obvious, because most deeprooted, failure of our educational system to perform its proper function in a political democracy. There is not much to be done about remedying it immediately at the school and college level, and I am myself too much a victim of it to be properly competent to decide how it can best be overcome. But certain things seem to me to be fairly obvious, such as, for instance, that students must go on from the high schools with at least a grasp of the fundamentals of calculus, with an understanding of the molecular basis of chemistry, and with some knowledge of evolutionary genetics. In general they should not leave the secondary schools with the decision between "the arts" and "the sciences" already made because this is not only a false dichotomy that leaves all of the "social sciences" in limbo, but a very dangerous one. It is also apparent that there are certain pressures, arising from the transformation of the vocational structure of society itself that has resulted from technological advance and particularly from the advent of automation, which are leading to changes of the school curriculum in the appropriate directions; and that the Universities and

technical colleges can mould and influence these changes by appropriate modifications of their admission requirements.⁸

Let us leave that deeper problem aside, since there are many weaknesses of the same general type in our present republic of scholars which are just as urgently in need of remedy, and at the same time much easier to cure. If we look for a moment at the higher levels of graduate and post-graduate research we discover everywhere the same pattern of new enterprises that cut across or ignore the old borderlines. Virtually everyone who goes into the "borderline areas" discovers that his/her prior training is not ideal for what (s)he wants to do; (s)he may also come to the view that there is no one ideal approach to research in her/his area of interest, that a combination of approaches from different backgrounds of knowledge and experience is the ideal to be sought. But in any case (s)he is likely to feel that all of the customary paths on the educational map around that area need to be replanned. Once the terrain is reexamined in the light of the needs of all who want to use the roads on it, some old established roads are seen to be circuitous or needlessly arduous, and so on.

It is from this point of view that the part which the undergraduate school has to play in the fulfilment of the political function of the education system (i.e. the activity whereby the city itself becomes enlightened and free) must be estimated. Every curriculum needs to be

evaluated by two yardsticks: first in terms of what it does to fit those who pass through it for the life that they actually want to lead, and secondly in terms of what it enables them and fits them to do in the way of further education, teaching and research. When this is done the departmental organization of higher education will begin to break down (or if it does not break it will bend; it will have to reveal a capacity for life and growth, which it generally appears to have lost). It will be replaced by a more tree-like structure in which there are trunk lines and branches (but since the branches are likely to grow from more than one place on the trunk and to serve as trunk lines for other branches that do the same it will not closely resemble anything in the vegetable kingdom that I can think of, except perhaps the banyan tree).

For the establishment of an educational curriculum of this sort the primary essential is the consolidation of the high-school and collegiate curriculum in such a way that, as far as possible, all advanced courses can grow from one main trunk, and all who enter upon the courses should -- as far as possible -- be still in or on that main trunk line. There must obviously be some allowance for individuals who reveal a strong and definite bent very early in their career, so it is not easy to say what the Universities and technical colleges must absolutely require as a condition of entrance. But in principle the answer is simple. The requirements for entry to junior membership in the community

of scholarly inquiry are whatever is essential to the maintenance of the community as a unified system. The reason why we cannot say what those requirements are is that we have never stopped to consider the question, and for most of us the fragmented character of our own education has made it a difficult and painful question.

This is the question we must answer, however, if we wish to preserve liberal education at all. The political and social structure of our society has made us ready enough to recognize that every free person is the follower of his or her own Muse. But when the diversification of skills in our society leads us to begin talking of the "multiversity" as if it was something different from the "university," we have forgotten that there are after all nine Muses and that they are properly represented in a ring dance round their leader Apollo, the god of light. The new emphasis on the many-sidedness of the University as a social institution signalizes, I believe, an enormous step forward, a crucial development in self-understanding on the part of the intelligentsia: it means that we recognize that the guiding function of the intelligence, the authority which Plato thought of as belonging to reason, cannot be separated from its technical function. We recognize at last that there is not and cannot be a separation of the Guardians from the craftsmen, that we in the academic and cultural circles of society are just as much craftsmen as everybody else. But if the result of this advance is that we create a society of

technical experts who cannot understand one another, then government will become a war of all against all on the part of technical experts (including especially those sinister experts whose skill lies in generating false hopes and mistaken fears). For this to happen at a time when the city has become so powerful and so complex, at a time when we could almost involve Plato's "city in the heavens" in our own downfall -- and when our own downfall would be correspondingly absolute -- is an even more uncomfortable prospect than the "agonizing reappraisal" of our own credentials as members of a unified community of scholars. It is the function of liberal education generally to prevent government from degenerating into a war of all against all, and it is the function of higher education specifically (in all faculties, not simply in that extremely artificial entity, the Faculty of Arts and Science) to create and maintain the system of communication that makes the University an effective community of investigators. We are all of us the servants of Apollo and of Memory and we shall ever have cause to rue the day that we forget it.

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Notes

1. Of course, if it is publicly or privately held that different groups of men (e.g. racial groups) were created for different purposes, this will not hold. But in that case also, harmonious social existence will be impossible without general voluntary agreement on this particular "common teaching of the city." So even in that case the educational ideal suggested by Plato and developed herein seems to be the only one that is methodologically effective.

2. At the lowest level the process can apparently be quite random and spontaneous. The way in which the "excitement" of hyper-active ants is focussed appears to be random, and the way in which it is communicated to more normal ants in their vicinity may be almost wholly mechanical. We can hardly speak of teaching and learning here, though the imitative pattern is not wholly explicable in terms of chemical reactions. The "language of the bees" is a much more complex system for the communication of behaviour; and when we come to the studies of animal groups we feel few, if any, qualms about speaking of individual members as "learning their place" in the system (e.g. the pecking order). (My comments about ants are based on Derek Wragge-Morley: The Evolution of an Insect Society, London: Allen and Unwin, 1954.)

3. In the final analysis, the point depends on the admission that there is a valid distinction between human education and sub-human training or discipline. Human education involves free communication, and hence involves an implicit admission of community of status which is inconsistent with the acceptance of different statuses as ultimately given facts of nature. (There may or may not be ultimate facts of nature of this sort -- i.e. differences of natural endowment which are unaffected by anything we can do -- but we are never entitled to assume that we know by revelation what they are; and only revelation could give us the assurance of ultimacy. But it is just this critical examination of our "title" to knowledge that is rejected by the claim to revelation, so no genuine argument is possible -- there is only a choice of standpoints.
4. By "effective" I mean valid for both parties, or all the parties involved. For practical political purposes a communication system is "effective enough" when there is no reason for anyone involved in it to fear that others may wish to break it down.
5. The child screaming from hurt or frustration who will not even try to say what is the matter, is the primitive criminal; and in so far as it derives from this retreat from reason we cannot rationally suppose that crime could ever be eliminated even in a Utopia. Even if

there were a completely reliable system for "straightening people's thoughts" without the faintest shadow of coercion, it would still remain true that freedom of thought presupposes the privilege of not thinking.

6. Although I managed, rather tardily, to get the education of a gentleman, I find that I cannot myself name all nine of them without reference to Herodotus or to a reference book of some sort.
7. "On his own ignorance and that of many others" in The Renaissance Philosophy of Man (ed. Cassirer et al., Chicago, 1948, p. 58).
8. The arrival in the classroom of the "new mathematics," followed by advent of the "personal computer" is an index of the transformation that is in progress. Even the chronic shortage of mathematics and science teachers in the schools, which has largely contributed to maintain the weaknesses in the curriculum out of which it initially arose, may finally be overcome if the pressures for change are fostered and moulded in the right directions.