

Charles Sturt: A University for the 21st Century

Farrer Memorial Oration, 1996

This is a copy of the 1996 Farrer Memorial Oration, presented by Professor C D Blake.

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For more information see the Trust website at

www.dpi.nsw.gov.au/farrer-memorial-trust

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CHARLES STURT: A UNIVERSITY FOR THE 21ST CENTURY*

by

C D BLAKE, VICE-CHANCELLOR, CHARLES STURT UNIVERSITY

I am both delighted and humbled to be the recipient of the 56th Farrer Memorial Medal - *delighted* because the Award is a generous recognition of my contributions and *humbled* because I join an illustrious line of previous recipients each of whom, and in different ways, has contributed to the stability, productivity, diversity and social cohesiveness of Australia.

The presentation of this award by the Farrer Memorial Trust at Charles Sturt University in Wagga Wagga is of special significance for at least three reasons:

First, because it re-affirms publicly the importance of the contribution that William Farrer made to the wheat industry and to Australia. From his crosses and selections, that began at Tharwa (near Canberra) in 1886 and continued in field tests at experiment farms established by the New South Wales Department of Agriculture at Wagga Wagga, Cowra and Temora, Farrer was able to introduce to Australia early maturing wheats to escape the onset of the dry summers. These wheats replaced the late maturing varieties grown by the early colonists. Farrer released in 1901 a variety of wheat that was early maturing, of good gluten content and strength and with stiff straw, ideal for mechanical reaping. He named the variety "Federation" to mark the foundation of the Commonwealth of Australia - a political event dear to the heart of Farrer. Between 1901 and 1925, Federation became the most extensively grown wheat variety in Australia. Federation, along with the other 28 wheats released by Farrer, extended the wheat belt into dry inland areas of Australia where the cultivation of wheat had hitherto been considered to be uneconomic.

* Delivered as the Farrer Oration on August 15, 1996 in Wagga Wagga

Second, the presentation of this Farrer Medal in 1996 is taking place near to the spot where agricultural research and teaching started in Wagga Wagga and where it has continued almost without interruption for 100 years. In that century there have been some remarkable personal and corporate contributions to agricultural science and practice. J. T. Pridham who carried on the work of Farrer, Nathan Cobb, a contemporary of Farrer, - an experimentalist *extraordinaire* who was an early advocate of the use of superphosphate and of the bulk handling of wheat, and Darnell Smith, whose treatment of seed wheat with copper carbonate controlled the devastating disease "bunt", were notable early contributors. Agricultural research was consolidated at Wagga Wagga with the establishment by the New South Wales Department of Agriculture of the Wheat Research Institute, later renamed the Wagga Agricultural Research Institute. The Institute's first Director, Dr Albert Pugsley who, along with R H Martin and his other collaborators, were to maintain vigorous research programs with special commitments to the southern wheat industry. More recently, the focus of the Institute has broadened to include the development of systems of sustainable agricultural production.

The third reason for welcoming the Farrer Trust to Wagga Wagga is the recognition that their attendance here bestows on Charles Sturt University (CSU) --- a new university established in 1989 - with whose establishment the name of William Andrew Merrylees must always be associated. Dr Merrylees was best known for his leadership of the Riverine University League, founded in 1952, which was to gain national prominence. The Carrathool grazier, Rhodes scholar and former lecturer in philosophy at the University of Melbourne based his advocacy for a rural university on the premise that a rural community was sufficiently different from a metropolitan community to warrant the provision of a distinctive type of university "situated in its own territory and in intimate relation with its own mode of life." Merrylees relentlessly attacked the binary policy championed by Sir Leslie Martin and Senator John Gorton and almost secured the establishment of a Riverina University College in 1966. When the federal government offered funding for colleges of advanced education, Merrylees persuaded the New South

Wales government to set up a multi-campus institution with partial Commonwealth funding at Wagga Wagga and with study centres at Albury-Wodonga and Griffith to serve the entire region.

Not so long ago, when the pace of change was many times slower (or was at least perceived to be that way), higher education was focussed on the young; it provided the foundations of general and professional knowledge, it helped shape the developing personality and inculcate social values and prepared young people for the workplace. It tended to be a one-off activity. Any further learning, it was assumed, would be garnered from life's slings and arrows, from personal curiosity and study and, occasionally, from an enlightened employer determined to keep abreast of the times.

We now face a world in which the pace of change in the way we work and live is such that few people will hold the same job throughout their lifetime; even if they were to do so, they would need to upgrade their skills regularly in order to do their job effectively.

Among the pressures a modern society now places upon its workforce are:

- a continual increase in the amount of information available, including the amount required to function adequately in the modern world;
- the decreasing half-life of professional knowledge;
- the increasing influence of interdisciplinary understanding in the professions;
- the use of increasingly sophisticated technology as we move from the "industrial age" to the "information age";
- increasing internationalisation and the transition to a "global village"; and
- the changing shape of organisations and of employees' roles within them.

These pressures significantly affect the way people need to learn or will choose to learn.

In such an environment learning needs to be life-long - a continual process of anticipating, adapting and coping with change. Distinctions between private learning that satisfies curiosity and self-development, converge with the needs to upgrade constantly technical and professional skills to cope with shifts in the paradigms of knowledge, work and society.

In a recent study, Dolence & Norris¹ estimated that by the year 2000, one-seventh of the workforce in industrialised countries will be engaged in learning programmes at any one time. For Australia, with an estimated 8.9 million workers in the year 2000, this would mean 1.3 million persons in learning programmes requiring some 42 new post-secondary campuses costing an estimated \$15 billion if traditional delivery methods are used. Putting aside the present budget problems that Australia faces, such an investment in traditional forms of education would not meet the new imperatives of life-long learning for those employed in business or the professions, nor the broader imperatives of the information age that now engulfs society.

Education in the "information age" will see a shift:

- from a local focus on teaching in classrooms and laboratories assembled on a particular campus to regional and global information networks with unrestricted access;
- from fixed and prescriptive curricula to curricula that are flexible, modularised and open-ended;
- from institutions that are self-contained and autonomous to ones built upon strategic partnerships with shared management and funding arrangements;
- from the focus on the institution to the focus on the student as a client;
- from technology and media used simply to supplement face-to-face teaching to integrated multi-media methods as the principal means through which information is transmitted;
- from the emphasis on teaching in the delivery of education to learning;
- from the acquiring of knowledge to an ability to navigate through knowledge systems;
- from conditions of employment that provide for "time out for learning" to ones that provide for work and learning to be carried on concurrently; and
- from academic calendars extending over several years to "just-in-time learning".

¹Dolence, MG & Norris, DM. Transforming Higher Education. *A Vision of Learning in the 21st Century*, 1995, p 8.

Where education was once predominantly classroom-based and faculty directed, we are now beginning to see more self-paced, self-directed learning in a wide variety of individualised but interactive settings involving collaborative group learning environments. The delivery of education will be technology based, and available on demand. Learning need not be bound by place or time.

Eli Noam² presents a picture of where the new technologies are leading us. In brief,

“many of the traditional functions of the university will be superseded, their financial base eroded, their technology replaced, and their role in intellectual inquiry reduced.”

Noam argues that:

For a long time universities prospered because they were the places where information was produced and preserved. The model was “centrally stored information”: scholars coming to the information, with a wide range of information subjects housed under one institutional roof. This model was logical when information was scarce, reproduction of documents expensive and restricted, and specialisation low. In a few years this will no longer be so.

Noam does not argue that electronic forms of instruction are necessarily better than face-to-face teaching, just that such forms are more accessible and their costs dramatically lower.

“A curriculum, once created, could be offered electronically not just to hundreds of students nearby but to tens of thousands around the world.”

² Noam, E. Science.
Electronics and the Dim Future of the University. 13 October, 1995.

One of the key points Noam makes is that in the "information age", network learning is international. Flexible learning can be delivered on-line just as easily from the United States or Canada as it can from a university, TAFE or other provider in Australia. Recognising this, the Canadian government has developed a national approach to the funding, development and delivery of on-line educational materials that will be aimed at Canada and the rest of the world.

AUSTRALIA'S PRESENT STANDING

Australia has begun to address the changing educational environment. There has been significant uptake in the educational use of new and cost effective technologies including computers, telecommunications, video conferencing and television. In this context identifiable trends include:

- increasing power and sophistication of multimedia computer development, thus increasing rapidly its educational potential;
- dramatic decrease in the cost/power ratio, making sophisticated technologies available to the general public at moderate cost;
- convergence of telecommunications, television and computing, both in terms of technology and businesses;
- fast-track developments towards low-cost, on-demand access to digital technologies and services in the home and workplace, but with public access to technology becoming increasingly fragmented and diverse; and
- political moves towards developing public learning networks on the information highway. In contrast, there is a noticeable lack of policy or strategies by education ministries for the development, application and co-ordination of educational telecommunications.

Workplace reforms that created a demand for modularised staff training packages, although designed in the first instance to meet a specific employer need are being assembled in such a way as to fulfil the requirements for a university or TAFE qualification. Such developments have been actively encouraged by taxation legislation that provides deductions/penalties, depending upon an employer's commitment to staff development programs. Likewise, Commonwealth and industry funded places in

universities and the resultant formation of strategic alliances have also been an important stimulus to the off-campus delivery of programs. Academic institutions have been most creative in the links they have formed with a wide range of industries and professional groups, many of which have involved the use of the new communication technologies without loss of educational effectiveness or the productivity of employees participating in these programs.

Institutional amalgamations and/or the development of new campuses/learning centres or credit transfer arrangements and access to educational providers and their services have significantly increased. Providers, often stimulated by the prospects of fee income, have aggressively pursued market opportunities and sought to differentiate their individual products in the market place. These developments, based on strategic alliances or niche markets have, in turn, encouraged a much greater sense of ownership of student clients. Delivery of programs by distance education involving the use of modern telecommunication technology has increased flexibility and the capacity of the provider to meet student needs more precisely and conveniently.

Institutions faced with the need to rationalise their services, reduce costs and improve the quality and effectiveness of their teaching, have recognised the educational, as well as the economic, benefits of combining the methodologies used to deliver instruction on and off campus.

However, impressive as many of the initiatives have been, Australia needs to develop and implement a national strategy on flexible learning if it is to:

- meet the demands of the information age and ensure our workforce maintains the currency of its skills; and
- compete in what will be an international educational market place.

This is not an issue we can reflect on at our leisure. Internationally, strategies are now being put in place by other governments, groups of universities and colleges and by some of the major multi-national communication companies.

DEVELOPING A NATIONAL STRATEGY FOR FLEXIBLE LEARNING

Flexible learning is about enhancing learning and thereby maximising students' chances of success. It does this through:

- increasing the choice of learning opportunities available;
- mobilising the resources available;
- removing restrictions on where and when a student learns; and
- ensuring articulation of previous learning to build "ladders of opportunity".

A national strategy for flexible learning must seek to ensure the benefits of flexible learning but avoid imposing bureaucratic restrictions on diversity through misguided notions of uniform national provision. There is, for example, a seductive appeal in developing a national curriculum covering all institutions. Such an approach would have administrative simplicity for both institution and learner but the risk would be that the present rich diversity in the system would be seriously curtailed.

A national strategy for flexible learning should provide solutions to those impediments to flexible learning that cannot be overcome by individual institutions. It should leave alone those matters that are best handled at the institutional level.

So what should be the essential elements of a national strategy for flexible learning?

The immediate issues that such a strategy should resolve include:

First, the establishment of a national electronic educational infrastructure that is readily accessible. The work of EdNA is central to the achievement of this objective but so far it has been difficult to know what its precise aims are and how it is going to get where it is going. The development of local access points (LAPs) is critical;

Second, the development of effective national credit transfer arrangements, including the recognition of prior learning gained elsewhere other than within formal post secondary educational institutions;

Third, clearly defined study pathways (courses) comprising individual subjects or study units that are modularised and fully articulated. After successfully completing blocks of subjects, usually in a prescribed sequence, students may temporarily exit a course and receive a nationally recognised award (certificate, associate degree, advanced diploma, degree etc) for the units completed. When study is resumed, even after the efflux of some years, a student may progress to a higher award without the loss of credit. Such an arrangement is sometimes referred to as the "ladder of opportunity"; and

Fourth, carefully prepared instructional packages developed by teams of subject specialists assisted by instructional designers. Such instructional packages, which are becoming increasingly available in multi-media formats, can be catalogued nationally and electronically and their use shared by multiple users for different purposes.

Finally, I wish to end where I began - with Charles Sturt University. This University was established as part of the national restructuring of higher education in 1989 and, according to its Act of incorporation, the University is required to "..... provide education facilities having particular regard to the needs and aspirations of the residents of western and south western New South Wales". The University is also charged with providing "distance education in New South Wales and elsewhere."

The University was conceived by the Minister of the day as being a "federated network" University with members at Albury-Wodonga (CSU-Murray), Wagga Wagga (CSU-Riverina) and Bathurst (CSU-Mitchell). The Act did not define the meaning of the words "federated" nor "network". After carefully considering the alternatives, an overarching administrative model of 5 Faculties and 10 Administrative Divisions was established to reduce the duplication of courses, subjects and administrative functions within the fledging University, to encourage synergy and to build a single corporate image for the

new University. This integrated administrative model has had one other desirable outcome: it has consolidated the University into a single cohesive entity to act as a bulwark against the inevitable parochial forces of fragmentation and disintegration.

Of necessity, the new University has sought, by the courses it offers, the students that it admits, the methods by which it delivers its courses, the staff it appoints and the research it undertakes, to distinguish itself from the metropolitan universities almost all of which were established many years earlier. The University has sought to emphasise in all its activities its rural and regional character and to respond directly to the needs of the workforce, as I have previously enumerated. These needs are well illustrated by the students who now attend CSU. In 1995, the students were predominantly adults (80% with a mean age of 27.2 years), female (57.2%), originated from a country location if an internal student (62.5%) and from the metropolitan areas if studying by distance education (74%), had already completed wholly or partially a post-secondary qualification (26.2%) and were studying for an undergraduate degree (90%). Relatively few commencing students transferred directly from high school (19.1%). In 1995, 11.4% of the students who commenced at CSU held a TAFE qualification and received advanced standing for that qualification.

The impact of CSU on its local communities has been considerable. The new University provides ready access to higher education to local residents and by distance education to persons afar. The University has been able to redress the chronic shortage of trained personnel in rural communities in some key professional areas --- for example, in radiography, wine science and viticulture, social work, occupational therapy, pharmacy, teachers of vocational and technical education, librarianship, early childhood education, accountancy and computing --- to name just a few. The University has had a profound economic impact in those cities in which it has a principal campus. In aggregate terms, the total direct expenditure of the University in 1995 was estimated at \$168.4m. Specifically:

- each pay day the University pays out \$2.95m to academic and support staff - the great bulk of which is then spent in the regions;
- the University spent \$11.5m on building projects;
- the 620 students enrolled from overseas spent an estimated \$12.4m on university fees, accommodation, transport and incidentals. Australian students from beyond the regions studying on one of the three campuses spent an estimated \$28.5m;
- the University received about \$12m from its various entrepreneurial activities and professional development courses, English language centres, winery and farms, conventions, residential, catering, research and consultancy activities;
- for every dollar the University, its staff or students spend is estimated to generate a further 40 cents in expenditure. Thus in 1995, CSU, directly or indirectly, generated total expenditure in the regions of about \$220m;
- that expenditure is estimated to have generated, directly or indirectly, about 1,700 jobs.

In summary, CSU offers regional students and, by modern distance education techniques students from afar, ready access to a wide range of professional programs, many of which are designed to build upon or complement existing qualifications. For adult learners, CSU aims to offer its courses flexibly and in ways that are not limited by when or where a student studies, thus reducing the restraints imposed by family or work commitments. Further, through the strategic alliances that have been developed with the principal employers, the University recognises in a realistic way prior learning. By enrolling significant numbers of foreign students and emphasising life long generic skills, CSU seeks to inculcate into its graduates attitudes and skills that are transferable and which equip its graduates to be citizens of the "global village".

The establishment of CSU as a multi-campus rural University, with a special commitment to distance education, was a bold national experiment both in higher education and in decentralisation and regional development. Only time will tell if the experiment is successful. Given the current demand for its courses and for its research and consultancy services, many directed towards regional goals, the employability of its graduates and the national profile now accorded CSU, give me confidence to claim success for the experiment.