TOWARDS OPEN TERTIARY EDUCATION

By John McLaren

CONTENTS

TOWARDS OPEN TERTIARY EDUCATION

Despite all the social idealism attached to education in the last decade, the hope that education would lead us to the threshold of a just society in which inequalities due to personal background and circumstances have been eliminated, higher education remains as much as ever the domain of those in least need of the greater personal opportunity and self-realisation it commonly brings. (D.S. Anderson and A. Vervoorn, 1982)

The tertiary education system has grown so fat, so fast, that academia has become an enormous island of privilege, populated in considerable measure by drones and parasites. (Bulletin, 12 March 1977.)

The view which these discourses take of a university is of the following kind: that it is a place of teaching universal knowledge. This implies that its object is, on the one hand, intellectual, not moral; and, on the other, that it is the diffusion and extension of knowledge rather than the advancement. (John Henry Newman, On the Scope and Nature of University Education, 1852.)

Education was the great machine of the age, and utility was its function. (S. Murray-Smith, 1966.)

UNIVERSITIES

Like God, they try to work to plan,
Reward dispatch, admire phlegm,
And make a chair for the safe man
Who, in the end, will bury them.

(Vincent Buckley, "Margins", Arcady and other Poems, 1966.)

TOWARDS OPEN TERTIARY EDUCATION

1. FUNCTION, IDEOLOGY AND RELEVANCE

Education in modern industrial states is called upon to serve conflicting, perhaps incompatible, ends. On the one hand, it is expected to preserve and advance learning, to maintain the disciplines which provide "instruments for developing intellectual agility and mental sensitivity" (Chipman, 1982, p.80). On the other, it is expected to be an instrument of national purpose, sorting people into their proper categories and providing them with the vocational skills which planners and businessmen from time to time decide are necessary for efficiency.

These two purposes reflect the confusion which has grown in advanced industrial societies between what Paul Connerton has described as instrumental and communicative action. Instrumental action is that by which we change the world, moving things about in it and reshaping them to fit our needs. Communicative action is that by which we enter into discourse with one another to produce an understanding of our actions, our selves and our potential. Commonly, only the first of these is regarded as work, while the second is relegated to the sphere of leisure or luxury.

Until the industrial revolution, higher education was clearly understood as a preparation for work done by those whose chief business it was as courtiers or public servants, or as the 'harmless drudges' of journalism and entertainment, to manipulate others. It was only after the industrial

revolution, as the idea of gentleman became current, that the universities which educated him came to be seen as places of useless learning, and that the practical sciences were relegated to academics and, later, technical institutions. The first universities in Australia thus were established as ornaments to signify that we had attained the status of older countries in being able to afford the arts rather than as the institutions of general learning, the people's universities for which some of their supporters had hoped.

Applied and Liberal

The failure of the universities to serve the new democracies of the south by developing a model of 'peoples universities' was due as much to colonial scepticism about the value of traditional learning as it was to the elitism of the early academics and their councils, for both parties agreed that the business of the university was with the pure disciplines of classics, mathematics, the natural and moral sciences, rather than with their application. For a number of years these subjects did not attract sufficient students to justify them, but the universities were unable to gain support for more practical subjects because men of affairs did not consider these appropriate to a university and were therefore not prepared either to provide funds for their teaching or, if they were taught, to employ their graduates. By the time the universities were able to move into such fields as engineering there were already schools of mines in

operation to provide similar training, and the seeds of the binary system had thus been sown. The history of higher education in Australia for the next century is largely the history of attempts to establish the respective places of technical or applied education and of liberal education within and between the two branches of this system. While the universities were unable to establish the communicative arts as a sufficient basis, the technical institutions were not satisfied with purely manipulative training, and thus neither met the aspirations of a society more interested in status, industry and commerce than in service to church and state.

The pressures on higher education in Australia were not however merely indigenous forces from a colonial society, but reflected the decline in the role of the gentleman which accompanied the rise of the integrated industrial state controlled by the bureaucrat and the technologist. In the latter part of the twentieth century the distinction between manipulation of things and of people has vanished; in the age of the expert, all education is an applied art. Higher education therefore is no longer merely a preparation for particular careers among many. It is the most important institution by which society, as well as training people for the jobs it needs to maintain its functioning, sorts out those who are to occupy the positions of greatest reward and authority. Rather than being autonomous institutions within the state, universities are thoroughly integrated within it through their function of maintaining the social hierarchy,

which they reproduce within themselves and between each other. Similarly, competition for resources within and among universities and colleges matches competition in the state between different sectors and institutions. Just as the state is integrated with the global economy both by its trading patterns and by the operations of international finance and transnational corporations, so members of the modern college or university are linked through professional associations and publishing networks with national and international associations which determine their careers and thus directly influence, or even control, the specific directions of teaching and research within the institutions. Finally, the need to regulate and control higher education in order to maintain its structures has produced a bureaucracy which, like its state counterparts, operates by rule and precedent rather than by concrete judgement of what is the case. The demand for participatory management has co-opted academics within this bureaucracy, so that their daily function becomes not so much concerned with teaching and learning as with implementing course regulations.

Academic Freedom

The reality of these functional changes is concealed by the concern for academic freedom. This ideal comes from a time when universities were independent centres of learning within a state which offered a variety of paths to wealth and power. Graduates might well find the learning they had obtained at

the university would speed them on the path to favour and fortune in church or state - although rarely in commerce - but it would not in itself advance them except in the universities themselves, which accordingly could offer a privileged enclosure within which men could pursue learning or offer criticism as they chose. The English universities of the seventeenth and the American universities of the early nineteenth century probably came closest ~~to~~ of any to achieving this ideal, but its reality and relevance decayed with the rise of industry and applied learning in the later nineteenth century. The idea has thus become an ideology, whereby a partial truth has become a way of thinking which defines the place of universities in the modern world so as to mask their functional reality and justify the economic privilege they enjoy.

The partial truth of the ideology, the need to preserve higher learning from the direct political control by which in fascist Italy it was and in Soviet Russia it is incorporated publicly within the political structure, distracts attention from ~~its~~ the fact of the of all higher education less absolute but equally important incorporation within the social and economic structure of western industrial states.

Accountability

The ideology of automony and academic freedom is challenged by that favorite of contemporary management theory, accountability. In principle, the idea that everyone who

is responsible for the use of community resources should be accountable to the community for his stewardship is excellent. In practice it means that those who for profit monopolize resources, such as mineral deposits, airwaves, or the right to engage in a particular field of activity, remain unaccountable, while those who carry out public functions are open to the inquisition of every ill-informed politician seeking to curry favour with an even worse-informed electorate. Because of the difficulty of determining, let alone measuring, the actual functions of any institution, university and college authorities and governments have met the demand for accountability in terms of such abstractions as academic standards, and in order to maintain this mythical beast have set up elaborate systems of internal and external accreditation which guarantee only that no course can be conducted without the approval of an infinite busyness of committees. By sitting in judgement, these committees serve to check individual enthusiasm, but their mechanics are such that it is difficult for them actually to prevent the accreditation of the most dubious academic developments, provided that the proposers have the support of professional associations or prospective employers and that they provide exhaustive documentation of aims, methods, content, recommended reading ~~lists~~ and examination procedures. The committee procedure precludes the raising of questions about whether particular courses are in principle desirable, and although a determined committee member may delay approval for a time, if she proves obdurate there are always political processes which can be used to ensure her removal from the committee before the course is resubmitted. The provisions of the approved

course constrain the freedom of the academics responsible for its implementation, whose tenure, intended to guarantee their freedom, ensures that they cannot be dismissed for incompetence or the most leaden presentation, but only for neglect of their duties by departing from externally imposed prescriptions.

The rigidity with which these prescriptions are imposed does of course vary with the course and the institution. Professional associations in engineering, psychology and town planning go so far as to prescribe the number of hours to be allotted to particular areas and the methods of assessment which must be used, while others merely require advanced study in particular fields. I know also of at least one case where a university faculty has imposed restrictions on a lecturer about what he may teach his students within the courses he conducts within his specialty. On the other hand, there are courses so constructed that staff and students are virtually free to follow their interests in any field within their competence. Nevertheless, it remains true that the obsession with standards has led to a situation where the emphasis is on extrinsic criteria defined by regulations rather than on the intrinsic processes of teaching and learning.

The demand for accountability reflects not merely the desire of society to harness higher education to its purposes but also a general uneasiness about the suitability of institutions of higher education to serve these purposes.

This uncertainty in turn arises from the failure of the universities to translate their traditions of learning in the fundamental disciplines into terms appropriate to industrial society. They have accommodated the demands of industry and of colonial society by allowing the classics to wither as the technologies have multiplied and new administrative structures ramified. The new disciplines, amongst which we must include scientific medicine as well as the more obvious technologies, have been embodied in professional courses meeting clearly articulated vocational demands, which determine both the content of courses and the minimum standard of skill required of the graduate. Yet this insistence on content, skills and vocational relevance has blighted the hopes, nurtured in German universities in particular, that the technologies would provide for the modern age the liberal education that the traditional disciplines had provided for earlier times.

This belief animated the pioneers of technical education in Australia, yet paradoxically, while the early colonial universities hedged themselves behind the barriers of Greek and Latin and found difficulty in attracting students, the early technical colleges were swamped by students eager to improve themselves through the study of such subjects as literature, or the acquisition of clerical skills such as shorthand or morse-code, and found difficulty in maintaining numbers in such classes as surveying and mining engineering. The development of technical subjects was inhibited by the unwillingness of employers to recognise their value, while

the political establishment of the day deplored the use of public funds outside the university for general education and governments were unwilling to vote funds to universities to extend into technical areas. It is worth noting, incidentally, that while, despite tuition fees, universities in Australia have been from the first dependent on governments for funds to enter new areas of study or to maintain old ones, their refusal to extend to the wider community the general education which they were capable of providing prevented them from the first from developing, rather than the narrower training function, an educational function which would be understood by the public at large.

At the same time, the reorganisation of technical education around the beginning of this century deprived this branch of higher education of its more general functions and condemned it to a subsidiary status. The consequence was the establishment of an hierarchy of higher education which persists to this day. The resulting system is characterised by the lower status of technological education, the fragmentation of disciplines and the consequent loss of any educational community within which people might learn to integrate their practical with their communicative activites so that they might extend their private existences to become participating members of a public rather than merely objects of the industrial state.

2. SOCIAL STRATIFICATION AND THE EDUCATED COMMUNITY

The pioneers of technical education in Australia believed that they could both prepare students for citizenship and enable them to follow useful careers in the community. Their hopes were disappointed partly because the education which could be offered in technical institutions was severely limited to the immediately practical, but more importantly because the function of the technical schools was confined to training a docile working class whose role both as citizens and as workers was merely to serve the purposes of others. That this low estimate of technical education persists is demonstrated by the girl who has found that "a 17-year old who has done year 11 at a technical school doesn't have much going for her" (Age, 12.1.83, p.4). This is the reality behind the rhetoric that technical education provides a practical training to meet the needs of employers. The interviews with the group of school leavers which included this girl suggest that neither private nor public education has done much for their political education either.

Citizenship

Yet the concept of citizenship does offer a means by which the system of higher education could be re-integrated around a common sense of purpose. A citizen does not merely hold down a job and perform such civic duties as voting, but participates in the whole life of the community, that is, in

the whole complex of activities by which a community maintains itself, builds its material and mental environment and shapes its future. These activities depend on a shared structure of meanings which is embodied in the language and culture of the society, and which both allots to individuals their immediate roles and assigns them their ultimate purposes. In small-scale hunting and gathering communities these codes are closely adapted to the natural environment and change only slowly through the collective experience of the group. In large, technologically advanced societies, power is centralised as lifetime roles are assigned by impersonal institutions, purposes determined by the few who control the institutions of political and economic power, and the communication of these purposes and the establishment of meaning increasingly restricted to those with access to the networks of communication which derive their power from technology. One effect of centrally-controlled technology is constantly to force the individual back into his private world, so destroying the networks and organs of communication which people can establish for themselves through conversation, theatre and performance, social activity and simple friendship. As the actual and potential public is destroyed, the public role of the citizen is reduced to instrumental action for purposes he has no part in determining or controlling. The repeated failures of technical education in Australia have resulted from its failure to confront this fact, so that in seeking to further the purposes of the nation it has in fact abbetted the suppression of the citizen.

Stratification

While ~~the~~ technical education has thus served to exclude people from the community, universities, operating at the other end of the social scale, have prepared the professional elite which both determines the purposes of society and appropriates a disproportionate share of its wealth. The stratification has been completed with the virtual elimination of technical education from secondary schools, which are no longer able to train students in the skills required in a technologically advanced society, and the division between colleges of technical and further education training tradesmen and technicians, and colleges of advanced education or institutes of technology preparing students for middle level management, where they will make some decisions but only within a framework of rules and objectives decided by others.

The stratifying function of this system is concealed by the fact that colleges of both advanced and technical and further education do enable a number of students from working class, migrant and other less advantaged backgrounds to achieve a higher income and status than their parents, as well as providing opportunities for people who left school early to renew their education and escape from deadening jobs into careers which offer greater intrinsic satisfaction. This element of social mobility, however, while important to the individuals concerned and necessary for the smooth running of society, is less important than the fact that the system

perpetrates social divisions which impoverish the lives of individuals by excluding them from that full participation in the community by which alone the individual is fulfilled. Further, the fact that those in a position to make decisions or determine opinion are limited both in numbers and background means that the community leadership is deprived of talented leaders and decisions Consequently are made in the light of a distorted view of the world. Finally, the stratification can be justified only by an ideology which divides private from public, and the producer who earns from the individual who chooses, and thus ensures that decisions are taken within the strucures of given bureaucratic procedures rather than on any complete understanding of the social and physical phenomena constituting the environment to be affected.

Education and Community

If education is to revert from its role of social engineering to its primary role of promoting learning, that is, of enabling human beings to develop in their fulness, the links which presently integrate it within the purposes of an industrial state which divides humans within and between themselves must be broken, and the idea of an autonomous educational community within society must be restored. This will not be achieved primarily by pressing institutional claims, but by rethinking the relationship between education and work so that the distinction between liberal and vocational education which provides the ideology justifying

the present hierarchies is abolished. Such a task must start by recognising that the simple distinction between instrumental and communicative activity is not sufficient. Human intelligence is embodied in symbolic representation and understanding, of which language is the prime example. We start learning ~~these~~ Work symbolic systems from the moment we are born, so that even the act of satisfying our hunger becomes also a step in the construction of our world from the primary elements of 'I' and 'thou', myself and the other.

~~Work~~

Our capacity for action grows as this world becomes more complex, but every action retains this dual significance, both satisfying a need and extending our perception, or, more accurately, extending the structures of our perception, the way in which we see the world, the mental world we inhabit. If we define work as action to change our environment to meet our wishes, then we can see that purely symbolic action, such as thought or art, is work, for it changes the mental environment not only of the thinker but of everyone to whom she communicates. Similarly, instrumental action is governed by our perception of needs, possibilities and purposes, and thus both is ~~both~~ controlled by the mental structures built from communicative action and simultaneous changes these structures. Yet the distinction between liberal and applied education, or general and technical, depends on dividing these two forms of action. Paradoxically, the

~~the~~ consequence is both to devalue the arts and humanities as useless luxuries, to be afforded only by wealthy individuals and states, and to elevate their prestige by making them scarce goods to be enjoyed only by the successful. The attempt by the previous federal government to limit the study and teaching of humanities to the universities, and to turn higher degrees into subsidised commodities by charging fees for post-graduate courses, is the latest example of this paradox in action.

3. SELECTION AND OPPORTUNITY

The use of educational qualifications to determine the position a person can occupy in society is a fairly recent development which distorts the whole educational process. By the time they complete primary school students have already been sorted - by internal streaming, by the secondary schools they enter, or by informal means - into those destined to succeed in formal examinations and enter the university and profession of their choice, those still in with a chance, for whom secondary schooling will be a survival course with more and more dropping out each year, and those already destined for failure, for whom secondary schooling will only be a time to be endured before reaching the age when they can legally leave. The secondary school thus divides students laterally - between state and private, high school and technical, academic stream and general - and vertically, between those who drop out, those who are sorted into trade and technician courses, and those who go to the final test for tertiary selection. Because the comparative advantages of different courses and institutions are well known to students, this final year of secondary schooling becomes for all but the most competent ~~students~~ a tedious yet nerve-racking grind to engorge the facts and master the skills required to beat the examiners. The students with the best chance of succeeding in this contest are those who combine a developed aptitude, itself the result of family background as much as anything else, with a school which both is able to engender

confidence in them and has teachers who know what the examiners require and who are not distracted by looking after students who either have no interest in study or no belief in their own ability to succeed.

Thus, while schools provide a few individual students with an opportunity which would not otherwise be available to develop their abilities to the full and to enter the career of their choice, in most cases they merely extend the distinctions our society makes in the opportunities available to its different members. As in other areas, in education the poor, the migrant and the female start behind scratch and fall further behind the longer the race is run.

The result of this system is that people enter particular courses not necessarily because of their particular aptitude or interest, but as a result of the way they have scored in this artificial system. Certainly, students may make broad choices for themselves, such as whether they will study sciences or humanities. These choices in turn will help to determine the careers open to them. There is evidence that such choices are influenced in part by differences in personality (Australian, 12.1.83), but the continuing tendency of girls rather than boys to opt out of the sciences presumably reflects cultural patterns and fashions rather than individual personality. Yet the choice of subject is less important in deciding the level, as opposed to the nature, of the occupation that a student will eventually enter than

is examination performance in his or her chosen subject area. The commerce or humanities student can just as easily enter prestigious occupations in law, the public service or business as can the science student undertake medicine or one of the therapies.

Students from the highest socio-economic backgrounds and from private schools are the most likely to obtain entrance to courses leading to these occupations, and on graduation their school connections can continue to assist their progress, particularly if they choose to go to the bar or become a specialist doctor, in both of which careers they rely on referrals from their colleagues in general legal or medical practice. Careers in the public service, and in the larger business corporations, are less likely to be directly influenced by school contacts, but entrance to these is easiest for those from the most prestigious institutions, which again recruit a disproportionate number of students from privileged backgrounds. It is only those careers which require specific technological qualifications, such as engineering, accountancy or systems analysis, or those of lower social status and economic power, such as teaching or welfare, which offer relatively equal access to students from a range of institutions and backgrounds.

Selection and Exclusion

~~Nor does~~ The fact that a student is able to obtain entrance to a particular course does not prove that he is the candidate best suited for the career to which it leads. Certainly, the

system of selection is fairly good at picking the students with the best chance of meeting the academic requirements of their course, although even in this respect there is a built-in bias against students from government schools (Dunn, 1982). This bias, however, which once it is recognised could be fairly simply corrected by statistical or other means, is not the crux of the problem. I have already noted that the system excludes students from disadvantaged backgrounds long before they reach the point of selection. Similarly, at this point the system takes account of only one set of the attributes needed for eventual professional success, the ability to pass examinations. As the course of training demands similar aptitude, it is not surprising that the system proves valid as a means of predicting academic success, and indeed it has been steadily refined over the last twenty years until it is now unlikely that there is still ~~for there to be further~~ room for major improvement in this respect. However, studies of selection processes suggest that the emphasis should not be on prediction so much as on the process of teaching the students who are selected so that a greater proportion of them fulfill the potential they certainly have (Anderson and Eaton, 1982, p.11). Yet if this suggestion were taken seriously it would not only reduce the reliability of the selection system as a predictor of success but would throw into doubt the whole principle of determining entrance to privileged occupations on the basis of competitive academic assessments.

Ballots

If, it may be asked, the present system of selection for occupation is unsound, what may be put in its place? The Victorian Secondary Teachers Association did at one stage argue, in what has been referred to as one of their crazier propositions, that tertiary entrance should be determined solely by ballot. After all, the Australian community has seen nothing incongruous in using a ballot to select the young men who were to hazard their lives on military service, so it would be equally logical to use the same method to select those whom the nation is to reward with careers of particular privilege. Yet, because tertiary education, however defined, is concerned with the use of facts and concepts, it would be a waste of everybody's time to allow people to engage in it before they have mastered the prerequisite skills and acquired a sufficient body of general and specialised knowledge to enable them to put new ideas in their context. There is therefore a case for requiring a student to demonstrate a minimum standard of competence before allowing her to embark on a tertiary course, but a test designed to determine such competence would bear little if any resemblance to competitive examinations designed to rank students. On the other hand, it would allow schools to get back to the task of teaching students what they need to know in order to live effectively in society, while leaving to the colleges and universities the job of selecting their students from among those eligible. A system of ballotting from among qualified applicants might ~~not~~

only prove not only the most equitable, but also the best means of ensuring for all courses a body of students from a wide range of social backgrounds. Such a system could in turn raise the intellectual level of tertiary education, as the level of debate within a heterogeneous body of students is likely to rise as ideas presently taken for granted are challenged from a variety of perspectives.

There is of course a danger that in a heterogeneous institution open debate may be replaced by a political contest between contending blocks with received opinions - ethnic, feminist, revolutionary, reactionary and so on - where loyalty to the group becomes more important than judgement of ideas. The present hierarchical system ensures that students entering any particular course will have sufficient in common to allow them to debate principles without threatening their personal security, whereas minority groups in a more open system may cling together and treat any questioning of their ideas or behavior as an attack on their identity. Such a danger should be minimal in a truly open system where no cultural group has an inherent advantage. Such a system requires however that the teachers within it are truly open, themselves challenging and allowing challenge to all preconceptions and not merely imposing their own cultural predilections. This means that adacemic staff should be required before appointment to demonstrate an understanding of their potential students as well as of the subjects they profess. The changes necessary to implement

such a system would be uncomfortable, but the dangers it holds are less than those inherent in the present reality which allows a student to complete a course and enter professional practice without ever challenging the assumptions behind the practice or being forced to understand it from the point of view of the outsider.

Openness

An openness which depends solely on the randomness of a ballot would be however likely to engender as many inequities as one which depends on the good fortune of one's choice of parents. The use of entrance standards based on both mastery and the selection of quotas of the qualified by ballot would improve the quality of both secondary and tertiary education, and ultimately of professional practice, but it would leave intact the principle that a person's whole fate depends on what happens to him on leaving school. A truly open system of tertiary education requires that every person has the right to embark on any educational course or enter any career she wishes at any time of life. In other words, we have to change our historical pattern of trying to shape the demand for education to fit the supply determined by educational and political planners, and instead require the planners to supply an education to match the demands, and so to plan the economy that careers are available for those completing the various stages of their education. Careers and authority in the

technological state are so linked to education that only such a change can restore a measure of social justice. Even more importantly, the changes in the nature of work which are being induced by technological change make such a change in our educational provision economically necessary.

If tertiary education is to be open to all, and people enabled to resume their education at any stage they wish, we need a system of educational allowances, with proper provision for dependants, available for all levels of education beyond the level which would normally be obtained by the statutory leaving age. As a start, every person could be given an entitlement to, say, six years full-time education beyond this level, with provision for individuals to repeat up to two years to allow for wrong choices and to remove the extrinsic pressure to succeed which distorts the process of learning to understand. Beyond this automatic entitlement, allowances would be available for students to progress to higher degrees and professional qualifications on the basis of recommendation from their institutions within quotas sufficiently generous to ensure that all capable of undertaking successful study would be given the opportunity. At the same time, a system of universal paid study leave would allow people to develop their interests or embark on new careers and at the same time meet the need to share the benefits of increased productivity by reducing the length of the working life.

The provision of such a scheme of student maintenance would remove the economic barriers to access and ease the pressure on schools to meet extrinsic rather than intrinsic standards, but would do nothing in itself to free tertiary institutions from the hierarchical structure which divides the ideal community of learning and substitutes for it a process of social classification. The second step towards open tertiary education is the deferral of the division into final professions until students have had the opportunity to master the basic disciplines.

Advanced colleges and universities should be reorganised around four major schools in each — of arts, economics, natural sciences and technology, ~~and~~ all students would take a first degree in one of these. On graduation, students would have the opportunity to transfer to a professional school for a one, two or three year course, as appropriate, in engineering, administration, accountancy, education, law or medicine; to extend their degree in a more specialist area, as for example science to agricultural science; or to continue to an honours year, probably in the same institution, at the end of which they could pursue higher studies in the most appropriate place. At the same time, trade and technical courses would be so designed that, as well as giving skills of immediate practical value, students would gain sufficient mastery of basic intellectual skills to be able to transfer on their completion to a degree course. The allotment of qualified students to both graduate and undergraduate schools would

be the responsibility of a committee representing all institutes and charged with the responsibility of respecting student wishes and at the same time ensuring similarly diverse bodies of students in each course.

Such a reorganisation could be carried out within the present institutional framework. Colleges of advanced education would, as at present, be expected to place a greater emphasis on teaching and would cater for a greater proportion of mature-age and returning students, while the universities would from the start expect students to take a greater responsibility for their own learning. There would be no reason that some professional studies could not be included in the courses for the first degree, so that students who had already decided on their eventual career could from the first make evident progress towards it. This would enable courses presently integrated, like those in law or education, to continue, but the professional studies in the first three years would be preparatory, designed to orient students to their eventual practice, and taught and examined as intellectual disciplines in their own right. Students would thus not be bound to follow these studies beyond the first degree if they should change their mind about their careers. Similarly, the professional schools would be required to design their courses to offer both basic professional studies and alternatives, so that students with or without undergraduate professional studies would be neither advantaged nor disadvantaged. Colleges of

advanced education would continue to offer courses with an immediate practical application, but these courses would no longer constitute a means of entrance to a restricted profession.

Students would thus be free to choose their undergraduate course according to their interests and their assessment of the suitability of the particular institution to their needs. Because the professional outcome of all courses would be equivalent, each institution would in fact rather than theory be able to pursue its own form of excellence, and diversity in education would become a reality. For true diversity, actual equality is an indispensable condition.

The development of an open system of tertiary education will require active intervention by government authorities, but the result will be to restore the only kind of academic autonomy which is important, that of the individual student to develop his own potential and that of the individual academic to read, write, think and teach bounded only by the judgement of his peers. It follows that, if the education in all institutions is to be of equal quality, members of staff of each must enjoy similar conditions, including access to libraries and opportunity to maintain their studies, as well as similar responsibilities, including the responsibility to extend and maintain knowledge through both research and effective teaching.

of the kind
~~The~~ Changes suggested here will be objected to by some on the grounds that no reform of education is worthwhile without a prior total reconstruction of society, by others on the grounds that education is by its nature elitist and that an open and democratic system of tertiary education is a contradiction in terms, and by others because they do not believe we can afford it. To these I can only answer that slow and piecemeal change is the only one humans are capable of handling without disaster, that education designed to fit people for a social hierarchy denies its own principles of excellence, and that unless we afford change of this kind we will lose even what we have.

4. WORK, EDUCATION AND JOBS

Education in Australia is seen simultaneously as a luxury and as a major contributor to national welfare. Thus in times of prosperity education can expand both because we can afford it and because this expenditure is seen as an investment in the future. In times of adversity, as a consequence, education can be cut both because we are told we cannot afford to spend money on what is not essential and because schools and universities receive the blame for not preparing people for employment. The education system thus acts as a multiplier within the economy, competing for scarce resources in times of expansion and cutting its own demands when output is falling.

Investment or Consumption?

The idea of education as investment derives from America, and was expressed most strongly in Australia by Professor Peter Karmel in his 1962 Buntine Oration and again at the 1966 Fink Memorial Seminar, in a paper entitled "Some Arithmetic of Education". In these he argued that education contributes directly to economic welfare by increasing the skills of the workforce and thus raising production per worker, and by accelerating the flow of ideas which become embedded in capital equipment and social organisation. At its simplest level, this argument boils down to the proposition that technological and administrative innovations can be utilised only by a suitably skilled workforce.

The development, in the thirty years since this lecture, of electronic computing and communication systems does not invalidate this argument, but introduces another factor. The new technology directly replaces skills, and so the contemporary workforce, although it must still be skilled, can ~~be~~ constitute a smaller proportion of the total population. In a technological society concerned only with production, therefore, total investment in education could be lowered provided that the expenditure per student on a reduced number of students were raised. This appears to be happening in advanced industrial societies, where numbers in both employment and education are falling. However, the consequent reduction in overall expenditure has destroyed the demand for the goods which can be produced. Whether this fall in demand is because more jobs are destroyed by technology than are created or because there is a glut of material goods in the western world is a matter of debate, but the fact is that in all the developed industrial countries there are more workers than jobs. As a consequence, there is little immediate prospect that an increase in the money spent on education will lead to any overall increase in output or any material benefit to the community at large in the form of a greater flow of goods to the ordinary citizen.

Nevertheless, even in a time of depression there may be an advantage to the individual in spending more resources on education.

While education may offer no guarantee of a job, the more highly educated still have overall a lower rate of unemployment and command higher personal incomes. This aspect of the economics of education has been investigated by Ivar Berg in America, where the claim has been made that the economic benefits of education can be measured directly by totalling the additional income which accrues to individuals as a result of their educational qualifications and treating this as the value of the educational output. Berg points out that this income is not necessarily related to productivity, but can reflect such factors as the favorable position the educated have in the market place, where they enjoy a monopoly within the professions and have been able to persuade employers to pay them at a higher rate in other occupations. He also shows that the higher rates of pay received by graduates in private and public employment are generally not based on any analysis of the requirements of the jobs performed, and have led to people being over-educated for their jobs in the sense that the job does not give them the opportunity to exercise the personal qualities they may have developed. At the same time, those with less education are further disadvantaged because they cannot expect advancement to the more satisfying jobs which are now held by graduates. The advantage which education brings to the individual is thus paid for by the community in terms of higher production costs, particularly for professional services, and more dissatisfaction among workers generally.

While the mood of employers in the expansive 1960s and 1970s, when Berg was carrying out his studies, was to seek ever-increasing qualifications - although Karmel's figures show that Australia never shared this enthusiasm - since the onset of the current economic crisis they have been much more sceptical of the value of educational qualifications as such. The tendency now is not to look for a more highly educated workforce, but to demand that schools and colleges provide quite specific training for particular jobs, and to blame the present levels of unemployment on their failure to do so in the past. Thus we replace the phenomenon of people over-educated for the jobs they are doing with that of people qualified for jobs that do not exist. Yet the insistence on specific qualifications, and the demand by training institutions for specific prerequisites for courses leading to these qualifications, means that even where changing patterns of employment and technology are creating new jobs the unemployed cannot get them because they are not able to obtain the skills required.

The alternative to approaching education as investment which is expected to pay for itself in increased productivity is that taken by Bruce Williams, both in Education, Training and Employment, the report of the committee of enquiry into education and training to which he gave his name, and in his Fink Memorial Lecture of 1978, "The New Arithmetic of Education", in which he returned to Karmel's ideas in the light of the findings

of the enquiry. Williams argued that expenditure on education is not so much a cause as a result of economic growth and technological development, one of the goods which we are able to afford from our increased productivity. He also argued in the paper and during subsequent discussion that the only way we can as a community adapt to technological change is by shortening the working life. This could occur by delaying entry to the work force, by reducing the working week, by lowering the age at which people cease paid employment, or by giving them the opportunity to withdraw at intervals from it. Education clearly leads to two of these four effects, and may also be relevant to early retirement by providing an activity for those whom society no longer wishes to engage in its active processes. Williams did not himself discuss these options but the choice we make among them will clearly be crucial in determining both the way we cope with technological change and the shape of our future system of further and higher education.

Manpower Planning

In effect, we must decide whether we want to develop a system of education which meets the requirements of the labour market while leaving the problems of unemployment and social strain untouched, or whether we want a system of education which responds to the needs of all groups in the community to share in the creation and use of its wealth.

Professor John Niland has canvassed these options in a paper prepared for the Williams committee and published in the second volume of its report. In this paper, "The prospects for manpower planning and forecasting in Australia", he distinguishes these two approaches as the Manpower Requirements Approach and the Manpower Employment Approach. In the former, forecasts are made of the demand for particular forms of labour and the provision of places in educational courses is tailored to these demands. In the latter, forecasts are made of the social demands represented by the numbers of people expected to complete particular forms of education and opportunities are provided for their employment. Although he admits that there are too many uncertainties to allow us to prepare sufficiently accurate forecasts of the demand for labour to implement an educational policy based on the requirements of the labour market, he dismisses the alternative approach as merely postponing the problem and leading to disguised unemployment and underemployment and to 'credentials creep', whereby the prerequisites for entry to particular occupations are continually increased. He therefore advocates a modified form of the Manpower Requirements Approach, whereby detailed information would be continually gathered on employment trends and used both to influence students in their choice of course and to encourage colleges and universities to change the balance of student places from areas of low to areas of high employment demand.

The Williams committee rejected the suggestion that opportunities for higher education be restricted, mainly on the grounds that the social demand expressed through student choices is itself a public need and that changes in the prerequisites for entrance to particular jobs are themselves part of the response to changes in technology and productivity. It did however accept the need for the kind of modified Manpower Requirements Approach that Niland recommended for planning tertiary education. The committee did not however investigate the implications for education of the suggestion that Williams raises in his paper that increased productivity will require a shortening of the working life and a consequent increase in the time spent in education.

Confiscating Workers

The problem with these economic approaches to technological changes and their educational implications is that they regard the change in methods of work as politically and socially neutral. The Williams committee went on to recommend a host of research projects into the nature of change and its effects on the demand for labour, but nowhere among them is there any suggestion that we should consider the way in which change can be controlled and directed for the benefit of the people who do the work. Leonie Sandercock has pointed out that when an employer buys a computer which can do the work of skilled designers he is taking from them a part of their consciousness, absorbing it and objectifying it in a machine through the intervention of a computer.

The purchase of the machine is itself made possible because the firm has appropriated the surplus value of its workers over the years, but the effect of the purchase is the direct appropriation of a part of the worker, and not merely of his production. Recent decisions of the Victorian Supreme Court which have declared that the introduction of new technology is a matter for management, not an industrial issue, and that as a consequence it cannot be the subject of rulings by an industrial commission, is not merely an example of the failure of legislation to keep pace with industrial change but also an example of how thoroughly the legal profession is confined to the language of its own class and consequently makes distinctions which no-one in the workplace can discern. Bob Ellis was probably right when he said there would be no community demand to confront the computer until "a quarter of all our jobs were burnt up in their green and knowing eye . . . before a computer, say, replaced the High Court (evidence in one slot, verdict out the other) and a thousand shameless periwigged performers had to queue up behind the rest of us on the dole".

Confronting Change

Manpower planning has failed to meet the challenge of technology because it takes only jobs into account. Planners hooked on questions of changing demands for manpower balance delicate equations of new jobs created against numbers of jobs lost, and when the numbers indicate, as they always do, that the numbers of jobs lost will exceed the numbers created, they make vague suggestions about social needs producing new jobs in the service sector.

There are however only three ways in which this service sector can grow. We can allow the growth of a class of the rich and the super-rich who will grow wealthy on the appropriation of other people's labour and capital, and who may choose to use their resources to give some employment to menials to tend their leisure. This is the inevitable result of a policy of laissez-faire at home and free trade abroad, although its full development will not occur until labour markets have been integrated globally at the level of the slave workers of East Germany or Taiwan, both favoured recipients of the generosity of the international business community.

Alternatively, we may develop the thrust of Williams's suggestions and redistribute some of the profits of technology by government intervention to reduce the hours in the working life. This has been the way that the benefits of previous technological changes have been distributed over the last 250 years in the western world as governments have intervened actively through factory acts limiting the hours of work, education acts delaying entry to the work force, and pension schemes encouraging people to leave the factories a few years before they die. Even this limited form of government intervention requires increase in both government expenditure, and therefore in taxation, and in the return to labour. The grip of capital on the globa economy and its power to enforce ~~its~~ global

its ideology of small government may make it impossible for even socialist governments to carry out such a policy in times of economic depression, despite the fact that a major cause of the depression itself is the displacement of labour by machines. This leaves the alternative of direct government intervention to return the control of technology to the people whose labour creates it and whose knowledge it employs.

This points to the kind of educational policy we need for an age of technological change. The provision of adequate numbers of designers, analysts, programmers and operators is a relatively minor issue, as is even the desirability that students in all courses should have the opportunity to learn to use electronic systems for their own purposes. The cost of the technological approach to teaching people how to use systems is that they learn the system but not any alternatives, except perhaps in the most narrowly technical sense of how to find the best system to meet their needs. Because these needs are defined by the objectives given in a capitalist society which assumes alienation, assumes that the only purpose of work is to provide commodities to meet other people's demands, the alternatives made possible by the technology are not considered, nor are the effects on the total system of changing the means by which the immediate objectives of a particular organization are met. The kind of vocational education needed to fit people for work in contemporary society is not one which teaches them how to carry out processes already defined for particular jobs,

but one which enables them to understand the ways in which work and the processes of work can change society. Rather than learning methods, students need to learn how to design work, and learn how their particular designs fit into the whole pattern by which the community is constantly,if not always consciously designing its own future.

Skills and Efficiency

Employers claim that they want the education system to provide students who are numerate and literate, have the specialised skills appropriate for their job, and possess a work ethic. According to a report by Elizabeth Wynnausen in the National Times of May 20 to 26, 1983 (p.23), these demands have led in America to employers setting up their own training institutions to prepare people to their specifications, and in fact "McDonald's Hamburger University" has been accredited by the Illinois State University "to teach human relations as well as french fries". Wynhausen notes that those promoting this development are unlikely to be concerned with general educational needs once they have adapted the technology needed to shape youth to the needs of business, but she overlooks the irony that this is occurring as a part of the same conservative fashion which is demanding a return to 'basics' and true academic standards. The problem with accepting these demands from employers is that most of them have very clear, if impractical, views on the kind of society they want, but very little idea of what is needed to enable their organisations to operate smoothly within society.

Studies reported by John Raven suggest that a major source of industrial inefficiency is the inability of large business and industrial organisations to take account of the ideas and perceptions of their frontline workers, or of these workers either to make themselves heard or to believe in the value of their own ideas. Similarly, the complaints that we are 'over-educating' people for the jobs available to them reflect the way we organize work as much as the lack of suitable work. Business, manufacturing and government institutions could (as well) use technology to spread responsibility as to centralise it, but they will do so only if they are forced ~~to~~ by unions and other community groups. The first step to such an outcome is to question the conception of managerial function and particularly of the sole right of management to determine work patterns. This questioning will in turn effect the rights of such vested interests as established craft unions, who in turn represent the legitimate rights and expectations of people whose skilled work has gone into the creation of the institutions - public and private - within which new technology threatens their jobs. They can be expected to co-operate only if their position - social as well as financial - is secured. This in turn will in most cases require underwriting by the government on behalf of the whole community which expects to benefit from the increased production promised by technology.

We should however not assume that the replacement of men by machines will ever by itself increase productivity for society as a whole, although it may be necessary if

certain industries within that society are to remain viable within a given framework of international trade. Even simple forms of accounting were able to show that the closure of the Mount Lyell mine would have cost the federal government more in dole payments that it cost in subsidies to keep it open. We can do this sum easily when we are talking of a single industry town with a fixed work force and no alternative employment in the state, but similar factors operate every time workers are sacked because their job is no longer profitable - whether because it is now cheaper to use machines, to import goods from slave-labour states, or to use a cheaper material. The individual firm may prosper because it spends less to sell more, but both productivity and ~~the~~ production will diminish unless we ~~employ~~ provide the displaced workers ~~at~~ with some equally useful work.

Usefulness

The concept of production for use seems to have become as unfashionable among socialists as in the community at large, but it holds the key to designing a system of education which will be both vocational and humane. If graduates are to perform useful work, they must be educated to use their work for the benefit of the community rather than merely be trained in the skills the employers want to use for their own purposes. This does not mean abandoning the work ethic, but rather going beyong the capitalist perversion of it which means doing as the boss tells you while, in characteristically ugly language, 'looking after number one'. Certainly, the graduate has the right to choose the

purpose to which she wishes to put her newly acquired skills, but she should be aware of the possibilities of social and collective alternatives to alienating selfishness and functionalism.

Labour Value

The concept of production for use is intimately connected with those theories of value which use the input of labour as the measure of the value of output. In simple Marxism, the value of labour was defined as the cost of reproducing it - that is, the cost of maintaining a worker for a lifetime and of enabling him to rear a sufficient family to replace him - and production was limited to material goods, all else being considered superstructure. What did not go directly to the labourers was therefore considered surplus value, and those who enjoy it were regarded as appropriators. From these concepts simple formulae could be derived to prove that the working class must get poorer, and that therefore capitalism ~~would~~ must eventually produce more than it ~~could~~ can sell and thus collapse. Not a bad description of the present international economic crisis, except that as usual capitalism is more likely to adapt than to collapse. The Fabian task is to ensure that it adapts in a socialist direction.

This crude Marxism, which is not essentially different from the ideas of Adam Smith or the physiocrats, nor for that matter from such an advanced Marxist as Ernest Mandel

(1982), fits neatly with contemporary sado-monetarism, which agrees that only the production of physical goods is true production, and disagrees with crude Marxism only by its implicit argument that investment is a kind of work and that dividends, far from being expropriated value, are a necessary payment for the creation of the capital which alone can maintain production. The capitalist, unlike the bureaucrat or the academic, produces real value. Most left-wing thinkers, mesmerised by the idea that profit is always value appropriated from the workers, have failed to see that work does need to be expended on the accumulation and management of capital if the input of labour is to achieve its maximum output. They have therefore failed to engage with the issue of work and production in a modern society, and have thus left the field open to those who claim that social justice is a product of a healthy and productive economy, and must therefore give precedence in national policy to measures designed to encourage material production.

Distributive Justice

Hugh Stretton, one of the few thinkers to dissent from this orthodoxy of both left and right, has returned without jargon to one of the earliest truths of Marxism, that humans work and that the product of their work is material production. Unlike monetarists and Keynsians, Stretton has recognised that this material production includes domestic production, and by extension the whole 'black economy' which so worries more orthodox economists. He also recognizes that the benefits reaped by the individual

include above all the benefits from access to facilities in short supply. There is, for example, no form of socialism, other than some totalitarian egalitarianism, which would guarantee everyone equal access to St Kilda Beach, or the Grampians, or the Franklin River. The use by many excludes the use by the few; the use for overall community benefit excludes use for the individual; one value excludes another. In an overcrowded world, absolute justice is impossible. Whatever system of education we devise, there will always be some people whom it suits better than it does others, and some who will use it to their advantage over others. But we must recognize that education, and particularly higher education, is a part of the system which distributes scarce resources unfairly.

In the light of this realization, we can only come back to the idea of distributive justice. The price of enjoying any social benefit is the requirement to justify it in terms of the value to society of allowing that benefit to any individual. This can be measured ~~very equally~~ in terms of labour value. For example, if a surgeon cannot be expected to enter the labour force until the age of thirty, and if he will be burnt out by sixty, then he should be able to earn as much in thirty years as most people will earn in the 45 years which now constitute the normal working life. Equally, the talents required to be a successful surgeon are unevenly distributed in the community, and therefore it is reasonable that there be a method of selection for this career which excludes most of those who would like to enter it.

The problem is that the method presently used to exclude certainly allows incompetents in while excluding many who would be able to carry out excellent surgery, and consequent that the remuneration enjoyed by those who are allowed to practise is such that the community cannot afford sufficient surgeons for its needs. The system of selection and education thus adds to the scarcity of surgeons and thereby increases their income beyond the labour-value to which the scarcity of their talent would entitle them. Further, the way we organize medical practice ensures that not even simple surgery, the talent for which is quite widely distributed in the community among, for example, tradesmen skilled in delicate processes, can be carried out except by those who have completed full medical training. The education system thus interacts with a form of professional organisation to increase the scarcity value of a particular occupation, to the detriment of the whole community. Because medical schools are an integral part of the process they fail to search for alternatives and to offer the independent critique which alone would justify their academic autonomy.

Division of Labour

Surgery is, of course, only one example of the way in which vocational education, rather than enhancing opportunity, actually restricts it. More serious is the way in which the confusion of means with end, the concentration on training in the skills needed for particular jobs rather than on an education which will enable the graduate to understand the job in its social

context, creates a class of professional bureaucrats and higher technicians who monopolize administrative authority. Not only is labour divided into manual and mental processes but mental labour is divided into compartments which are not even co-ordinated by the mechanical bond of a production line, but rather are kept apart by administrative rules and guidelines which rigidly assign each person his specific function and authority. Decisions are therefore made at all levels in an environment of necessary ignorance. Attempts to break out of this systematic ignorance by establishing committees merely lead to mutual incomprehension and frustration. The educational institutions which provide the support for this system then repeat it in their own organization.

Means and Ends

At the core of the problem are those models of curriculum planning or course design, and of organisational or corporate planning, which start by specifying objectives and then design a system to achieve them, together with various monitoring devices to pick out anything which may be going wrong. Expressed diagrammatically, these systems always finish up as a closed circuit, which is precisely their limitation. The objectives are defined within the system, which is considered satisfactory if they are achieved. Engineers are happy when their bridges stand up, accountants when their books show a profit, educators when their students get jobs.

No-one however considers whether the bridges are necessary, whether the profits represent value added, or whether the jobs are useful. Even more seriously no account is taken of the secondary and unintended consequences of these achievements, such as whether the bridges generate traffic to destroy communities, the profits distort supply and demand or the allocation of resources, or the education systems restrict opportunity and redistribute power. The growing demands for environmental impact statements about major construction proposals reflect the community disquiet at the results of these restricted forms of thinking, but do not go far enough towards eliminating the basic problem. If we required managers and politicians to justify all their schemes by providing full assessments of costs and benefits in the form of cultural and social, as well as environmental, impact studies we would come closer to solving this problem by opening the processes by which decisions are made to the full human context which they affect.

The consequences of introducing such changes into the operation of educational planning would be twofold. At the classroom level, the emphasis in all courses would shift from a pragmatic concentration on means to an emphasis on total material and mental, or cultural, environmental systems. Rather than providing specific vocational preparation, degree courses in general sciences and humanities would concentrate on such basic disciplines as geography,

economics, sociology, physics, chemistry, anthropology, history, literature, philosophy, biology and mathematics and on interdisciplinary studies focussed on the material or mental environment. Applied skills, such as systems analysis or data processing, can be taught as a part of these subjects, but the subjects themselves will be taught as ways of understanding various aspects of the complexity of physical and human reality, rather than as knowledge to be applied to the manipulation of this reality.

At the national level, we should understand higher education both as a network of institutions which through their activity keep alive important values in our society and as a structured process which moulds the future shape of our society. As institutions, universities and colleges are as important to a free society as courts or parliaments, and need similar freedom to get on with their own work free from outside direction. Their task is to pursue knowledge wherever it may lead and to make it available to the community as critique and understanding. The individual academic therefore needs the freedom to study, teach, speak and write as he chooses, subject only to the judgement of his peers. Yet, because knowledge is a part of material production, and institutions of learning are engaged in its distribution as well as its production, they are a part of the mechanism by which the wealth of the community is distributed and its social structure determined. The community therefore has a right to regulate this aspect of their activity.

Thus the need for academic freedom cannot be extended into a right ~~for~~ to institutional autonomy.

The failure to distinguish between what we might call the academic and the social functions of tertiary education institutions, and to recognize that these two aspects are inseparable, leads to much confusion in the educational debate. Those who see only the first are inclined to demand a return to 'academic standards', the exclusion of students, and freedom from government interference, while those who see only the second demand that all educational institutions be made accountable to the community and required to serve national purposes, social or economic. In truth universities and colleges cannot do their job without academic freedom, but if that freedom is used to exclude people then it limits knowledge and thus destroys its own premise. The problem of educational adminstrators and policymakers is to maintain both freedom and accountability, a task which requires precisely the ability to understand the overall effects of their actions which our forms of education at present so manifestly neglect.

Binary and Trinary

The division of tertiary education into a binary or trinary system based on specified functions for each segment represents an attempt to resolve this problem by granting freedom to one segment while making the others accountable, and has collapsed under its own contradictions. The binary system stems from the

attempt of the then government to cope with the expansion of the numbers of people seeking tertiary education by providing cheap institutions for those with second-rate, or 'practical', minds. From the start the attempt was intellectually dishonest, using the rhetoric of practicality and vocationalism to disguise the reality of class distinction. Universities have never, or at least not since the establishment of engineering and medical schools, excluded either mechanical aptitude or vocational purpose. What they have done, and continue to do, is to monopolize entrance to those careers which lead to the greatest power and wealth, and to exclude undue proportions of students from working class and state high school backgrounds. Defenders of this last practice claim that selection is purely on academic merit. This can be accepted only if we believe, against the evidence, that intellectual aptitude is unevenly distributed between classes, that a final school examination can measure academic achievement accurately enough to rank all candidates on a single scale, and that this ranking is relevant to the individual's overall potential eventually to follow the career of his choice.

Attempts to reinforce the distinction between universities and colleges have inhibited the ability of the colleges to maintain proper vocational and intellectual standards and have led to the proliferation of narrowly-conceived courses directed to specific careers which lack intellectual basis which should characterize any degree course. Rather than

experimenting with degree courses by introducing new areas of study into them, colleges have been frequently obliged to work back from the supposed requirements of employers or professional associations and conduct courses which enhance the esteem of an occupation while they debase the academic currency. Thus, rather than, say, allowing the inclusion of some secretarial training in an arts course, thus equipping the graduate both with an ability which will enable him immediately to apply his learning and with learning which will enable him to continue to grow in his occupation, we find whole degree courses in secretarial studies. The next step is for the occupation now dignified with its own degree to seek legislation or an industrial award which prevents anyone without this award from entering careers in this field. Once they have achieved this status the professionals can claim that their dignity is wasted on menial tasks, and so demand that less skilled aides be employed to assist them. These aides in turn seek from a technical college specialized training which will lift them from the common ruck without actually raising them to the full dignity of professionals. Teachers, social workers and librarians have already gone through this process; the nurses are in the middle of it; secretaries, youth workers, leisure counsellors and fitness supervisors are all awaiting their turn. So labour is further divided hierarchically, opportunity restricted, and the ability of the community to work collectively to meet change and satisfy need is reduced.

As these courses proliferate like birds in the Galapagos or ~~hawkers~~ traders on a Bombay street, each trying to fill ~~its~~ his own vocational niche, they all have to compete in the same market place for their sustenance - students. As students are ranked along a single measure, so courses are ranked according to their ability to attract the best students. Courses in each state become ranged in a pecking order based on descending order of 'cut-off point' - the minimum score students need to obtain entry. This pecking order is made known by the state admission centres through whom offers of places are made, and it is not unknown for admissions officers to rig their scores by making offers to weaker candidates directly rather than through the centres. The reputation of a course thus comes to depend not on its actual standards of excellence but on its attractiveness, which may be influenced by such factors as the success of its graduates in obtaining employment or wealth, but will also reflect prejudice, snobbery, ignorance and fashion.

The pressure on colleges to maintain their places on this pecking order has led them to become more exclusive in two ways. Most obviously, as courses become more popular they can raise their entrance standards and exclude more students. But in order to become popular they need to be seen as offering a sole means of entry to a desirable occupation.

This puts pressure on the colleges to make their courses longer, more specific, and, if possible, more difficult. Thus, as they train the professionals, they exclude some of the immediate needs of industry, as well as those students who are interested in the immediately practical rather than the eventually prestigious. Just as the establishment of professions creates a need for less skilled aides, so the form of education used for the professions generates a need for less demanding and more immediately practical training. So the technical and further education segment is developed to complement the universities and advanced colleges. As it extends its scope and as the requirement of certification grows, so this segment too comes to limit opportunity, and to seek ways of developing its courses into areas formerly occupied by colleges of advanced education.

Unity Through Diversity

The problems of function and demarcation disappear once we recognize that interests and aptitudes cannot be divided into dual, or even triple, categories, but vary literally infinitely. Rather than an exclusive form of post-secondary education, therefore, we need one which is, at least potentially, open to everyone, and rather than three kinds of post-secondary education institutions we need as great a variety as possible.

Within a variety of institutions it would be possible to distinguish three different levels of courses, but the balance between these would vary from institution to institution, as would the mixture of subjects offered. Central would be the basic degree courses in the broad fields of science, the humanities, technology, the creative arts and economics. In some cases courses in these areas might include some specifically vocational content, but in general they would be designed to give students a mastery of those disciplines which provide an understanding of the world in which they would later pursue their careers.

The second kind of course would be vocational studies carried out in graduate schools, particularly schools of education, medicine, law, engineering and administration. These schools would assume a knowledge of fundamental disciplines and would then provide the opportunity for students to gain the skills needed to apply this knowledge in specific situations and to extend it to meet the immediate practical needs of their chosen vocation.

Finally, we would still need a variety of courses providing initial training in practical skills for the various trades, and for extending this knowledge to technician level. These courses should be designed not so much to meet the needs of the occupation as those of those students who are not interested in theoretical studies, but want to get on with interesting

and useful work as soon as possible. Apprenticeship courses would have no prerequisites, would be of three years duration, and would include less theoretical work than at present. A series of further courses of varying length would be available so that the tradesman could extend his knowledge throughout his working life as his needs and responsibilities grow.

Finally, all these courses should be planned and co-ordinated so that a person with appropriate aptitudes and interests could ~~can~~ move at her own pace from the simplest apprenticeship to the most demanding graduate professional training and beyond.

The emphasis of the whole system would be on openness and flexibility rather than on prescription of function. People should be able to opt out of education at any time without thereby being deprived of opportunities later in life. Similarly anyone wishing to return to education at any time should be able to obtain entry to a course which will enable her to build on her immediate needs and interests, whether these are for a particular skill she needs immediately, for general education, or for a complete professional training which will enable her to qualify for and complete professional training and embark on a wholly new career. Finally, rather than trying to remove all initial professional education from the workplace, as is presently happening with nursing, we should provide people who have completed

such practical courses with the opportunity either to continue to a general tertiary education or to move on to specific graduate education. Nurses in particular should be given the opportunity to move directly to medical courses. In this way, distinctions between tradesman, technician, professional assistant and professional can become matters of time and experience rather than of lifelong division of labour. These distinctions would be further diminished by the fact that any single institution might offer courses at all or any of these levels.

5. PLANNING AND ORGANISATION

Ideally, there would be no management in tertiary institutions, which would run themselves as communities of scholars and students negotiating their own arrangements over what was to be learned and how. The facts that universities and colleges now derive their income from the public purse rather than from private benefactions or fees is not in itself an argument against such self-management. Universities arose only as western societies became sufficiently wealthy to support collectively the communities of scholars they needed to develop the knowledge which would both enhance their spiritual welfare and develop their burearucracies and thus extend their trade and consequent wealth. These academic communities were protected at first from the secular authorities because they grew within the protection of the church, but even within that institution they enjoyed considerable autonomy. They throve, however, because this form of organisation best suited their form of production, and because this production and the benefits it conferred were valued by society. When their ideas had controls imposed on them, ~~and~~ their productivity declined accordingly, as most recently in Germany, Italy and Russia.

Monopoly

The argument for imposing some control over tertiary institutions depends, then, neither on the public origin of

their funds nor on demands for accountability in terms of efficiency, but rather on the power which they exercise directly as a consequence of their near-monopoly of the production and distribution of knowledge.

The technological revolution has concentrated power in the hands of public and private bureaucracies. Some form of higher education has become a necessary condition of membership of these bureaucracies. The bureaucracies gain their power from the ownership or management of technology, including the means of storing and disseminating information. These means not only control the direct output of labour, but determine the factors which will be taken into account in deciding what projects will be undertaken, and thus, ultimately, on what forms of production labour will be employed. The market itself becomes atrophied as near monopolies develop in communication and in systems of distribution. Corporately-owned shopping centres are closed to the individual trader or hawker, and, in the relatively near future, facilities for shopping electronically from home will be similarly controlled. Although individual production is likely to survive, and even increase, in the 'black economy' of direct barter and alternative styles of living which exists at the margins and in the interstices of the corporate state, the major directions of the economy will be determined by those with corporate power. Even the ostensibly individual professionals will increasingly march to a corporate tune as the means of maintaining health, law

and order become dependent on increasingly sophisticated, and expensive, technology.

If the corporate state is to be open to human needs, access to it must be doubly open. Firstly, access to positions of authority within the bureaucracies and professions must be open to people from all levels of society. Secondly, the bureaucracies themselves must be accountable to society as a whole. In theory, in the democracies this control is already exercised by the parliaments. In practice, parliaments lost the ability to determine public policy once they ceased to be exclusively representatives of the ruling class and became instead an institutionalised battleground for competing class interests. Public debate then shifted to the institutions behind the parliaments, the unions and the parties, but as technology has fragmented public life these too have ceased to perform the function of public debate and education, and have instead become bureaucratic machines controlled by small groups of activists in the interests of seeking and maintaining power. Increasingly these activists themselves have had a tertiary education - not because they deliberately exclude others, but because such education is becoming necessary in order to control the machine. Unfortunately, in the absence of public debate there is no evidence that such ability is necessarily matched by an ability to discern the issues at stake. Furthermore, the capture of executive power through parliament becomes decreasingly important as corporations manipulate the

contradictions of federal systems and utilize technology to create a globally integrated economy beyond the control of any national government. Such power as remains within the nation thus falls into the hands of the public bureaucrats who manage relationships between national governments and the agencies of international capitalism.

Unless we are to remain victims of this situation, we must restore public debate which will enable the bounds of possibility to be recognised, in their extent as well as their limitation, by people at large. The possibility of such debate in its turn depends on general access to the kind of knowledge developed through tertiary education.

Control

In supposedly simpler times, society provided a variety of paths to knowledge and power. The position of the skilled craftsman, for example, might be weak, because of his numbers in a time when the demand for his services was weak, but he could remedy this by forming friendly societies to share adversity and unions to prevent exploitation. Such action in itself provided an education, and as long as society required his skills in any measure his position was ultimately secure. As industrial systems grew larger, even the so-called unskilled worker who could stand the conditions

of the factory was able to secure similar advantages. As well as these opportunities for the classes, there were opportunities for the individual who could by his energy or ability could himself become, or give his children the chance to become, managers or professionals. State systems of primary and secondary education themselves increased these chances of individual mobility, the characteristic four-generational path in Australia being from skilled worker or farmer to primary teacher to secondary teacher to doctor to lawyer. Both private and public enterprises recruited management from a variety of backgrounds, management itself was small-scale and important decisions were often made locally. The ordinary citizen thus exercised more control over his life, was able to influence the decisions of others immediately, and could, in the process, educate herself in the control of society. Disasters of war, plague and depression were due to the hidden hand of history or to miscalculation, and thus to be endured or changed. In today's world, technology has revealed the hand, but hidden the minds behind it. We thus perceive no need to endure but still cannot change the events of our lives - not, that is, until we can control the technology.

As universities have become large bureaucracies they themselves have become fragmented and have lost control of the technology their members create. Outside intervention, with its demand for accountability in terms of specific objectives, has speeded this fragmentation as individual

schools and faculties have come to see their function ~~themselves~~ as meeting social demand through their particular courses or programs of research, or have found their interests unfashionable and have retreated into the esoterica of specialist research in the more arcane reaches of their disciplines. At the same time the staff of the colleges have been reduced, in the name of vocationalism, to mindless operatives implementing approved course regulations.

Scholarly Communities

A return to the idea of an academic community offers the possibility of reversing this situation. In the polycentric society within which universities and colleges originally grew, such communities could be self-governing because there were many alternative sources of power, and they could thus trade in a kind of regulated marketplace of ideas. Australia's universities and colleges are however the creations of civic pride and state bureaucracy, and such autonomy as they have achieved has been based not so much on the idea of a community as on an identity of interest among academics in resisting the pressures on them to do their jobs. Their official spokesmen have been notably more vocal in resisting attempts by governments to enquire into their inner workings or to reduce their corporate independence by abolishing fees than they have in furthering openness in their own appointment and accrediting systems, in defending the right of scholars and academics to speak and travel where they will, or in

resisting the temptation to concentrate their energies on 'useful' research which can attract government funding. Notably, all but two of the 'centres of research' financed by the previous federal government at the expense of general university funding were devoted to projects of applied rather than pure research.

A true community of learning is utterly different from an independent or autonomous institution in the corporate state. Rather than fulfilling the purposes of the state, it exists to preserve the health of the state by providing an alternative to these purposes. Its distinguishing characteristic is openness - the reverse of bureaucracy. It is open to students, to ideas, to scholars.

In contemporary society, such an institution can exist only if it obtains from society sufficient resources to provide the books, journals and technology it requires if it is to be able to engage with the world, together with the salaries of those working in it, including students.

It makes little difference economically whether funds for these purposes come from private or public sources. The advantage of private funding is that, particularly if it comes from a number of donors in a multitude of fee-paying students, it may protect the institution from bureaucratic interference. A pluralist state requires the plurality of institutions which, as in the United States, can develop when there is a variety of methods of funding.

But this diversity and freedom from interference are bought at considerable price. Student fees are paid by either families or employers who expect tangible results in the form of immediately useful skills or of access to privilege. The stultification in earlier decades of teacher education, in Australian universities as well as in departmental colleges, illustrates the danger of reliance on payment by employers, as does the excessive pragmatism of courses in engineering. The strict hierarchy of esteem of American institutions, from ivy league to community college, is a result of the need of private fee-paying students to buy esteem. Both systems waste the ability of those who fail to gain access to the best facilities to match their interests or are forced to let interests atrophy to meet the perceived needs of employers.

The case for complete government funding of tertiary institutions, including the cost of providing an adequate income for students, rests on the need of society for unfettered enquiry into intellectual matters and for the development of technology and the design of working methods which will enable our economy to function effectively for the satisfaction of human needs. The responsibility of governments is not to define social needs and then commission institutions to meet them, but to provide institutions for those who wish to take advantage of them and can usefully do so, and to provide these institutions with the resources needed to get on with their task. This task will include the establishment, through debate and enquiry, of social needs.

The authority of government should not be used to determine how they carry out their task, but to ensure that they remain the kind of institutions needed by a free society. Thus, rather than direct interference with courses, by prescribing numbers of students and through systems of approval and accreditation, governments should interfere directly to ensure that the institutions remain open. This would require direct government intervention to lay down guidelines for the appointment - and possibly the disappointment - of staff and for the selection of students.

Staff

Guidelines for the appointment of staff exist already in various commonwealth and state anti-discrimination laws, and federal legislation providing funds for tertiary education should embody a similar provision requiring any institution receiving this money to avoid, in making staff appointments, any discrimination on the grounds of race, sex, or personal belief. This would not however take issue with the narrow definitions frequently used to determine the 'most qualified applicant'. Both colleges and universities should be required to reserve at least a proportion of their staff appointments for people who lack higher degrees or a string of publications but who have a record of practical achievement, or whose academic career has, for example, been

interrupted by the requirements of raising a family. Such a policy would promote movement between educational institutions and the wider society and thus enhance the ability of colleges and universities to engage with that society without impairing their function as a source of alternative ideas.

The question of staff tenure is more difficult. The fundamental argument in its favour is that without tenure staff cannot perform without fear or favour their function of studying, teaching and writing. High academic salaries and security of employment have, however, attracted many staff who merely enjoy getting on with their fairly undemanding jobs without harassment, and who consequently fail either to stir their students or to repay the privilege they enjoy by meeting the concurrent obligation to advance learning and discomfort society. Others have found that the liquors of the staff club have long since quenched the fires in their bellies. The result is that such staff now hold the majority of tenured, and certainly of senior, academic positions. This leaves the most recent graduates ~~either~~ to tread the dreary round of temporary appointments, to abandon the prospect of an acadmic career, or to seek salvation abroad.

The solution is to abandon tenure but to ensure that all appointments are for a sufficient term to give an incumbent sufficient security to get on with his immediate task. This

would be guaranteed by a system of seven-year appointments, including one year's sabbatical leave as a right, to be taken at any time during the seven years. As staff would be eligible for reappointment, continuity would be assured for projects of demonstrated worth. The system of appointment would ensure that this worth would be measured by a form of peer review rather than by bureaucratic assessment. Finally, if all academic appointments in tertiary institutions were subject to the same term, the continuing cycle of vacancies which would result, and the variety of institutions in which they would occur, would ensure that no competent academic would remain unemployed merely because his work had upset one particular institution.

One of the obstacles to such a scheme is the lack of a superannuation scheme which not only allows people to move from one employer to another but also has the flexibility to cover periods of unemployment and to allow members to alternate during their career between high and low salaries and full and part-time work. The implementation of a form of fixed-term academic employment would be conditional on making such compensating changes in the superannuation scheme. The cost of this in turn would be offset by eliminating the ~~no~~ need for a fixed age of retirement - the individual would be able to take the kind and amount of work suited to his physical and mental condition. Further, colleges and universities would provide the facilities for any academic to continue his research during any periods of unemployment.

Students

"In teaching people of eighteen to twenty-one, there is no substitute for a combination of great care, relaxation, and attention to the issue." Vincent Buckley, Cutting Green Hay, 1983.

In one sense, the needs of the tertiary student of any age are simple - membership of a community in which she is free to negotiate her own learning, staff with the ability to teach and sufficient understanding of their areas to do do usefully, libraries and workshops with all the facilities the individual needs to obtain knowledge and skills. Yet, as Buckley has pointed out, there is more to it than this. Teaching is not easy, and there is an inherent contradiction between the demands made by universities and colleges for free response from the students and the competitiveness and formality of the system of assessment. Then there are the problems of the students themselves - not all, even in the most homogeneous institution, are at the same level of readiness to learn, older students may inhibit the younger, many students are alienated from the particular culture of the institution they attend and fail to understand its expectations of them. Institutions have attempted to overcome these problems by raising the entrance level below which they exclude students, by providing services to help students with their personal problems, and by assisting staff to improve their standards of teaching, but, at least as measured by the numbers who fail or drop out, none of these measures has had much effect.

At the heart of student difficulty in all forms of tertiary education is the pressure to succeed. If the apprentice drops out of school he cannot become a tradesman; if the undergraduate fails he loses his allowances; if the honours students gets a low grade he will not get a post-graduate scholarship. To reduce these pressures by reducing the demands for achievement would destroy the major function of tertiary education. Governments can however intervene directly to reduce pressure by separating achievement from income. Firstly, study should be recognised as work, as a useful activity; consequently, any full-time student should be entitled to receive the dole, or some better form of guaranteed minimum income, subject only to periodical certification of minimum attendance and effort. This in turn would make the expensive and complex system of tertiary education assistance allowances unnecessary, and would allow all students to proceed at their individual pace. Secondly, the government should ensure a return to openness of entry to all tertiary courses for all qualified applicants, regardless of ranking score. Thirdly, the length of courses should be variable to allow students to undertake preliminary studies in areas in which they are weak. The pressure on students would thus become an internal one to qualify in their own time and at their own level, rather than the external one to complete within an arbitrary period. At the same time, specific professional education would be deferred to graduate schools, and a continuing path established from the most basic trade course to the most

sophisticated professional training. In trade courses, formal education should be separated from the practical experience, and the age barriers removed, so that people can commence a trade course at any time in their life and complete it over any period.

Finance

In any economic system choices have to be made between different ways of using limited resources. The choices presently made are too often based on incomplete measurements of true costs and benefits, but even the recognition of learning as production and of study as work, and the use of labour as the measure of value, will not in the foreseeable future allow any community to devote more than a relatively small proportion of its income to formal tertiary education. The government must therefore impose some priorities and limitations. But, as Bruce Williams has pointed out, the absolute and proportional numbers of those leaving secondary school over the next 20 years will diminish, so that we can provide them with tertiary education without increasing the proportion of our total income used for this purpose. There is no net cost to the nation in allowing people to undertake fulltime studies while on the dole - if they are already unemployed, it merely allows them to use their time usefully, and if they are employed they will leave a vacancy to be filled by someone previously on

the dole. Any rise in proportionate numbers engaged in fulltime education is likely to be slow, and within our capacity to pay from the increased productivity resulting from improved technology.

Numbers

The most urgent issue facing tertiary education in Australia is the likely increase in absolute numbers seeking admission in two to three years time, as the recent tendency of students to drop-out of the later years of secondary school is reversed. Even if the measures I have proposed should slow down this movement by attracting early-leavers back into education and providing more unskilled jobs for adolescents who have no immediate interest in education, the overall numbers would not be affected. Unless tertiary education is to become even more exclusive, the government needs to start planning its expansion immediately.

In the long run, educational planning should be based on more fundamental demographic and manpower patterns. We should assume a steady shortening of the average total working life spent in paid employment. Some of this shortening will occur through early retirement and some through the effects of a shorter working week or longer annual holidays. The remaining amount will occur either

through the generation of a class of the intermittently employed, or by expecting most people to be intermittently unemployed. Tertiary education should be planned to ensure the latter by providing sufficient places for all those leaving school, together with a small proportion of those retiring and all of those who are expected to lose permanent employment. The fact that some school leavers will take up jobs, and that some people will choose to give up jobs to undertake full-time education, will not affect these net figures.

The distribution of this number of places between different courses and different institutions can be done on the basis of present patterns of demand by students. Rather than attempting to meet the needs of industry by planning the specific numbers of places to be provided in particular courses, industry and government would be provided with a pattern of need in the form of the numbers of people expected to be seeking jobs and the kinds of qualifications they would bring. The aim of government planning should be both to provide these jobs and to provide short courses, to equip people with such immediate skills as they may require. Full-time education at all stages would at the same time become more general, equipping people with the fundamental skills of literacy and numeracy and the basic understandings of science, technology and the arts needed for our survival.

The Institutions

A system of post-secondary education which is truly both educational and vocational requires the greatest possible variety of institutions, each characterised by a distinct mixture of courses and functions. The present tri-partite structure has not only encouraged unnecessary divisions but has also contributed to the 'academic drift', whereby colleges of advanced education, in particular, have shed lower level courses, raised the level of tertiary courses from diploma to degree, and introduced post-graduate work. Technical colleges have then been required to fill the gap at the lower level, and have then in their turn sought to enhance their status and apply the abilities of their staff to the design and conduct of courses at higher levels. Because funds for advanced education and for technical and further education have come through separate channels it has been difficult to employ staff to work in both areas, and so demarkation disputes have been rife. Similarly, as advanced colleges have attempted to round out their professional courses and provide full opportunity for their graduates they have encroached on university prerogatives. The requirements of approval and accreditation, and the need to observe government policies on institutional functions, have diverted to expansion in this area a great proportion of the energies which might have been better spent on earlier levels of education. Finally, the series

of amalgamations of advanced colleges and the separation of TAFE colleges in Victoria, the only state which had had an extensive system of colleges functioning in both sectors, has completed the institutionalisation of the differences.

There are however moves in an opposite direction. Darwin Community College offers courses at three levels, and is expected to continue to do so even in the unlikely event of the establishment of a University of the Northern Territory. New colleges at Port Hedland and the Pilbara, and the newly separated college in Kalgoorlie appear to offer a similar possibility. The languishing CAE in Warrnambool could be given renewed life, now that its powerful protector has departed from federal politics, by developing similarly. Advanced education facilities could be provided to regional centres like Albury-Wodonga, Broken Hill, the Gold Coast or Shepparton by developing their technical and further education colleges into full community colleges. These developments would however require a change of emphasis from narrowly vocational courses to broad courses in the arts, sciences and social sciences.

At the ~~forefront of~~ earliest point in a diverse system of post-secondary education would be trade and apprenticeship courses. Although changing technology is destroying many trades and changing others beyond recognition, there will always be a need for

people capable of dealing with immediate practical issues in a workmanlike fashion. The advantage of apprenticeship is that it allows craftsmen to pass on their skills directly in the context of the work, and that it enables the apprentice to start work in her chosen field immediately, rather than having first to complete a course of training. An examination of technical and further education courses could probably reveal many fields, such as valuing and surveying, where it would be preferable to revert to apprenticeship rather than insist on a full certificate or diploma course as a prerequisite. Other occupations, such as that of secretary, could well be better served by the introduction of apprenticeships rather than of academic courses.

The major problems of the present form of apprenticeship are the shortage of places, the length of the course, and the academic requirements. These would be alleviated were courses to be shortened to a standard three years, all prerequisites abolished, including that of age, and a greater variety of post-apprenticeship certificate courses developed to provide the further knowledge the tradesman will need as she advances in her career. Similarly, the satisfactory completion of an apprenticeship should be a sufficient condition for admission to a tertiary course in an advanced college.

One of the most important activities of technical and further education is the provision of alternative sixth-form courses. As these courses offer one of the most immediately

effective counters to the dominance of private schools over university entrance examinations they should be developed vigorously. The potential of these courses has however diminished as they have become bureaucratised, duplicating the subject and examination structure of conventional matriculation courses. There is a need for non-subject courses which meet the specific needs of students to learn the skills they will need to cope with tertiary courses.

Technical and further education has been least effective in the design of full-time technician training courses, which have served to reduce rather than enhance opportunity as they have restricted entry to particular careers. They need to be developed in much larger variety, with an emphasis both on developing fundamental understanding, particularly of mathematics and the applications of electronics, and on the immediate needs of the job. Again, they should be so designed that entry is open to all, and open at an advanced level to those who have completed a related apprenticeship course, and so that they will lead to related tertiary courses for those who wish this.

The blurring of boundaries between colleges of advanced and of technical and further education should enable some staff at least to work at both levels. Advanced colleges should continue to cater for practical education in such fields as the creative arts, but the emphasis of their

under-graduate courses should be on basic understanding in broad fields, with postgraduate courses for professional education for teachers, engineers, librarians, social and welfare work, and so on. Undergraduate courses in colleges should be open to all who have completed 12 years of secondary schooling or its equivalent. They should be of variable duration to allow students to undertake preparatory studies in subjects they have not previously undertaken. At the same time, colleges should be encouraged to develop in-service courses for people who are already advanced in their careers but either lack formal qualifications or need to be brought up to date. ~~At the same time,~~ Courses in the colleges should continue to be distinguished by an immediate orientation to the world of government and industry. To accomplish this, and to ensure that their staff maintain their competence needed to provide professional courses and to apply basic disciplines to community needs, at least one quarter of their work should be in research, including the supervision of post-graduate students.

The universities would, as at present, offer only courses for which students had qualified with appropriate year twelve prerequisites, and graduate courses in medicine, law, education and engineering, the latter two in parallel to colleges. The central function of the university would be pure research, but the limitation on terms of appointment would ensure that the widest possible part of the total academic community would have the opportunity of sharing in this work.

Just as staff would be encouraged to work at different levels in the system, both at different times in their career and at the same time in particular institutions, so staff in all post-secondary institutions would enjoy the same conditions of employment. These would include freedom from arbitrary dismissal or retrenchment, freedom to carry out their work and teaching according to their best professional judgement, and the right to sabbatical leave. The last is important. All tertiary institutions need to devote a major proportion of their efforts to research and development within their fields of responsibility, but the amount of research carried out by individual members of staff will vary from institution to institution according to its particular functions. No post-secondary education should, however, be entrusted to anyone who does not have the opportunity periodically to refresh his mind and bring himself up to date in his field. Sabbaticals should eventually be the right of the whole community, but they are an immediate requirement of a tertiary education system capable to meeting the technological challenge.

Governance

Ideally, any tertiary institution should be a self-governing community. In practice, some structure of government is needed to ensure accountability for the expenditure of public funds, to mediate between conflicting interests and

to maintain the commitment of the institution to its overall educational purposes. The balance between these requirements will be upset if the institution is conceived in terms as a governing authority and an employed staff. Rather, a collegiate model of authority should be used, with responsibility divided between a council or senate representative of wider community interests and an academic board representative of the staff discharging the institution's educational functions and of the students learning from them.

Each institute should be governed on the principle that staff should be free to teach as they see fit and students to negotiate their own learning in accordance with their interests. Interference with these freedoms can be justified only when their exercise impinges on the freedom of another. Thus, students will choose a particular course or institution because of its stated functions, and staff are constrained to carry out their part in discharging these functions. They should have also the right to appeal against any staff assessment of their performance. Similarly, staff are entitled to a full voice in the design of the courses in which they teach, and should be free to work in any groups they choose to design and offer new courses within their fields of expertise and the purposes of their college. There is no advantage in replacing the tyranny of the god-professor by that of the committee and its rules and learning should as far as possible be conducted under

conditions negotiated by the immediate participants, leaving the institutional authorities to decide priorities, allocate resources and act as final courts of appeal.

Even with the greatest diversity of well-conducted institutions, however, there will still be some students who find that none suits their needs. For these an institution along the lines of the National Institute for Open Tertiary Education (NIOTE) proposed under the Whitlam government is required. This would allow any individual to propose a course of study made up from courses from institutions anywhere in Australia. If approved, the institutions would receive proportionate funds and the student, when successful, would receive a NIOTE award. A simple and virtually cost-free solution to the problem of rigid academic bureaucracies.

Whatever the government of institutions, however, their full academic function as autonomous centres of learning and criticism will be inhibited unless they are open, not only to staff and students, but to ideas. Max Charlesworth has drawn attention to the failure of academic philosophers to keep pace with developments in biological engineering and its ethical consequences. It is not enough for academics to pursue their own interests; if these interests are not to become closed orthoxies they must be constantly subjected to the scrutiny of academic peers in all disciplines. This ideal, implicit in the term 'university', will be restored

only if the work of academics is defined as including not only teaching and research in their own disciplines but also the application of learning to public debate.

Finally, the planning and design of the whole academic system should be the responsibility of a single Commonwealth Post-Secondary Education Commission, receiving advice from similar state bodies, and advising the commonwealth government on the numbers of student places required, the finance needed to provide them, the way this money should be directed between institutions to meet student demand and the needs of the community for a diversity of institutions and of research, and the conditions which should be placed on the allocation of this money in order to ensure the maintenance of the system of open and self-managing institutions - in short, of a free system of open tertiary education for a free people.

DEFINITIONS

Education: used generally in this pamphlet to refer to formal systems by which the individual is given the skills and understanding which will develop his ability to participate through work in the life of the community and to control its development.

Training: teaching particular skills.

Post-secondary education: all formal education beyond secondary schooling, including apprenticeships, technical and further education, adult and continuing education, advanced education and university education.

Tertiary education: post year 12 of secondary education; including all initial degrees and professional training at advanced colleges, universities and colleges of technical and further education.

Higher education: all university and college education, including post-graduate education.

Continuing Education: all non-credit courses designed to enhance individual development and training.

In-service education: education designed to enhance the productivity or professional skill of people already in employment

CAEs: Colleges of advanced education, also referred to as advanced colleges; colleges offering tertiary degree, diploma and associate diploma courses approved by the Commonwealth Minister of Education in accordance with the provisions of commonwealth legislation on advanced education.

TAFE: Technical and Further Education; courses, jointly funded by the commonwealth and the states, for apprenticeships in the trades, for technicians and professional assistants, for mature students re-entering fulltime education, and in continuing and in-service education.

SELECT BIBLIOGRAPHY

~~SOURCES~~

Anderson, D.S. and Eaton, E., Australian Higher Eduation and Society, Research School in Social Sciences - Working Papers in Sociology, ANU, Canberra, 1982.

Berg, Ivar, Education and Jobs - the great training robbery, Penguin Education, Harmondsworth, 1970.

Blainey, Geoffrey, A Centenary History of the University of Melbourne, MUP, Melbourne, 1957.

Chipman, Lauchlan, 'Stopping the rot in Australia's schools and colleges', Quadrant, vol XXVI, no.10, October 1982, 52-60.

Connerton, Paul, The Tragedy of the Enlightenment: an essay on the Frankfurt school, Cambridge University Press, Cambridge, 1980.

Crawford, R.M., A Bit of a Rebel: the life and work of George Arnold Wood, Sydney University Press, Sydney, 1975.

Dunn, Terrence R., 'An empiritical demonstration of bias in HSC examination results', The Australian Journal of Education, vol.26, no.2, 1982, 190-203.

Encel, S., Equality and Authority, Cheshire, Melbourne, 1970.

Illich, Ivan, Tools for Conviviality, Calder & Boyars, London 1973.

Fox, Len, 'Marshall-Hall and the Wowsers', Overland, no.72, 1974, 46-49.

Gardner, W.J., Colonial Cap and Gown, University of Canterbury Press, Christchurch, N.Z., 1979.

Gross, Edward and Western, John S., The End of a Golden Age: higher education in a steady stage, UQP, St. Lucia, 1981.

Jencks, Christopher, Inequality: a reassessment of the effect of family and schooling in America, Basic Books, New York, 1972.

Karmel, Peter, Some Economic Aspects of Education, the 1962 Buntine Oration, Cheshire, Melbourne, for the Australian College of Education, 1962.

--- 'Some Arithmetic of Education', in E.L. French, (ed.), Melbourne Studies in Education 1968, MVP, Melbourne, 1967, pp.3-34.

Lee Dow, Kwong; Jones, Lorraine D. and Osman, Liesl M., 'The social composition of students entering the University of Melbourne in 1969 and 1970' in R.J.W. Selleck (ed.), Melbourne Studies in Education 1972, MUP, Melbourne, 1972, pp.77-95.

Mandel, Ernst

Jones, Barry O., Sleepers, Wake, O.U.P., Melbourne, 1982.

Marginson, Simon, review of Clive Williams with Tom Pepe, The Early Experiences of Students on Australian University Campuses, University of Sydney, 1982; Australian Teachers Federation Research and Industrial Circular, 23 August, 1982.

Murray-Smith, S., Technical Education in Australia, unpublished, Ph.D. thesis, University of Melbourne, 1966.

Niblett, W. Roy (ed.), The Sciences, the Humanities and the Technological Threat, University of London Press, London, 1975.

Raven, John, 'Education and the competencies required in modern society', Higher Education Review, vol.15, no.1, Autumn, 1982, 47-57.

Sandercock, Leonie, 'Work and Play: the architect, the bee and the space invaders', in John McLaren (ed.), A Nation Apart. Longman Cheshire, Melbourne, 1983.

Seddon, George, 'Managing a resources boon or in praise of country boys' in S. Murray-Smith (ed.), Melbourne Studies in Education 1982, MUP, Melbourne, 1983, pp.35-48.

Stretton, Hugh, Capitalism, Socialism and the Environment, Cambridge University Press, Melbourne, 1978.

White, Richard, Inventing Australia, George Allan and Unwin, Sydney, 1981.

Williams, Bruce, 'The new arithmetic of education', in S. Murray-Smith (ed.), Melbourne Studies in Education 1979, pp.45-55.

REPORTS AND PAPERS

Martin Report: Tertiary Education in Australia, 3 vols., Melbourne, 1964-65.

Williams Report: Education, Training and Employment, 3 volumes, Canberra, 1979.

Myers Report: Technological Change in Australia, 4 volumes, Canberra, 1980.

Science and Technology for What Purpose? (ed. A.T.A. Healy), the Australian Academy of Science, in association with the Academy of the Social Sciences in Australia and the Australian Academy of Technological Sciences, Canberra, 1979.

Commonwealth Tertiary Education Commission, 'Selected higher education statistics, 1982 (preliminary)'.