Notes and Comments
Notes et commentaires

Higher education and manpower needs

To what extent can higher education ascertain and meet our present and changing manpower needs? Are we coming into a new age, with new dimentsions for education, and with requirements for graduates who can cope with the complexities of both employment and unemployment? Are we moving from an economic to a sociologically motivated society, and if so, will humanism displace consumerism as the mark of the times? Will the future see our intent shift from manpower production to manpower occupation; and in the light of all these possibilities, what will be our values and our priorities?

There is growing conviction that job seekers will greatly outrun job openings between now and the end of the century, unemployment figures and dwindling resources (a recent and revolutionary discovery) are part of the evidence; and it may even be that the depression and unemployment of the thirties was the beginning of our current plight for which, economically, world war II with its many divergencies and curtailed production, was merely a respite. Many university graduates are unemployed; and even the amazingly successful community colleges are finding their placement achievement tapering off from the over 90 percent to the 1980's and less. Governments and their agencies are setting quotas and cut-backs in some areas, nursing, dental hygienists, social workers, radiological technologists and mental retardation counsellors being examples; and demand for unskilled labour is expected to diminish further, almost indirectly to our technical and scientific progress. Although the European Economic Community facilitates the flow of labour and skills across borders, in Alaska and Quebec barriers against outsiders suggest that skill in itself is not enough to qualify for employment.

If one can say that education reflects the religion of the times we should appreciate that our religion is economics. Accordingly, English Gothic has given way to American perpendicular and Canadian linear; and the drone of the organ, to the hum of the computer. But we pursue our faith with a zeal no less intent than that which persuaded our ancestors to subscribe to the ten commandments and the golden rule. Today we appear to be on the verge of, and indeed even entering into a new religion, (one not devoid of its economic components) but with less conviction that economics and its concomitants, science and technology, are any longer in themselves enough. And, just as in the earlier part of this century, our parents, and more noticeably their children, began to turn away from their churches, so now we are beginning to see some turning away by erstwhile adherents to the universities. This is not the whole story. But it does seem to be symptomatic, and there is some vidence that the former adherents are dabbling with a new denomination called community colleges, in the general belief that the latter are more practical and appropriate to the times. There is even some indication that university *graduates* having become educated, are now turning to community colleges to do graduate work in practicalities. Notwithstanding some reluctance on the part of the university to give full credit

to the community college graduate wishing to go in that direction, the community college generally accept the university degree at face value.

In addition to an increase in applications from university students, Ontario community colleges at least are drawing a larger proportion of the high school market. They are also attracting more working adults, more out of work adults, and more housewives; and they are getting a substantial number of governmental referrals under manpower and apprenticeship schemes. All in all, for the community college the market appears bullish; apart that is, from two clouds on the horizon. Will the jobs be there and will higher education provide graduates for the jobs there are?

In general, it appears that there will indeed be jobs. But, and here it the catch, not in the same number as the job seekers*. So the problem is where do we set the controls and what kinds of controls are needed? Anyone aware of the thirties would rule out *supply and demand* as a solution; and a government-managed quota system would probably fare no better politically than the recently abandoned wage and price controls. Can jobs be shared and shared effectively enough to satisfy everyone concerned? Can we follow the professional sports and have two or three on the bench for everyone on the field, and several more in the minor leagues of apprenticeship? Or do we have this already? Also, we are told that forecasting jobs is no easier than forecasting the stockmarket. In all of this, what is the role of higher education? Do we accept fewer applicants for admission to the job-oriented programs? Or do we train and educate large numbers regardless of the job openings? And in this event, do we then pressure government and business to find positions for the excess number of trained graduates available for jobs?

Or do we offer some new ideas; new jobs, that is? And if so, will the new jobs have validity? Finally, will that validity be economic or will it be something else? In other words, what is a job? Must it, to be a job, have economic significance? What in the light of our changed circumstances are our manpower requirements? Paradoxically, one requirement for the future may well be how to occupy the manpower surplus. And ruling out wars and other catastrophies, this is going to call for a substantial revision in the concepts and the purpose for which we educate people.

If this conjecture is valid, the dominant problem for the future is not going to be *production* but *occupation.* And the task for education could be more sociological then economic. And the needs for manpower while mixed, could see incrasing emphasis on the need and opportunity for people to participate; and this particular requirement could well be the great challenge for educators and no less for governments and social agencies. Far more than the production of consumer and material goods, or of the essentials – food, shelter and clothing and the removal of waste – will be the problem of occupation; by which is meant, the constructive occupation of the masses as opposed to destructive occupation; the latter being the all-too-likely alternative, if left to chance.

Our hypothesis is that the production of food, shelter, clothing and the removal of waste will be achieved by a decreasing proportion of our population in western society, and indeed, throughout the world. Improved technology and equipment, and greater

*See, for example, *Youth employment and the Ontario economy,* report to the Ontario Ministry of Treasury Economics and Intergovernmental Affairs, June/78.

competence coupled with a decreasing need for massed labour and manpower will require us to find constructive occupations for the majority of our people, or at best for those who are unable to find constructive occupations for themselves. At one time or another, we are presuaded that this or that industry is or will be the leading employer of the largest number of people. The construction industry, tourism, agriculture, social work, edu-education and others have been instanced as numerically large employers. No doubt they are.

But there is much to suggest that if our present concept of "jobs" persists, by far the largest occupation of people in the future will be *leisure.* And leisure will be both a result of present trends and a cause to be met.

In this event, a central point of consideration for higher education is that our material and economic requirements are going to be met by a smaller proportion of our population; and our education concepts and endeavours are going to have to adjust to that condition.

An example, which admittedly does not tell the whole story, can be seen in the fact that our food and agriculture requirements are today produced by a relatively small number of workers compared to 50 years or a century ago. In the 1870's and 80's roughly 7 in 10 men were engaged in farming and agriculture. Today it is about 1 in 7. Yet we are eating and living better than our great-grandparents did; with more bushels per acre.

If, as suggested, technology and greater competence are going to reduce the demand for "producers", we shall in the economic sense have a surplus population; a population that is, which is fed, sheltered and clothed by a smaller proportion of its total than in the past or the present time.

This point (and its significance) was dramatically made by the chairman of the board of international business machines corporation ten years ago in a volume commemorating the 100th anniversary of the United States office of education, when he noted the prediction of some educational authorities "that by the year 1985, if we chose to hold our present per capita gross national product where it now stands, we could by virtue of our increase in productivity, cut the work week to 22 hours or the work year to 27 weeks or let everybody retire at the age of 38."

A passing glance at our own social environment provides some relevant, if not confirming data. Women are now entering the work force in increasing numbers. Thus the roughly half of our population which by custom and history used to be confined to the kitchens and domestic roles, is now competing for jobs; and well it should. The shift in our population from a preponderant 17 to 25 age group to a more elderly population, notably the percentage increase in the over 1960's, along with recent challenges to the idea of compulsory retirement indicate another group of contenders for jobs. The involvement of the handicapped and minority groups, such as immigrants, the economically deprived, and our native Canadians point to other contenders. But even if their exclusion continues, the less fortunate shreds and patches as well as the main fabric of our society will survive; and all the evidence indicates that the shreds and patches are going to be more assertive and more needed in the future than in the past. In short, they are going to get a better shake. So at a time when a smaller proportion of our population is going to be required for productive purposes, we are actually going to have a larger proportion contending for the privilege of producing and in the process, seeking a positive and respected role in society.

A question then for educators is what is to be done if we do not require the larger proportion of our population for economic productivity? Especially, if they insist on involvement, for example, the right to work. What do we do? In principle at least there seem to be some choices. We could for instance deliberately cut back on our productivity and no less deliberately, probably reduce our material standard of living. Deliberate cut backs are not unknown and have from time to time been achieved by sophisticated techniques, and sometimes there are cutbacks by accident. The land banks in the United States agricultural scene are an example of the former. Farmers have, in fact, been paid for keeping land out of productivity; for not farming it, that is. And in Canada the quota system which we use for milk production, tobacco, eggs, cheese and so on are schemes which, though designed to assure the farmer of a respectable price for his labours, also present other people from getting into the act. Strikes are another way in which we can cut back production and, of course, they have their impact on the whole of the employment scene as the ultimate weapon in asserting the right to employment and to conditions of employment for their particular members.

In the *economic* sense there are two major aspects for educators to consider with an eye to the future, while in the *non-economic*, or *sociological* sense there is another and probably more difficult aspect to consider. One economic aspect is providing replacements for workers who will retire from existing jobs. The other is providing incumbents for currently non-existing jobs; the latter being the unknown jobs of the future. These are jobs which we know will be coming but which we cannot at present define or clearly identify; yet for which we must try to be ready.

For both categories of jobs a large number of employees will be required. The United States anticipates that one "new" as yet unknown job, will emerge for every two retirement replacements of presently known jobs. Thus of every three jobs to be filled in the 1980's and 90's one will be a "new" and the other two will be "old" jobs. But the likely fact remains that the number of jobs will still fall far short of the number of job seekers; and if this be so, our problem is going to be, what to do with the surplus applicants. This is the non-economic aspects for educators to consider.

We have noted reduced productivity as one possible partial solution. There could be others. Reduced population could help by bringing us into better balance with nature, but this would not necessarily make a better balance between population and manpower needs, on which point our social stability could rise or fall. Job sharing might. Also "job making" which means creating assignments, or things for people to do; and here we must contemplate the possibility that during the 1980's and 90's the main occupation of people will be leisure. If so, we are going to have to train people to use it well. And if leisure should emerge as our largest single occupation, there is little evidence that we are giving enough consideration to it at the present time. As part and parcel of this possibility, the most critical problem for higher education between now and the year 2000 is to identify new – and sustaining – values for our society, and then find ways to teach and inculcate them. Even if we can discover the values, they will not sustain us unless we accept and understand them. And one of the most difficult steps for us to take will be to relinquish our long standing faith that the prime purpose of higher education is economic productivity, consumerism, materialism, and above all, the extension of the gross national product. Clearly, this is not the declared faith of the university educator, but essentially it is a fundamental feature of

western education; and it is the force that is currently effecting the shift of high school graduates from universities to community colleges. Today, however, a new manpower need is emerging from the imbalance between what we have hitherto regarded as jobs (or valid employment) and available workers; and fewer and fewer of the latter will now tolerate exclusion from the salaries and other job benefits that previal. Consequently, if society is to avoid the mischief which results from purposeless leisure – and the rise of vandalism and violence testifies to the mischief – society will have to create meaningful forms of activity within a new concept; and this activity might be called the gross social product. In short, we must in the future pursue not only a gross national product but also a gross social product. Failure to recognize this need could, in fact, be our undoing, and the potential, though currently latent, social unrest inherent in an unoccupied population should be considered a priority problem for higher education.

This is not to say that gross national product is of no significance. The bread and butter and practicalities of life are important. But we have let ourselves be carried too far by the seductive currents of materialism. The training of highly qualified scientists and technologists capable of handling our advanced equipment and techniques is required. And closer to the bone is an immediate need for skilled technicians and tradesmen.

Higher education can and should produce such people. And certainly the obvious and immediate needs should be met. Our problem, however, transcends this consideration. There are indicators that science and technology out of control can pose as great a social threat as technological inadequacy, potentially in fact, extinction itself. The Beothuks of Newfoundland were annihilated because they could not defend themselves against the advanced weaponry of Europeans. The aborigines of Australia and our own native people are struggling for survival in the face of an adverse socio-economic industrial environment. And western man is debating the merits and threats of nuclear power as a solution (or a finale) to his materialistic requirements, let alone the military.

All this may appear to be wandering far from the theme of higher education and manpower. But is it? Clearly, higher education must produce the producers and the techniques we require. It must produce the technicians, technologists and scientists. It must produce the discoverers, the researchers, the farmers and those who can find more and better farms for agricultural production whether they be in the untamed north, the seas, or space. Higher education must produce those who can design and effect systems of delivery and distribution, and the contemporary alchemists who can produce requisite products from waste, derivatives and hitherto peripheral materials. But if we are to come to terms with nature and to work within her well established limitations, it is imperative that higher education also produce values, and a receptive attitude to such values. It must produce the concepts and consensus. And that consensus must be based on the far greater use of a relatively untouched resource called *restraint.* This resource is renewable. It requires little or no space. The delivery system is cheap. The pipelines are there for the taking. And it can have a direct effect on all our other resources and their rate of consumption. The problem is that *restraint* and its related human components has not been in our curriculum as a serious technical or academic subject. So its far-reaching, moral and practical potential is neither recognized nor realized. And we continue to wonder why the sky is falling in.

It is not uncommon for Canadian educators and government officials, and industrialists

to instance Canada's long dependence on immigration and overseas tradesmen for our practical and technical requirements. The point is valid and is readily bolstered by statistics indicating that the percentage of native born tradesmen is low and that an undesirably large proportion of our technical and trade skills belong to people over 40 years of age. The equation is obvious. Higher education is not meeting the demand; which, however does not mean it cannot. Our national immigration policy and the rising standard of living in Europe is cutting off our source of supply. Obviously then higher education should produce more tradesmen and producers, no question about that.

But does the equation and its obvious conclusions tell the whole story? Even if Europe and other continents, or higher education are able and willing to supply our technicians and tradesmen at a premium, would nature agree to go along with the deal? And even if nature would, would the rest of the world? Or our own native people? Or even, superficial as this may seem, our own regions and provinces within Canada? In short, can the economic imbalance on which our inordinately high western standard of living depends continue? And even if other peoples agreed to such continuance which OPEC indicates they are not, is technical and scientific intensification, whether via Europe or higher education, in itself, (A) possible, and (b) enough? The impressive Club of Rome has doubts. Shall we, in fact, ever reach the point in our own attitude where enough is enough? Shall we ever reach the point where we actually reject the assumption that yesterday's luxuries are today's necessities. And then again, even so, what do we do with our surplus people?

The point of such queries is obvious. What we must see is that the great challenge for higher education is not merely to increase our productivity technical, scientific, economic, *etcetera,* but to recognize that building the Tower of Babel higher and higher and higher will not, in fact, get us into heaven. What we need to change is not the super-structure but the foundation. We need to establish, inculcate, and then teach new values to new ends.

We have already noted two clouds on the horizon and have said something about one of them: preparing people for occupations and a useful role in society in the absence of enough conventional jobs to absorb all the job seekers. Let us now consider the jobs which do exist and for which we obviously require highly trained and skilled people. But first let us be clear about the two clouds on the horizon. One is immediate; the other more remote. The immediate task for higher education is to provide trained people for existing and anticipated jobs: – to provide the people for the taks that need doing. Slightly more distant is the need to provide tasks for the people requiring occupation. Having considered the latter, let us now consider the former.

The Ontario industrial training council has effectively put the question into focus. "today", it says, "we are confronted with the unusual situation of high unemployment at a time when many employers are faced with shortages of skilled staff. Furthermore, almost one half of all the unemployed in this country are young people between the ages of fifteen and twenty-four. Clearly there is a need to provide new and imaginative skill training programs which will address the immediate problem and also prepare the ground work for the future needs of business and industry."

Higher education can meet this challenge, and can provide the skilled graduates to meet present and emerging jobs. But to do so it will require an improved performance on its own part, and the necessary funding (and this is not the thing in least supply). It will

need the co-operation of government, business, and industry, and in turn will need to co-operate more effectively than it has, with government, business, and industry. And one of the first things higher education is going to have to do is to put the interest of its users, of its students that is, ahead of itself. Almost any educationalist will have been thoroughly impressed by the dedication and competence of fine teachers and administrators, and no less by that of students.

At the same time most will have been surprised and disappointed at the extent to which the fine teaching, dedication, and administration have been compromised by self-interest. As in other areas of our society, the force which appears to be emerging as the dominant one has been the interest of pressure groups, against which the individual with his high motives and dedication has been relatively helpless to give as fully as he might. The question posed for higher education is whether it is there in the interests of the employee or of the user of higher education. As with western society generally the role of higher education is seemingly to protect itself and its right to perpetuate itself; and to do so at cost to those on the outside. It must check this trend and reassert its great moral purpose: – to educate.

Our task today is not only to train and educate people for employment opportunities but to do so effectively, and in the process to make Canada more competitive in the international arena. The point is, if we cannot compete in the international arena it will be difficult for us to hold even the home market, and we shall have to revert to our old role of exporting in greater and greater amounts the natural resources we have, which ironically are coming to and will ultimately be in shorter and shorter supply. So unless we want to continue to import unemployment in the conventional and current sense we better be able to produce competent and trained people for the present employment requirements.

One of the barriers to our success in doing just that has been educational snobbery. Canada has suffered from the belief that the white collar was superior to the blue collar, and no one has been more responsible for advancing this myth than higher education itself. Clearly Rochdale College rendered a service when it sold B.A.'s for $25., and M.A.'s for $50., and Ph.D.'s for $100. Fortunately higher education seems to be getting the message. If universities, colleges, secondary schools, business, industry and government can collaborate and overcome the great Canadian failing which repeatedly seems to consider the part as greater than the whole, we can in all probability meet our own requirements. But to do so we are going to have to extend upon and increase such practices as co-operative ducation on the one hand, and on the other, educational leave of absence for those already in the employment force to return to colleges and universities for refresher programs appropriate to their responsibilities; and similarly, for those in educational work, to return to business and industry, and so keep abreast of their respective fields.

The present study has given more attention to the long term problem of finding occupations for people than to the short term one of preparing people for jobs. The reasons for this are two. The former is in the long run more critical and more difficult to meet; while the other, though not without complexities and difficulties too, is well within the competence of higher education. We have the colleges and universities. We have the knowledge, and in general the resources. If we put our house in order and apply

ourselves to the task that needs doing rather than to the distraction of self-interests and disputation, we, in the higher educational circles of Canada, can produce as capable scientists, tradesmen and technologists as any country in the world. The question is, do we really want to do it?

As it is the task for higher education is two-fold: to prepare people for existing jobs and to find occupations for people. The solutions are in education and in setting values for the future.

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