opportunities within universities has been paralleled by generally recessionary labour market conditions. Departments are becoming crowded with senior academics and there is less infusion of new blood than previously, since turnover rates are reduced compared with the past. As Judith Sloan noted in her major survey of the academic labour market adjustment process:

Growth provides universities with great scope for flexibility. It is easy to alter or maintain the distribution of staff between young and old, between tenured and non-tenured and between disciplines. No growth deprives the universities of much flexibility. Certain consequences are likely if present (1982) hiring, retiring and tenure policies are maintained. The average age of academics will rise. The proportion under 35 years will fall. The proportion of staff with tenure will rise and there will be a growing imbalance between job openings and the supply of new PhDs, which will be most severe in disciplines with few alternative employment opportunities. The burden of adjustment falls on the young.

Other burdens can also be nominated. There are few increments for merit outside professorial ranks, and here they are rather secretly managed. It is not possible to agree with the 1976 Academic Salaries Tribunal's view that the possibility of promotion can reasonably substitute for merit increments as an incentive device. Internal promotion from lecturer to senior lecturer is sometimes seen as bordering on the automatic, leaving special recognition (but relatively little reward) to promotion from senior lecturer to reader/associate professor. The effective criteria for these promotions seem even more stringent on occasion than those for chairs. Internal appointment to professorships is unlikely, since universities seem to prefer outside candidates here.

The university rank structure has adverse effects on mobility: with almost no jobs advertised at the levels of senior lecturer and reader, anyone except a lecturer who wishes to move to another university must find a vacant chair or face demotion. Salary inflexibility in Australian universities may also add to the disadvantages of newer universities which are unable to outbid the more established ones for much needed senior faculty.

The rigidly arranged hierarchy and its lack of incentive for effort and output prompted Professor Geoffrey Brennan to note in the 1984 Giblin Memorial Lecture that in Australia:

the same seniority structure can prevail for thirty years, virtually independent of the relative research performance of different individuals. Whether I will be a Professor at the ANU in twenty years time will depend on many things, but there are two that it will not *depend on — one is my own research output; the other is the research output and general academic standing of those who might like my job. I cannot believe that this state of affairs is conducive to high academic morale, quite apart from the direct negative effects on incentives. And by and large it does seem to me that, predictably, Australian universities are, by comparison with their U.S. counterparts, somewhat moribund.*

It was the same conclusion which led Jeff Thomas and I to ask ten years ago why some features of the adaptability of United States universities could not be imported to Australia. Those questions remain relevant today. Why is the principle of *primus inter pares* inapplicable to Australia? Why should there be no experimentation with the more egalitarian title delineation of the U.S.? Why should salaries as between classifications be so immutable? Why should merit awards not be experimented with, even once, and incentives to productivity more fully provided?

Professor Brennan also notes his favourable impression from some years in the U.S. experience:

commitment to academic values and widespread sese of vocation . . . are augmented and stimulated (as well as reflected in) the much more extensive use that American universities make of financial incentives.

Formal opposition to the notion of rewards and incentives comes, however, from important staff association and administrative opinion, including the Australian Vice Chancellor's Committee (AVCC). As noted by Thomas and myself in 1975, this resistance to change probably reflects a desire for convenience and the easy life. Whatever the reason, the resistance is remarkably powerful. In the years since the 1976 Academic Salaries Tribunal Review, the issue has been dormant in official determinations. In Mr Justice Ludeke's April 1984 decision, the question does not even seem to rate a mention.

In a way, this resistance to change may be a reflection of internal labour market organisation and influence in academic salary and employment determination, i.e. governance by administrative rules, as distinct from the external market where pricing and allocation decisions may be more directly controlled by economic variables. Unfortunately, the supposed efficiency of internal labour market operations hardly seem to apply to the academic scene. These efficiencies are usually assumed to relate mainly to the advantages of firm-specific training and implicit long term labour contracts; but these are hardly compatible with the apparent objectives of flexibility and change in academic teaching and research.

Fragmentation

The Government's successful application to the Tribunal to phase in the April 1984 5% decision seems to have spurred on a fragmentation of academic salary pressures. Through the State Industrial Commissions, staff associations can seek separate State awards to bypass the federal system in which they are apparently losing faith. Already the University Academic Staff Association of NSW (the State affiliate of FAUSA) has filed for a separate award. Separate awards could mean different salary scales between states, with problems for institutions (funded nationally) required to meet costs for which funds have not been allocated.

It is extremely doubtful that any decentralisation of academic salary fixation through the State Industrial Commissions can produce the flexibility and responsiveness in the general academic labour market which is called for. At most, the Commissions may place pressure on the central Tribunal to match any State determinations made. Hypothetically, an innovative Commission could try to induce experimentation in salary structures — but this is in my view a remote possibility.

The cure of academic arthritis — growth or de-regulation?

Judith Sloan's point that growth provides universities with great scope for flexibility has its adverse side: much of the inflexibility of staff structure and composition has been created by the financial stringency and cut-backs in Australia's tertiary education funding in recent years. Should growth return, it is not hard to foresee renewed mobility as new positions open up and the academic staff migrations of the sixties and early seventies are relived to some extent.

But there are critics who are impatient not merely with the absence of growth in funding and the immobilising effects of financial shortage. For example, Dr Frank Milne argues trenchantly that the current problems in universities are the result of the method of government funding and the incentives it generates. Milne suggests a change in the funding system:

a much more market oriented system will be superior to (an) arthritic structure. If the buyers and sellers of (academic) services confront one another directly they (will) be more satisfied than if a huge bureaucracy is interposed between them. If students pay the full cost of their tuition, they are going to demand value for money . . . if the teacher performs badly, students have an effective weapon in refusing to buy his services. Good teachers will receive rewards which increase with their performance . . . a lecture (in) a department which does not reward him commensurately with the revenue he generates, will (soon attract) bids from elsewhere. The power of the student purse is a potent force also for directing teaching resources into the most valued subjects, and away from subjects in which there is declining interest.[6]

In view of the inherent conservatism and inertia of Australian academic staff structures and regulatory procedures, Milne's ideas are of interest only if the 'marketisation' of the provision of tertiary education services is a genuine political possibility. And even an enthusiastic view of the United States system must recognise the dangers of undue concentration on rewarding teaching popularity, or placing on a pedestal the motto publish or perish. But whatever changes are contemplated, there seems little doubt about the patient's illness.

The academic labour market is now ailing in a university system which has suffered financial stringency after a substantial period of growth. There is an uneven age distribution and a disproportionately low number of normal retirements in many universities. Turnover rates have generally declined. There is a shortage of promotion opportunities for those in the universities and — a special concern — a lack of openings for the potential entrants whose youth and new technology have traditionally enlivened the universities. There are difficulties in obtaining resources for academic staff for new subject areas, and problems for implementing affirmative action programmes with such limited opportunities for new appointments. For academic staff themselves, the financial stringencies have meant worsening staff-student ratios; fewer research resources; absence of proper staff support, such as secretarial services; decline in relative salaries; and growing economic difficulty in realising a great advantage of academic employment — overseas study leave (or its undeceptive pseudonym; special studies programmes). There is a generally run down feeling in many faculties, especially since there are apparently insufficient funds even to provide proper servicing and maintenance of existing buildings, let alone new capital works.

One possibility which the AVCC and FAUSA are apparently examining is that of an early (voluntary) retirement scheme. The British experiment in this should provide caution — in Britain, those academics with marketability of services and alternative job prospects are the ones who have been quick to take the offer of generous early retirement prospects. The net balance of the scheme was probably not a positive advantage.

It is hard, therefore, to end on a positive note. The chances of infusing change through privatisation seem as remote as those of internal reform. The inertia in the system is formidable. The remedies being considered are not promising. Perhaps the best hope is that growth in educational funding (if it is provided) will once more give mobility and new blood to the academic labour market. But it seems to me a rather sad comment on government and academic management that other potential avenues of change are so remote.

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The Australian University: A computer-rich environment?

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It is 1995. Looking back, how has the life of the Australian academic changed over ten years? Graphs of funding levels, student intakes and building programs show an erratic stop-start pattern: all is normal in the Australian university. The greatest change has been caused by the arrival — or, rather, the all-penetrating invasion — of the personal computer and its telecommunications links.

Back in 1985 there was, of course, quite heavy use of computers on campus. Computer centres were buying hardware but still not keeping up with demand. Financial systems and student records had been computerised for years; word processing was the norm in university administration and was beginning to appear in academic departments; libraries ran computerised loan systems and regularly accessed overseas databases. Most new laboratory equipment was microprocessor-based. Large classes of students learned to use computer packages, for statistical analysis, accounting, engineering design and much besides.

Some few academics scattered around campus were the harbingers. They were sophisticated computer users even then with powerful desk-top machines at home that could be pressed into service in many ways and also give access to large machines on campus and, in some cases, to networks of academics with similar interests around the world.

Early signs of change

To some extent computer permeation after 1985 was simply very much more of the same. Even so, it gradually dawned on the campus consciousness that something out of the ordinary was happening. Rooms had to be found for the microcomputer laboratories; the cost of installing computer points in staff studies became significant when they were called for by the hundred; was the library — or the computer centre, or someone else — to be a software clearing-house? Unmistakable realisation that change was happening was forced by the students. The occasional essay appearing in the slightly awkward dot matrix print of those days did not make much difference; it was a welcome improvement over handwriting. But then having a microcomputer to use for word processing, and to phone in to campus facilities from home became a student status symbol, with students not able to afford the $1000 or so starting to raise questions about discrimination and disadvantage. Coin-in-the-slot microcomputers appeared in a few places.

The message from students became clearer a couple of years further on. There seemed to be two reasons. First,

some — but far from all — of the students coming straight from school were computer-relaxed and computer-demanding. They were not old-style hackers or mere video game addicts and they appeared in every faculty of the university. They took for granted that library catalogues were on-line, that access to remote databases could be useful, and that their own microcomputer was an indispensible personal tool for writing and information manipulation. They found it a little quaint that for so many of their lecturers biro and chalk were still the full repertoire, and they secretly enjoyed trying to identify moments in their courses when using some computer package or simulation would have been beneficial.

The second reason was the appearance of portable, battery operated microcomputers that were powerful and easy to use. Students started to use them everywhere and the university was confronted with decisions about whether they were admissible in lecture theatres, in tutorials, or in examinations. The library had to respond to a demand for hundreds of secure lockers. The university puzzled as to whether it should install an extra fifty incoming telephone lines.

The 1985 reports

But that was in the late '80s. The earliest clear sign of impending change in academic life, although little recognised as such then, was the spate of reports prepared around 1984-85. Most universities had planning committees of some kind write internal papers with titles like 'Report of the Working Party on Computer Strategy, 1985-1990'.

These reports were prompted by mushrooming demand for all sorts of computer facilities and by a realisation that the fair number of small computers already on campus had been acquired without any clear thought about compatibility and intercommunication. On the whole the reports did recognise the great changes the computer was bringing to the world and they recommended large scale computer acquisition and also schemes to give support to users.

The niggling critics

Also around 1984-85 most universities found that they housed a few isolated voices scattered around campus who kept bringing computers into every debate. They persisted in arguing that computers would be used to do great things and they insisted that universities should think and act in new ways in order to exploit what computers had to offer.

But then people had been crying wolf about computers for a couple of decades before 1985 and of course universities have had many centuries' practice at being sceptical when critics have said they had better change their ways or else.

With hindsight, many of the forecasts made by those niggling critics (NCs, let us say) were rather outlandish and, inevitably, their guesses on timing were wrong. But three of the main arguments they put forward were fully vindicated and should clearly have received much more attention ten years ago.

Computer experience as part of education

The first argument was fairly widely accepted — at least outside the university — even then: any good education should include computer experience simply because computers were permeating all aspects of society. But our NCs insisted that this required much more than osmosis from haphazard computer use by some students in some courses.

In the early days employment overtones helped: experience with just about any major computer package was found to make a significant difference to job prospects. In some cases students started to demand such experience of their departments. The NCs kept on about more fundamental things — aware citizens rather than employable graduates — but the job prospect reasons did lead to some changes.

Adventurous academics gradually started to experiment. They discovered how the standard computer tools — spreadsheets, database shells, statistical packages, graphics utilities and the rest — could be used with benefit in a wide variety of courses. So students started to get wider computer experience.

The earliest and most easily predictable winner was word processing. After a decade of hand-wringing over declining standards and near-illiterate undergraduates the universities discovered, only a few years behind the secondary schools, that students write better if they use a computer. The computer as writing tool makes it easy to get something out, finessing the tyranny of the blank page. Then it makes it easy to revise, reorganise, correct, edit. Tutors' comments on drafts are followed up much more thoroughly. The final product is of higher quality and even looks excellent, and the student feels better about the whole process.

Computers to enhance learning

The second NC argument to stand the test of time was that computers can help students get a better university education. They maintained even then that we would discover how to teach better, how to have our students think more deeply and understand more clearly, by some uses of the computer.

They were not trying to resurrect the '70s debate about computerised teaching machines. In fact straightforward computer-assisted instruction did quietly find its uses, as a remedial standby and where students simply needed to go off and acquire some specific, straightforward knowledge or skill. There was no controvrsy about such things even though they had roused such passion fifteen years earlier.

The NCs' predictions were gradually borne out. Some of the successful developments depended on complex, special-purpose software development: some simulations were brilliant and became famous. But most teaching and learning applications relied on judicious use of fairly standard packages.

Examples could be quoted from right across the university. A notable art historian initiated a collaborative project among three universities that gradually built up a database of more than a millennium of Western art. It seemed at first a fairly mundane compilation, but the then new logic programming techniques were used and some shrewd judgements made about organisation of the material. The result has been acclaimed as a great resource for the discipline, allowing cross-currents and influences to be explored so flexibly, and new information to be added easily. It became widely used by undergraduates as well as for research purposes; already several book prefaces record great indebtedness to it.

Mathematics departments made symbolic mathematics software available to their students, but did not fully realise for a couple of years how drastic a reorientation of their undergraduate teaching this new tool would allow. When the realisation did come, reorganisation of courses was undertaken enthusiastically: lecturers could now spend much less time on techniques of symbol manipulation and much more on the conceptual things that they had always themselves considered to be true mathematics. It was the mathematician who produced the first fairly convincing measurements of improvements. They published evidence that their 1990 students had advanced further and faster in three years than did the presumably comparable final year class of 1985.

The story could go on, discipline by discipline. Historians whose approach was one of documents and primary evidence made headway as they learned to exploit database tools; several became passably wealthy when their information retrieval software became the first computer package to be formally adopted for a statewide school Year 12 syllabus. The chemists made great strides when they combined simulation techniques to track reaction processes with the powerful presentation offered by colour graphics. Legal studies was an early and obvious field for the building of systems encapsulating rule knowledge; teaching materials exploiting such programs were developed rapidly.

Computers and modes of thought

The third NC argument was, they claimed, the most fundamental. Most academics now agree — some rather grudgingly — that it has force. The claim was that if an academic works in a computer-rich environment his or her work style and ways of thinking about academic things change, and that the changes can be for the better. We should expose our students to a computer-rich environment as a preparation for the world outside, also to enhance their learning. But, most fundamentally, the NCs claimed, we should construct such an environment to enhance our functioning as academics.

The NCs found it hard to go beyond such uplifting but unspecific statements. For quite some time they could not provide clear evidence of benefit. Some had emphasised communication links, and these did develop dramatically, especially after Telecom's Viatel overcame its slow start. Lively academic interchange took place by electronic mail between supervisor and student and drafts of papers generated comment via a computer network from the dozen people around the world most interested in the specific topic. 'Telecommunication conferencing' evolved, with its own customs of formal and informal interchange among scattered academics working on similar problems. The research morale of many university staff, previously lacking intellectual soulmates closer than interstate, improved markedly.

Other NCs had waxed eloquent about the 'personal tool' aspects of the personal computer. Use it, they said, to hold, organise and present all sorts of information to be drawn on for teaching and research; as a window to the library and to the world; as a helpful slate for writing, rewriting and rewriting.

Numerous other possible computer contributions were mentioned along the way. But two intermingled strands ran through all the debate. First academics are in the business of information creation, conservation, retrieval and dissemination. So they, like information workers in business and government should exploit computers in the interests of efficiency and performance. Putting this argument in such crude terms was not appreciated by many academics, but it nonetheless had force.

Second, even the more quintessentially academic aspects of the lecturer's trade could benefit from computer use. Such uses, inevitably, could only be developed and proved by the experimenting and critical analysis of academics themselves. Work steadily progressed and slowly became recognised. It has for some years now been fairly commonplace for academics to claim, entirely seriously, that their computers have made possible new and richer ways to think about their discipline.

Such fundamental NC claims could only have been tested by experiment; it is perhaps too harsh to admonish the decision-makers of 1985 for not being fully convinced. But they certainly should have taken more note of overseas experience and should have initiated trial schemes earlier and more widely.

As it was the NCs could only watch somewhat ruefully as halting progress was made. For most academics acceptance, and support for their institution's further plans, only came after they had personally taken the plunge. There were many stories of the came-to-scoff-but-stayed-to-pray sort.

Some problems

In practice there were many stumbles along the way. Problems of hardware suitability, of the time needed to perfect software and materials, of adapting computer uses to fit with other segments of a course: these were predictable. And many flirtations with the computer failed, at least the first few times.

Some of the NCs sounded shrill and provoked something of a backlash. The NCs in general did not sufficiently stress the obvious but essential rider that computers should only be used where they can indeed contribute: if a pencil does some specific job better than a computer then of course a pencil should be used. Computers were found valuable for many things, but an activity is not necessarily efficient or worthwhile merely because a computer is used.

There were social difficulties, many of them analagous to those experienced earlier in schools. Some students, especially older students, had difficulties, as much from the contrasts in computer comfort they perceived between themselves and the younger students as from the demands of their courses. Some lecturers and tutors found it hard to cope with changes within classes: old-style direct presentation had sometimes to become consultation or advising. Some few staff ducked the whole computer issue and chose early retirement.

One or two NCs described a rather different aspect of the computer challenge. The problem, they said, was not one of the scientists, the long-standing computer users, ambushing their humanities colleagues as they approached the library and insisting that they too must compute. It was rather that the latter-day computer was a quite different beast from its fore runners. It was by comparison cheap, powerful and friendly, its potential uses multifarious. Some physical scientists for whom a computer remained a 1970 Fortran calculating engine faced a bigger conceptual change than did for example a historian without any particularly strong concept of a computer. Reorientation was likely to be especially troublesome for some traditional laboratory-based scientists who had spent a decade resisting the establishment of computer science as a legitimate discipline in their midst. This turned out to be a shrewd analysis by those NCs, accounting for the otherwise perhaps surprising resistance to computer-richness that came from some quarters on the science side of the university.

Not many even of the NCs identified the nature of the financial challenge to the universities. Even the improved cheaper computer hardware cost a great deal in the quantities needed, and software and support and advisory services were needed as well, especially for new users. The fundamental challenge was to redress the proportions of the cake going to academic staff, general staff and to equipment.

The amounts of money required, the obvious non-comparability of personal computers and mass spectrometers, and the political power of the few equipment-expensive departments kept non-computer equipment budgets largely intact. Some astute leaders in general staff associations voiced concern about job numbers — as was fully justified by the human-help versus capital-investment conflicts implicit in some computerisation questions. As it happened

the problem was more or less ducked, not solved by leadership, consultation and clear decision-making, but largely avoided by diffuse decision-making and generally slow response to computer needs. Universities muddled through, preferring a lukewarm response to computer possibilities to decisiveness and possible disruption of established patterns.

One university policy — or non-policy — was to compensate somewhat for not providing widespread personal computer access by arranging discount purchase schemes for academics prepared to buy equipment themselves. Such schemes cost the institution no money and blunted some of the demands for the university itself to improve computing facilities.

The MacRobertson case

Many of the issues were brought into sharp focus by the MacRobertson (a fictitious name; readers will recall the academic's real name) case, a notable event occurring as early as 1986. Joan MacRobertson, a senior lecturer in a newer, smaller university, and herself one of the early NCs, put a proposition to her Vice-Chancellor. She felt incensed by what she saw as the too-little-too-late response to the local 'Computers: 1985 and beyond' report and insulted by the discount purchase option — her employer, surely, should provide the basic tools for the job.

She proposed a contract: the university would provide her with a fairly powerful personal computer and a communication line, and she would undertake to repay the university over three years by reducing the calls she would make on secretarial and various other help. She also nominated several specific ways in which her teaching and research performance would rise. Her side of the bargain would be easy to fulfil and the university could not lose! Her staff association gave her the requested support, although this was lukewarm as the association had scarcely considered computers, still being up to its ears in the local superannuation and tutor problems, and in addition feeling some rumblings from the general staff association.

The Vice-Chancellor was strongly tempted: MacRobertson had a good research record and would probably deliver; there was a clear logic to the proposition; he valued his reputation for focussing on academic effectiveness over bureaucratic regularity; and he did retain a cowboy streak, usually well repressed. The precedent-setting aspect did not worry him: his university could do with the fillip in image that would come from being a successful pioneer. He realised more clearly than most of his staff how concerned many students and parents were about computers and the changes they were bringing to Australia. From each Tuesday's *Australian* he knew that 'one-per desk' (OPD) was becoming standard for personal computers in American business: he had visited the US a little time before, travelling in aeroplanes in which many other business travellers were carrying their own computers. He had visited several of the pioneering campuses on which every student was required to have a computer. (The machines were scarcely well-used yet, but there were sufficient positive signs to show that the writing would not be taken down from the wall).

So it was with some misgivings that he rejected the MacRobertson initiative. He felt that the university was not ready for any sizable disruption of its general staffing pattern. There were two or three influential and notoriously anti-computer professors whose support he simply had to retain on a couple of other current major issues. And the computer centre had just received for a song $3 million in hardware as the result of a complicated agreement with a multinational. Perhaps the university should learn to make good use of this equipment before rushing to buy small machines? The issue was decided when on the critical morning a report reached him setting out a more than usually alarming account of the university's short-term cash flow position. Even as he signed the memo to MacRobertson he felt — rightly as we can now see — that history may well identify that moment as a sad one in the development of his university.

MacRobertson went public with her case and prompted a few letters to the newspapers. Staff association reaction was perhaps surprisingly slight, but then the NCs had never really identified staff associations as an avenue for pressing their case, the associations felt themselves very stretched with other issues and there was no special reason why they should have been able to perceive computer futures any more clearly than could university governing boards. General staff associations showed more concern, but they saw themselves as mainly on the defensive, needing to stress working conditions and job preservation. Academic staff associations did eventually take up the issue of adequate support and training for sometimes reluctant academics expected to adopt particular computer uses. With hindsight, they should also have taken up the earlier question of employer-to-provide-essential-tools. They did not, and so the ironic contrast persisted, between business, with its keenness to introduce desk-top computers and concern to persuade and train its staff to exploit them, and universities, in which staff eager to explore computer applications were forced to buy the equipment they needed out of their own pockets. What price the university charter to seek excellence and be at the forefront?

Professional Education Inc.

The first MacRobertson surfaced again a year or so later when she first went part-time, then resigned in order to help found Professional Education Inc. (PEI). PEI was a commercial venture aiming to provide qualification and updating courses for carefully selected professions. Their rather cocky plan was to pick the eyes out of the tertiary education market and to compete commercially with publicly funded institutions by providing a better product. Starting with computer science, and some aspects of accountancy and business, and soon including parts of law and medicine, they developed course materials making heavy use of computers, video and phone connections, and designed for use at home. They tailored the courses to the requirements of the professional accrediting bodies, especially for the periodic refresher education then beginning to be required by law.

PEI was successful, despite its hefty fees and the fairly large improvements made in the distance education offered by several universities. When PEI started to market courses for school-teachers, and had modest success, there was sufficient alarm for one or two university figures to attack their alleged slick presentation and lack of intellectual depth. PEI replied with statistics on student satisfaction and examination success. Of more lasting significance were behind-the-scenes moves by universities to improve the lot of their students who were enrolled for regular courses but who wanted to use their own computers to help them do much of their learning from home.

One or two NCs wrote sardonic notes in *Vestes* pointing out how, where their own drawn out advocacy and argument had failed, the threat of competition had at last induced universities to do some of the things they had long urged.

Finally, it is worth recording that university adrenalin was aroused when in 1988 a more than usually perceptive Federal junior minister, long an advocate of information technology, used the PEI example to berate universities for their lack of responsiveness to educational need and technological opportunity. But two political scandals in quick succession grabbed the headlines and soon after that the minister was demoted. Nothing had changed, but the universities' pulse rates subsided and they turned their attention back to other questions . . .

In conclusion

This brief sketch has omitted many important parts of the ten year story. Video, after a generation of unrealised promise, is now quite widely used and valued. The reusable computer-controlled videodisc contributed, but the main reason was simply that video equipment became so cheap, ubiquitous, easy to use and of such high quality that people were led to experiment and they often liked what they saw.

Artificial intelligence (AI) is still in 1995 renowned as the field in which more outlandish claims and forecasts have been made than in any other. It is now history that the Japanese Fifth Generation Project fell rather short of its grandiose aims. But it did spark a great amount of R&D in the US and Europe which led to the impressive new systems that make headlines these days. For some years progress was difficult to track because intelligent systems were seen as commercial goldmines and so were kept behind locked doors until ready for very noisy public release.

A notable early event was the marketing in 1987 of the first home doctor expert advisor. It ran on the larger personal computers of the day and operated by engaging the user in a simple dialogue about the patient and his or her symptoms. It incorporated little beyond information widely available in books and it did direct the user to human medical help for anything beyond minor complaints, but even so there were some early and short-lived attempts to ban its import into Australia. It sparked great — and overdue and entirely justified — debate in professional and academic circles. Those privileged people who had stood just a little aside as computers had changed so drastically the working life and job prospects of blue collar, then white collar workers began at last to take seriously the prospect of real change to their own working roles. To some extent academics had been lulled by the great amount of computer use on campus into thinking they were up with the times and that nothing fundamental could change about their own working lives.

Looking back it is luxuriously easy to say what Australian universities should have launched into in the innocent days of 1985. On the whole they moved in the right direction, but 'too little too late' is now written clearly on most of the computer things they did. Their own reports of the time made reasonable proposals for initial advance, but without recognising the extent of conceptual change the computer would bring to academic thinking. The NCs on the whole got it right but sometimes over-stated the case and of course could not back their visions and exhortations with evidence.

We cannot take the universities, those pluralistic, diffuse institutions, too severely to task for not foreseeing how pervasive the computer permeation would be and how valued computers would become as we learned how to exploit them. But we can deliver a harsh judgement on their seeming blindness to overseas developments and the slowness with which they fostered experiment and then exploited the lessons of the experiments that did work. Are not universities meant to lead? More perception then and the universities would now have been in a much stronger position in contemporary society. Ah, to be able to turn the calendar back and have a second try at the decade from 1985 . . .

Part-time and evening students: profiles and prospects in the Faculty of Arts, University of Sydney

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Introduction

As a centrally situated metropolitan university, the University of Sydney offers an appropriate location for classes for students in outside occupations. In fact the University has a record of evening classes for degree purposes stretching back to 1884[1]; however in recent years a number of faculties which offered such classes have abandoned them, and in mid-1982 the Faculty of Arts set up a committee to enquire into the situation of students attending evening courses[2].

At that time twelve out of twenty-seven departments were catering for some courses in the evening, most offering a much more limited selection than in the daytime[3]. The University does not maintain any separate register of students attending in the evening, all students being registered as either full- or part-time since 1980. The proportion of students enrolled as part-time to those enrolled as full-time has increased; in 1983 this ratio was 28:85. Part-time students, however, may be attending classes solely or partly in the day-time, whilst full-time students may be attending part or all of their classes in the evening. One of the arguments advanced by those anxious to see the abolition of evening classes is that the vast majority of those attending evening classes fall into the category of full-time students for whom evening classes are at best a convenience rather than a necessity.

The Committee interpreted its brief as indicating interest in two major sets of attributes of current Arts undergraduates, these being characteristics differentiating 'day' from 'evening' students, and patterns of income and employment of students during 1983. These sets of attributes were seen as being to an extent interdependent with each other, and with sets of related attributes such as attitudes towards choice of university and course. It was decided to approach the day / evening student distinction in two ways, categorizing students firstly in terms of whether they were formally enrolled as full-time or part-time, and secondly in terms of their intended pattern of attendance at classes for 1983 (mostly during the day, some day and some evening, or mostly during the evening). As students enrolling for the first time might well be expected to differ in some of their attitudes and behaviour patterns from re-enrolling students, it was decided to treat these as separate groups for the purposes of questionnaire design[4].

The variables of interest were seen as falling into five groups:

Enrolment status: part-time or full-time, degree or non-degree, basis on which admitted, academic record to date at this university;