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The Nature of a University Education*

My purpose here is to examine certain aspects of higher education. Some of my remarks may apply to our new CEGEPs, or even to high schools, but I am mainly concerned with what goes on in the university, and with things that we have taken for granted but that may militate against our objectives — or what should be our objectives. My hope is to strike a blow for the common man, with respect to that word *education*: to speak for the average students, the ones who make up the great bulk of our constituents rather than the few who will go on to be themselves professors. My thesis is that we as professors mistake for education the attempt to make over all students in our own image, to train all as if they were going to spend their lives in college or university.

Much of what the average student suffers on the university treadmill has nothing to do with education. When a student's record is being reviewed, to decide for example whether something might be conceded in a borderline case, it is customary to be scornful of a mark in the fifties, or a record that includes several failures. But what did the student fail at? What do these percentage marks measure? Are they really indices of educational values, or do our examinations measure something else, quite distinct: the extent to which the student has been forced along a path of technical or *professional* training?

What, for example, is the function of a course in literature? It may have two quite different ones. One function is to develop enjoyment and depth of understanding, to make a man or a woman grow intellectually and emotionally, to foster wisdom. The other is to give him a professional mastery of the texts he deals with and prepare him to give lectures by making sure he knows what Johnson said about Pope, who wrote *Joseph Andrews* and why, where Shakespeare stole his plots, the dates of Hardy's life and how Conrad learned Eng-

lish. On the first function no examination can be set. All our records are based on our attempts to evaluate the second, in examinations that depend largely on memorization and clearly concern a kind of professional knowledge. The mark that results has nothing to do with whether the student sees more deeply into the human mind because of reading *Lear* or *Lord Jim* or *Two Solitudes*. Quiller-Couch has shown us the difficulty, and how we deal with it may decide whether high school and college produce a hatred of good literature or a love of it and consequently a continued habit of learning from it after leaving college. English literature for the English-speaking student, or French literature for the French-speaking student — but really, good literature in any language or in translation — should be at the heart of an education, for it concerns the nature of man and man's essential problems.

And so with science, which in some way or other should also be close to the heart of education in this modern world. One function of a course in botany or chemistry is to begin the training of future botanists and chemists. This is the professional function. What does the course do for the average man, the Arts student who must meet a "science requirement," or for that matter the Science student who is not going to be a scientist but will enter business or industry? What is the *educational* value of such a course? What does it do for the wife and mother? Does it make her a wiser woman, enrich her own life and give her some feeling for the excitement and adventure of scientific thought to hand on to her children? I take botany and chemistry as examples only. They are no better and no worse than any of the other science subjects that are sometimes taught very well in college, but may also be taught so as to have no educational value whatever.

The "science requirement" for the Arts student usually teaches him nothing of the true nature of science, but makes it a pain and a drudgery. The more so when the course includes the dreary laboratory treadmill; just as the effect of the required English course for the science student is to teach, very often, a hatred of good literature, and the effect of a mathematics course to make math feared and detested.

What I am saying is that there are two functions, in high-school, college and university teaching, that are quite different and should be kept distinct in our thought and planning. There is no necessary opposition between technical training and education; both functions may be served in the same course if the teacher is clear in his mind about what he is do-

ing; but it is very easy for one to spoil the other — and the one that gets spoiled is education, every time, for it is the more delicate plant.

Obviously I am not talking about technical schools, inside or outside the University, for dentistry, medicine, law, and engineering can direct themselves single-mindedly to professional training with no nonsense about educating their students; but it is worth mentioning them, to note again that there is no essential incompatibility with education, as shown by a William Osler or an Oliver Wendell Holmes — or, if I may put in a local contemporary plug, as shown by Frank Scott the poet or Wilder Penfield the novelist. I might add that Stephen Leacock shows that even economics need not kill the literary spirit, Carlyle to the contrary notwithstanding. But McGill College, the Faculty of Arts and Science, is supposed to be more an educational institution than a technical training school; and I am saying that in this College in fact, if not in name, we often allow the weeds of technical training to smother the plant with whose growth we are supposed to be primarily concerned.

I do not suggest that technical training should be eliminated from the College; I recognize, even welcome, its presence, for it is the foundation of graduate work and thus essential to the formation of the next generation of teachers; but we must be clear about its relation to education, for otherwise it spreads to take over the whole garden. The reasons for the spread are varied, no doubt, but the main one I think is that it is easier to train in technique than to educate, and far easier to *examine* on knowledge and technical competence than on the growth of mind and personality.

And so we come to examinations: the great blight of the educational enterprise. What is their function? Theoretically, to find out whether the student has got from a course what he should have got and whether he is prepared for a more advanced course in the subject. But how do you examine on an enlargement of vision, a greater tolerance of human error, a better perspective on where man stands today, all of which we might hope would result from a course in history? How do you discover whether a course in psychology has changed attitudes toward others, or communicated that feeling of excitement in scientific thought that I referred to earlier? But one can easily examine the student's knowledge of the technical records of history, or his knowledge of psychological jargon (e.g., what is the relation of "extinction" to "retroactive inhib-

ition"?). When the examination year after year deals only with such technical content, it determines what the student gets out of the course, because that is what he must prepare for. And, in a curiously illogical way, it tends to determine what the lecturer himself puts into his lectures.

Let me describe an experience I had a long time ago when I was principal of an elementary school in Verdun. It was clear that examinations set from outside, in a subject such as English literature in Grade V, were leading the teachers to teach for the examinations (so their students would be promoted) instead of concentrating on making literature enjoyable. It was also clear that literature, history and geography did not really need examinations. They were not subjects in which the material of the Grade V curriculum had to be mastered before the student could understand the material of Grade VI. Arithmetic and French were different; here examinations were appropriate and necessary. So the teachers and I agreed that we would eliminate school examinations in literature, history and geography. We agreed that the purpose in these fields was to foster a love of reading and an imaginative reconstruction of what it was like to live in other parts of the world and other ages: a cultural development that had nothing to do with memorization of place names, dates, annual mean precipitation and who defeated whom in what battle.

And then what did I discover? The teachers individually were devising their own class examinations, largely factual—and teaching the pupils how to answer their own factual questions. Why? It became evident that the teacher was uneasy, worried, anxious, when she had no tangible results to show (to herself). She had a guilty feeling that maybe she wasn't making things tough for the kids. This was a feeling that was shared by at least one mother who came to tell me that her son was enjoying school so she was moving to another school district, because, she said, she sent her son to school to work and be punished and not to enjoy himself.

I suggest that, in part at least, we university instructors also share those feelings, and that an important function of examinations is to assuage feelings of guilt in us and make us feel that what we are doing is respectable. Any one of us squirms if told that he is giving a "snap course." That means we are ashamed if all the students pass, there must be something wrong, we aren't making the student sweat. So we try to get enough technical material into the course so that the

student who hasn't sweated will fail. Perhaps in all this I am being too radical, but here at least I must report soberly that one real basis of judging the status of a college course is the number of students who fail: the more failures, the more respectable the course. (But I know of a course in psychology — fortunately long past — in which the professor regularly failed about 30 per cent of the class, and it was a course that simply had no value at all. All it required was a memorization of a second-rate textbook.)

We need to spend some time thinking about our objectives in college teaching, as well as our methods. When we ask how the high-school student should be prepared for a CEGEP, or the CEGEP student for university, we should consider also what he is being prepared *for*. It is idle to argue about the failure rates in the university, and the lack of student motivation, without looking at the meaning of the failures and what it is that students are not motivated by. In high school the student had the stimulus of day-to-day assignments for study, and daily questioning by his teacher. Now he lacks that stimulus. He is on his own in planning his work, with no one to prod him to keep up with his program of study. What other stimulus do we offer him? What picture of academic work do our first-year courses present: are they an exciting invitation to higher studies, or an eight-months-long dull grind? And for the student who looks for an education, whose desire is to be informed about the things that a citizen might be expected to have some acquaintance with — instead of training in a particular specialty — what kind of program do we offer? Is it true, as we assume, that concentration in one subject — or two or three "cognate" ones — has more educational value than a wide scattering of courses? Would it be entirely wrong if he even took all first and second-year courses, if these were chosen according to his varied interests, allowing him to sample a wider field than he otherwise could? "Vot iss de effidence?" as the great Ajax Carlson used to ask when he heard some pundit giving forth with some unsupported generalization. Have we really thought about the fare we offer to the general student, apart from the (presumably well-planned) preparations given to the prospective specialists in the various departments?

There is much talk about the lecture method these days, and how much better small classes would be with no lectures at all, seminar fashion. Even if this were possible financially, what evidence have we got that it would be better — what

evidence except that everyone says the lecture method is bad? With small classes we would have to have many more teachers, and we must ask where we would find all those good ones — unless it is supposed that a poor teacher in a small class is more stimulating than a poor teacher in a big class. However, it is evident that all this is impractical financially, and not only at McGill, for similar problems are showing up all over the continent. We are going to have to continue with large classes and the lecture method willy-nilly, so the question is whether much is being done to improve the quality of the lectures. On the technical side, and those "audio-visual aids," yes, a great deal. But what is done to teach lecturers to lecture, or help them learn how to lecture? It may not be possible to do much about us hardened old practitioners who are by now settled in our sins, but much might be done for the beginner. For one thing, it might be that, instead of giving the young professor a heavy load and older ones a lighter load, we should reverse the practice: for it seems to me that a principal source of dull lecturing styles is having been obliged to produce two and even three lectures a day at the time when one was learning one's trade as a lecturer. Even the experienced man cannot produce more than one stimulating new lecture a day — if that many — but must depend on notes from the last year or the last ten years, if he is to do a good job. The beginner has nothing of the kind to fall back on. Another item is the beginner's idea that his lectures must be a complete and systematic account of his subject, overlooking the fact that he has assigned a textbook and that this is where the student should look for a systematic account. It is a common misconception to regard the lectures as having the same function as a textbook. A lecture in fact may convey no information at all and still be a very good one, if it interests and excites, or even if it arouses an antagonism that sends students to the textbook and the library. On the other hand, it is a bad lecture if it bores the students, no matter how full of facts it may be. Lectures as a complete means of teaching were first invented when there were no books accessible. This is not our situation today.

However, the lecturer's problems are by the way. Let us return to the question of the fare we offer the student. Some of what is proposed here may be too radical to be put into effect, but it is not too radical as an invitation to serious thought about problems of the curriculum. I am not sure myself that I favor all my suggestions, but they may serve a pur-

pose if they irritate others so that they come up with better ones. I propose below that marks and examinations might be omitted even in certain large classes, but I am not sure that this could be made to work. I am not really clear in my own mind about the proper relation of technical grind to education proper. I am far from clear as to the proper place of lectures in a university, even if we had lots of money and a big supply of good teachers: ten years ago I would have said that Leacock had a point when he said a college needs a smoking room and perhaps a library, but why lecturers? Now however our experience with television lecturing inclines me to doubt. There is a kind of mob psychology, a group contagion, that perhaps occurs when the student is surrounded by a mass of students all suffering as he is, or perhaps being excited and amused as he is.

The question of technical training is particularly difficult. We must recognize that Faculties of Arts and Science have become, everywhere, technical training schools, as well as educational institutions. We could not change this if we would, for a great part of the financial support a university receives depends on it. Furthermore I must agree — even emphasize — that an important part of an education is learning how to master complex and difficult materials. Part of an education is learning to organize one's working habits and how to extract work from oneself, even when the work has no intrinsic interest. So I say that technical training, in the broad sense in which I have used the term, is not only an unavoidable feature of the college curriculum but also has a clearly definable educational value. But I do believe firmly that it is not the whole story. Every one has known the pedant who is fully a master of his own subject, who was able to make high marks in school and college and who yet has no claim at all to what Plato or Rabelais or Mill or Newman would have called an education. Mostly the man who can make high marks in examinations also sees to it, in one way or another, that he gets something of the divine light; but it is not necessarily so, and he does not often get his inspiration from his course work. I believe further that the man who makes low marks in our examinations may get something more from college than we think. The low marks are not necessarily an adequate evaluation of the benefits that he has received.

What positive suggestions are implied in all this? First, in considering our programs of study I suggest that we need to see the really quite clear difference between two objectives,

technical training and *education.* I have said that there need not be any complete opposition between the two, and thus I suggest that any high-school teacher or college lecturer should have constantly in mind the dual possibilities of the course of study he is directing, so that the technical course can be made as far as possible to contribute to a broad development of the student's thought. I suggest that in literature and history, apart from the honors program where the aim is technical — the rearing of another generation of teachers and professors — that in these subjects the prime aim should be educational, the knowledge of critical texts and alternate readings quite secondary. In science similarly, for the nonspecialist the objective is not to teach the handling of test-tube and culture dish and micrometer calipers but some kind of understanding of the spirit of science, its doubts and difficulties and adventurous spirit — the property that made the late J. S. Foster, F.R.S., describe science as a form of poetry.

To be still more specific, let me turn to the "Arts requirement" and the "Science requirement" for B.Sc. and B.A. students respectively. Here at least there is no question about which of the two functions is meant to be served. The intent of the Arts requirement for the B.Sc. student must be educational, not the preparation of future specialists in philosophy or fine arts. Memorization of fine technical detail therefore is mostly out of place. Similarly, the science requirement cannot possibly aim at making a geologist or geneticist of the B.A. student, so its function must be to give some sort of understanding, for the non-specialist, of the outstanding and distinctive characteristic of the culture in which we live: science, in general terms. How should this be done? By giving him as much technical training as possible in one narrow scientific specialty? This assumes a generalization, a transfer of training, that is well known not to exist — just as we know that there is no such transfer of training from the study of Latin to the whole field of modern scholarship.

For these two purposes at least — Arts broadening for the B.Sc. student, science broadening for the B.A. — it seems clear that we need special courses, and I suggest that we seriously consider getting rid of examinations in them. Here at least we do not ask for technical mastery, and our educational purpose might be served better without technical examinations. The purpose of the Arts requirement should be to foster a love of (and a continuing interest in) some part of the humanities, with the hope that the science student will have a lasting com-

mitment in his leisure time to something more than golf and bridge (admirable as these are in themselves). For this purpose it is clear that a humanities subject is more suitable than a social science; but one might suggest that most suitable of all would have been the old Faculty Course, which at first was most successful. Gradually it went downhill, and the reason seems clear: the lecturers in the course began more and more to give narrowly technical presentations, and maybe got less of the excitement into their lectures that at first had perhaps resulted from knowing that this was a new and experimental undertaking (what is known in social science as a Hawthorne effect). Instead of a formal examination in such a course it may be suggested also that we should accept a certificate from the student that he has attended eighty per cent of the lectures and did not sleep through more than half of them. I think that there should be a similarly administered course in English literature or, for those properly equipped, French or German or Italian or Spanish literature, this time supplemented by an affidavit that the student has read *and enjoyed* a good book, or even two.

For the science side, a course similar to that defunct Faculty Course is badly needed and would be infinitely superior, as the science requirement in Arts, to our present arrangements. The course I think should be planned along the lines laid down by Conant, aimed at thought and understanding and the spirit of intellectual adventure. Science is not the dead husk of past achievements but a way of thinking and working. The didactic presentation of existing knowledge, of established scientific fact, is not teaching science but technology. One hears it said that science cannot be taught outside the laboratory. If that meant that one cannot teach research I would agree wholeheartedly, and for the honors student, the future professional, laboratory work is essential. But what about the average man who is not going to be a scientist? The laboratory exercises we give in the large undergraduate courses, for the general student, have nothing to do with research, and I say that they teach nothing of the true nature of science. Instead they are mostly drudgery. (They are also enormously expensive for the university, and how they can continue to exist is beyond me.) For the "Science requirement," at least, it seems to me that we could, with a little thought, do much better: especially with an intelligent use of demonstrations in small groups.

The questions I have raised may be badly asked; the answers suggested may be wrong. But asking, or looking for new

answers, is still worthwhile. It is a heavy hand that the Renaissance tradition lays on all of us, a tradition that limits education to the absorption of lectures and the study of texts. Now and then should we not stop and ask, which parts of the tradition are tradition only? Which parts call for changes, in the light of modern knowledge and the problems of modern society?

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