A differentiated model for tertiary education: past ideas, contemporary policy and future possibilities

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About the research

A differentiated model for tertiary education: past ideas, contemporary policy and future possibilities

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Australia's education system has undergone many changes over the past 50 years — and it will continue to do so as governments change. The first major reform over this period was the introduction of a binary policy of higher education, which was subsequently replaced by a unified system with the Dawkins reforms. Today, potential changes to the system include the deregulation of student fees and the widening of government-supported university places to cover provision by private providers. The latter would open up the delivery of tertiary education — taken here to mean diploma and above — to traditional vocational education and training (VET) providers to an increased extent.

To enrich the current discussion on changes to tertiary education policy, the author has used history as a policy tool for uncovering trends, explaining institutional cultures and preventing the re-application of ideas already tested. While this particular report is contextualised through a rereading of the Martin Report (the report of the Committee on the Future of Tertiary Education in Australia, published in 1964—65), a companion piece *What next for tertiary education? Some preliminary sketches* (Beddie 2014) makes a number of somewhat radical suggestions for future directions to tertiary education, with the aim of stimulating discussion in this area.

In the key messages that follow a set of issues for tertiary education are highlighted, issues that have continued to be problematic despite the various changes to the education system over the past 50 years.

Key messages

- Combining general education and technical education effectively and efficiently remains a challenge for the tertiary education system.

- Although many different types of educational institutions currently offer tertiary education, including dual-sector, mixed-sector, TAFE (technical and further education) institutes, universities and private providers, the goal of parity remains elusive. Vocational education and training continues to be accorded a lower status, although this is partly attributable to the status of individual occupations.

- There needs to be recognition that, while institutions differ between those with a comprehensive research base and those whose primary focus is teaching, research should not be elevated above teaching. Both deserve similar status.

- Although educational institutions are subject to government regulation, they need the capacity to find their own niche in the market and have some autonomy in order to achieve diversity and excellence.

- Incompatibilities in curriculum, the lack of enforceable policies on credit transfer, and suspicion over the standards of TAFE colleges and other non-traditional tertiary education providers remain as persistent barriers to the easy transfer from one sector to another.

Rod Camm
Managing Director, NCVER

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Executive summary

From the late 1960s to 1988, Australian 'higher' education comprised universities and colleges of advanced education (CAEs). This binary system arose from the Menzies Government's response to the 1964 Martin Report, which had 'framed its recommendations with the object of widening the range of educational opportunities beyond the secondary school, of providing extensive vocational and specialised training and of ensuring that Australia makes a worthwhile contribution to the advancement of knowledge and of achievement' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.1). The system was built on the premise that higher education (sometimes interchanged with the term 'tertiary education' and meaning diploma and above) should be available to all citizens according to their inclination and capacity and taking into account the need to find affordable ways to meet expanded demand. Universities were deemed to have responsibilities for higher learning and research, for which they received specific funding, while the colleges of advanced education were primarily to offer vocationally oriented programs and to serve the community's social and economic needs.

By the 1980s the aspiration for a set of institutions that were equal but different was no longer able to withstand the funding squeeze and an engrained hierarchy of prestige. In 1988 the binary system was swept away by the Dawkins reforms, which ushered in a unified national system (UNS) of higher education. In the decades since, this unified system has started to disintegrate, and at the beginning of the twenty-first century a new binary model is emerging: between universities and other institutions offering higher education and higher-level vocational education qualifications.

The current model of Australian higher education — basically 39 public universities — is dissolving as it faces the unrelenting push for greater productivity, the introduction of a demand-driven funding model and the emergence of new providers, both private and TAFE (technical and further education) institutes, as well as heightened discussion about contemporary occupational requirements and persistent concerns about the system's quality. As the system evolves, we are seeing experimentation, with new approaches to undergraduate programs such as the Melbourne Curriculum,[1] and new institutional arrangements across the higher education—vocational education divide.

In the light of these developments it is timely to take a new look at the binary system and the lessons it might offer contemporary policy-makers. In so doing, we need to be mindful that twenty-first-century demands for skills and knowledge are different from those of the 1960s. Our deliberations offer no blueprint for further reform but do illuminate some of the persistent difficulties that confront any mass tertiary education system.

In his contribution to a recent commemoration of the Dawkins reforms, Greg Craven (in Croucher et al. 2013, pp.316—7) was adamant there is no going back to the pre-Dawkins era:

> Given that Australians as a whole never will separate the twin roles of universities in the preparation of professionals and the pursuit of higher learning for its own sake — and that our universities never have been able to do so themselves — sighing for the repeal of Dawkins and the reinstatement of some pure binary system is like trying to sort new from old money in Toorak or distinguish between art and erotica in the work of Bill Henson.

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[1] Under this model, introduced first at the University of Melbourne in 2008, undergraduates choose from one of six degrees designed to lay the intellectual foundations for employment or further study. Most professional qualifications are offered at master's level, catering to increasing demand in many occupations for postgraduate entry qualifications.

This should not preclude delving further into fundamental questions about the role of a university and what is affordable. The answers might prompt renewed attempts to encourage the diversity to which the Australian system has aspired since the 1960s. As Peter Karmel, a significant figure throughout this story, reflected in 1989 (p.1):

> The current reforms of higher education, their impact on the institutions and their consequences for Australia cannot be appreciated properly without placing them in their historical and social context … The institutions have a past too often forgotten, as well as a present to be criticised and a future to be remodelled.

This project is framed by the recurring issues in today's education debate. A rereading of the Martin Report (Committee on the Future of Tertiary Education in Australia 1964—65) has elicited the following themes: the purpose of education; the elusive goal of parity; the status and funding of research; the quest for autonomy in a publicly funded and regulated system; and the role of transfer from one kind of learning to another. This essay takes as its premise, as did Martin, that the success of a mass higher education system depends on sound secondary education. It also acknowledges that the questions of who pays for tertiary education and how this is achieved are pivotal. However, examination of specific funding models is beyond the scope of the project.

The first part of the exercise was to revisit documents from the binary era, such as Hansard and formal inquiries, conference papers, newspaper articles and speeches, as well as oral and other histories. It also draws on earlier assessments of the binary approach. The second element of the project involved a roundtable at which senior figures in the tertiary education sector discussed, under Chatham House rules, the themes identified in this essay. The aim of the day was to canvas ideas about how to overcome some of the persistent problems encountered in mass education systems. The discussion prompted the author to sketch some future possibilities for the structure of pathways from secondary school into various strands of tertiary education (see the companion paper, *What next for tertiary education? Some preliminary sketches*). The intention is to stimulate debate.

This essay reproduces, within the constraints of space, voices from the past to illustrate the importance of language in the implementation of policy. References in the Martin Report to lower academic capacity have led to critiques that the colleges of advanced education were intended as second-rate institutions designed to preserve the sanctity of the university as the place for pure learning and research. This project does not reach a similar conclusion about the report's motivation: its aim was to create a new set of institutions to cater to a majority wanting vocationally oriented higher education, while maintaining a smaller group of universities producing excellent research. This was an elitist — but still a necessary part of a system of mass tertiary education — and something with which the system has yet to come to terms.

That the colleges of advanced education became cheap alternatives to universities had multiple causes, which were not only related to policy and funding but also to traits within the sector and broader community, including institutional snobbery, professional aspirations for higher credentials and the failure to sell the idea of 'advanced' education to the public.

The observations that emerge from this study illuminate the complex interplay of institutional structures and behaviours in the implementation of policy goals. These can be streamlined, to some extent, by clarity of purpose. However, any reorganisation of the tertiary system, as the current wave of reform has presaged, depends on a major shift in mindset.

Governing education in a federation is complicated. It bumps up against politics, which can easily subvert a coherent plan. As Australia moves toward national models, the binary experiment shows the importance of finding formulae that provide equal money for equal — not the same — work. They must also preserve the safety mechanism the federal system offers, namely, the flexibility to cater — ideally at the institutional level — to local conditions and chosen expertise. This calls for regulation that coordinates the system rather than manages its institutions.

We must find an agreed definition of higher education that takes account of the advanced level of skills and analytical thinking all Australians need and deserve, whether these are delivered in an applied or a more theoretical way. Beyond the definition, the system must strive to break away from institutional legacies and rivalry. This remains difficult while oversight of higher and vocational education rests with Commonwealth and state authorities respectively, especially given that TAFE institutions now deliver significant numbers of advanced (diploma and above) qualifications.

That said, there will remain a demand for mid-level trade and other qualifications, as well as a vital requirement for remedial adult education and continuing professional education and development. These offerings would benefit from the inclusion of core elements (for example, a solid grounding in mathematics in the engineering occupations) to facilitate articulation to higher education. Moreover, transfer arrangements will founder without strong trust between institutions. This cannot be solely the responsibility of individuals but must be embedded in each organisation's policy settings.

Without a funding model that acknowledges the equal importance of teaching and research but also the different quantum required of each in a mass higher education system, parity of esteem will remain elusive. Working either as teachers or researchers at this level demands scholarship, which should be funded across the system, if, to return to Martin's words:

> civilized man is to succeed in his attempt to produce ever larger, more complex, yet more stable societies, and so make beneficial use of acquired scientific and technological knowledge, then education must ensure for the members of those societies an increasing general level of knowledge about their fellow men and an increasing understanding of the societies themselves.
>
> (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.4)

Making progress in tackling the persistent problems of education policy demands a different mindset. To stimulate fresh thinking about the issues, the following suggestions for new directions have been developed from the historical analysis and the discussions it stimulated at the roundtable:

- Restructure pathways from school or other vocational settings into diverse tertiary institutions:
  - An alternative structure for mass tertiary education would see a majority attend establishments devoted to adapting students to learning at the tertiary level, with this occurring in the first two years (13 and 14) after completion of the traditional 12 years of schooling. Those with a strong idea of their vocational direction would be streamed into institutions that vertically integrate broad occupational training and education, from certificates to PhDs in a certain field, for example, in health, teaching or engineering. Other Year 13 and 14 students would be prepared for progression into a research-intensive university strong in both pure and applied research, or into the later years of professional education. The latter might also be the preserve of niche institutions.
- Lift the reputation for applied learning by ensuring that all competency-based education embraces conceptual thinking and equips learners to move between the different institutions in the system.

- Decouple funding for research and teaching (including scholarly practice) and better concentrate research infrastructure monies.
- Introduce a single governance framework, one that fosters collaboration among governments, within the system and beyond.

Introduction

At a ceremony to mark the establishment of the Canberra College of Advanced Education in October 1968, Prime Minister Gorton swatted flies as he explained:

> the colleges were not meant to be second rate universities ... Collectively they will provide an alternative system — but not an inferior system — to university education. The Colleges will aim to provide scholarship, not only for the sake of scholarship, which was the genesis of university education, but to meet specific needs of industry and of human endeavour in specialised areas.
>
> (cited in Richardson 1979, pp.51—2)

The year before, as Education Minister, Gorton had marked the beginning of the college's construction by driving a large earthmover along the exposed, same fly-ridden, ridge in Bruce (Richardson 1979, p.35). Gorton later reflected that the introduction of the colleges of advanced education had been a particularly satisfying element of his career. In 1964 Prime Minister Menzies had given him the task of implementing the government's response to the Martin Report on tertiary education in Australia because he was a man who got things done (Gorton 1985).

That report was the culmination of three years work by the Committee on the Future of Tertiary Education in Australia, appointed by Menzies in August 1961. Its terms of reference were 'to consider the pattern of tertiary education in relation to the needs and resources of Australia and to make recommendations to the Australian Universities Commission on the future development of tertiary education' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.I, p.i).

The word 'tertiary' has imprecise usage in Australia: sometimes it is used interchangeably with 'higher' education; at other times, it refers to all non-school qualifications. UNESCO's 2011 International Standard Classification of Education (ISCED) distinguishes between post-secondary non-tertiary education up to level 4, with level 5 being the first stage of four tiers of tertiary education. This definition sees tertiary education building on secondary education, in more specialised fields. The learning is at a high level of complexity and includes academic as well as advanced vocational or professional education. Short-cycle tertiary education (level 5) is a minimum of two years full-time equivalent duration and is designed to provide participants with the professional knowledge, skills and competencies necessary for their entry to the labour market or pathways to higher learning at bachelor's level (ISCED 7) and beyond. The ISCED classification mirrors the binary system of universities and colleges of advanced education. Unless otherwise mentioned, this essay employs this definition.

Leslie Martin, a physicist by training, and from 1959 the first chair of the Australian Universities Commission, led the committee. In 1972 he recalled his task:

> universities had to be provided with the means to deal with rapidly increasing numbers and with the world being enriched each year with new technical and technological developments ... youngsters had to be trained, at least a certain proportion of them, perhaps half of them, had to be trained in technologies and this kind of training is very expensive, so money had to be found.
>
> (de Berg 1972)

A great deal of money was found. Menzies (1970, p.84) knew 'his university enterprise [which started with the Murray inquiry into universities' roles and their funding] could not fail ... to be vastly expensive'. By the time he resigned as prime minister in 1966, 'Commonwealth provision for

university education, historically novel in 1950 … had amounted … to a grand total of roughly $270 000 000' (Menzies 1970, p.91). Of this he was greatly proud.

This essay is a rereading of the Martin Report and an examination of its implementation. Its aim is to tease out the enduring issues affecting the structure of mass tertiary education and thereby inform contemporary policy development and stimulate fresh thinking.

The Martin Report

The members of the Committee on the Future of Tertiary Education in Australia[2] were initially chosen by the chairman but, as Davies has detailed (1989, pp.35—7), the committee was later supplemented with men representing industry (agriculture, mining and chemicals). Then, at the insistence of the Prime Minister's Department, two representatives of technical and secondary education, Ronald Mackay from the Royal Melbourne Institute of Technology (who died in 1963 and was not replaced) and Harold Wyndham, Director General of Education in New South Wales, respectively, were appointed. Professor Karmel was a last-minute appointment, invited because of his economic and statistical expertise.

The committee produced a comprehensive study of the tertiary provision of the day, amounting to 592 pages (excluding the 500 submissions received). The first two volumes were handed to the federal government in August—September 1964; the final one not until August 1965. The Martin Report was aptly named, since the chairman had a strong influence over its formulation. Nevertheless, like many such documents it was the work of a committee, whose members were not always in complete agreement. Moreover, it was produced over several years, which led to inconsistencies in the report and imprecision in the ensuing policy.

The government responded to the committee's recommendations on 24 March 1965, with simultaneous speeches by Prime Minister Menzies in the House of Representatives and Senator Gorton, Minister for Works and Minister-in-Charge of Commonwealth Activities in Education and Research (who prepared the response) in the Senate. As Gorton explained:

> Volume I sets out the Committee's central argument and its proposals for the future pattern of Australian tertiary education. Volume II begins a survey of academic disciplines, particularly those with an important professional content. Volume III, which is not yet available, will conclude this survey and deal with certain other aspects of tertiary education but, we are assured, will not affect the recommendations contained in the first two volumes.
>
> (Australia. Senate, *Debates*, 24 March 1965)

The response, in both houses, started with an acknowledgment of states' rights. Federalism, then as now, influenced the structure of tertiary education. At the time, while the Commonwealth was prepared to increase its role as a funding body, it drew the line at entering the field of teacher training, thus rejecting the recommendation to introduce a new tier of autonomous teachers colleges.[3] Instead it focused, in Gorton's words, on:

> the new concept which is the heart of this report. It is that Australia, during the next decade, should develop advanced education in virtually new types of colleges.
>
> (Australia. Senate, *Debates*, 24 March 1965)

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[2] See appendix.

[3] By the early 1970s teacher education was an important component of the advanced education sector.

Ken Jones, the senior public servant who worked with Gorton on the policy and subsequently became head of the Department of Education, adds (Henderson 1985) that the Commonwealth did not want to get involved with the Teachers' Federation.

What was on offer was 'tertiary' education that still required matriculation from school, but which allowed those at the lower end of the scale the chance to become qualified beyond the level offered by existing technical colleges. Gorton told the Senate:

> what is envisaged is not merely a bigger and better college for teaching technical subjects, for the suggestion is that technology should be only one of the education fields in which these colleges should provide advanced instruction … There should be a common core of studies at tertiary level aimed at providing … 'breadth in education' and the development of 'critical imagination and creative abilities'. Students engaged in such common studies would major in … courses … to fit them for particular careers after they had gained their diplomas …
>
> (Australia. Senate, *Debates*, 24 March 1965)

The government made clear that Commonwealth financial support for these colleges was for capital and recurrent expenses for advanced courses leading to diploma, a qualification that in 1965 equipped people for many professional as well as paraprofessional jobs in fields such as nursing and accountancy. This meant that, while the bulk of technical education was to be excluded from Commonwealth support, state governments were also unable to object to the conditions attached to the support, given the substantial federal funding being provided for diplomas. Ryan observes that this transfer weakened the professional identity of the existing technical colleges and the possibilities for articulation from trade to technician to technologist (Ryan 1999).

Gorton reiterated the Martin committee's point that:

> these new type of institutions should 'resist the temptation to copy the educational processes and curricula of universities' and that the responsibilities of these colleges to the community are 'of a different kind' from those of universities. Our support is founded on acceptance of this principle, and we do not make our support available for the development out of these colleges of new universities.   (Australia. Senate, *Debates*, 24 March 1965)

Thus a binary policy of 'advanced' — Gorton's term or that of Ken Jones (Henderson 1985) — education was launched. Other steps were required 'to marshal all [Australia's] resources of technological education and to ensure that they are appropriate to the needs of the country' and were emphasised by the Martin committee, although they were not included in Gorton's speech to the Senate during the reading of the Bill to establish the colleges of advanced education. These included providing the conditions of appointment that would attract well-qualified staff to teach at the technological level (above the trades level); good social amenities for students; transfer among courses within the colleges, and to and from the universities; established standards to 'create in the technical college system a greater sense of challenge' and an institute of colleges to maintain standards and provide a uniform organisational system (Committee on the Future of Tertiary Education in Australia 1964—65, vol.I, p.127).

The following pages focus on the implementation of this new concept, which sought to meet the increased demand for tertiary education that produced graduates ready to tackle the technological challenges of the mid-twentieth century and who possessed well-developed critical, imaginative and creative abilities. [4]

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[4] There are resonances with the ideas about capability and vocational streams expounded in the body of work led by Leesa Wheelahan and John Buchanan — 'Vocations: the link between post-compulsory education and the labour market', published by NCVER 2012 and 2013.

Approach

This paper looks back at those heady times of expansion in post-secondary education and the implementation of the recommendations of the Committee on the Future of Tertiary Education in Australia (the Martin Committee). Despite the committee's remit to investigate 'tertiary' education and Gorton's notion of 'advanced' education, both of which excluded vocational qualifications up to the current certificate IV level, the resultant system became known as the binary system of 'higher' education. The essay begins with a discussion about the purpose of education, about which the protagonists and their critics had strong views.

The exercise is in two parts: a desktop review of primary and secondary records relating to the Martin Report and its implementation; and a roundtable discussion among players, past and present, to supplement the records consulted and to tease out the relevant themes and their implications for today's policy-makers. The aim of this project is to stimulate fresh thinking and debate. For that reason it concentrates on questions within several themes that remain or have re-emerged as topical — the 'wicked problems' (Australian Public Service Commission 2007) in tertiary education policy. These themes have been distilled from current discussions about the tertiary education system, comprised of higher and vocational education institutions. They are:

- *Diversity and parity of esteem in higher/advanced education*

  How important is status and function in determining structures and behaviour in tertiary education?

- *The place of research in mass tertiary education*

  What type of research/scholarship do we need in vocationally oriented advanced education?

- *Governance and institutional autonomy*

  How important is institutional autonomy in achieving diversity and excellence? If needed, how can such autonomy be achieved in a publicly funded federal tertiary education system? What coordination is required in a federal system?

- *Pathways within education and to the labour market*

  Is credit transfer/articulation a crucial element of a tertiary education system?

Underlying these discussions is the matter of money. A detailed examination of financing, however, is beyond the scope of this project, as is the topic of teacher training. On the latter, the Martin Committee stressed the importance of providing tertiary students with a strong secondary education foundation and the experiences of sound teaching practices in both universities and colleges; hence, its recommendations for a third plank in the system — autonomous teacher training institutes (Committee on the Future of Tertiary Education in Australia 1965—65 vol.1, p.4).

Ryan (2011, p.28) has written an elegant piece on the intersection of policy theory and an historical approach. It reminds us that policy implementation is messy, sometimes unpredictable and usually evolutionary. He sees merit in revisiting actual as well as perceived outcomes. This project does so to help unravel some of the tangles and to offer some cautionary advice for those embarking on the next wave of reform. Its analysis underscores a former Public Service Commissioner's point (2007) that tackling the enduring problems means grasping the big picture, 'including the interrelationships among the full range of causal factors underlying them' (Australian Public Service Commission 2007, p.iii) and having all relevant stakeholders discuss these 'in order to ensure a full understanding of

their complexity and interconnections' (p.36); hence, the roundtable, the deliberations of which augment this discussion.

The Martin Committee's operations were the subject of a book by Davies (1989), whose work was completed just as the binary policy was officially buried by the 1988 white paper on higher education (Dawkins 1988). Davies concentrated on the formulation of federal government policy: she closely analysed the committee's papers, departmental documents and parliamentary debates. Therefore this project has only re-examined those sources where a reinterpretation in 2013 is considered warranted.

One element of the research was to consult histories of several colleges of advanced education to analyse the system in action, primarily with contemporary questions about higher education—VET collaborations in mind. These surveys reveal some of the institutional legacies that can influence how reform is implemented, as well as identify the successes and inadequacies of the binary system.

This rereading underlines the importance of attention to the use of language. For that reason, words from the people involved are reproduced as much as is possible within the available space. More verbatim material is now available, thanks to online access to landmark reports through the VOCEDplus digitalisation project, to Hansard and even to some oral histories in the collection of the National Library of Australia. On the whole, the language is refreshingly straightforward. Unfortunately, though, imprecise definitions of terms like 'tertiary', 'vocational' and 'advanced' used in conjunction with education have clouded thinking on this subject for 50 years.

The reason for taking an historical approach to this subject is twofold: to illuminate the enduring issues in this area of public policy; and to remind us that, while some problems may seem familiar, the way we perceive and tackle them must take account of change. History is not static. This interpretation of the Martin Report, explicitly undertaken to contribute to today's policy considerations about the organisation of vocational as well as higher education, arrives at some conclusions different from those more focused on universities or formulated in a time of contracting demand. It also detects an abiding Australian coyness about the notion of elitism in education, which has often constrained the debate and sometimes coloured earlier analyses of the Martin Report and its implementation.

The purpose of education

The Martin Committee had a firm eye on practical matters, such as 'manpower' demands, technological developments and, of course, money; the report and its champions also had loftier — liberal — views of education. These infused the binary policy.

Chapter one of the report began with conclusions and recommendations about tertiary education and the nation. The inquiry had confirmed a demand from the Australian community for increased opportunities for higher education (*sic*), which, in both the sciences and the humanities, the authors saw as an essential condition for stability and economic growth: 'the human values associated with education ... are the very stuff of a free, democratic and cultured society'. They concluded that higher education (*sic*) should be available to all citizens according to their inclination and capacity (around 20 per cent of the population), recognising that in certain specialised fields there may be a conflict between individual aspirations and community needs. The committee did not, however, consider that 'entry of students into various courses should be restricted to forecasts of future needs. This would circumscribe educational opportunity and involve the risk of grave error' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.I p.1).

In 1939 in a commencement address at Canberra University College, Menzies listed what he saw as the seven responsibilities of a modern university, which were to:

> (1) be a home of pure culture and learning
>
> (2) serve as a training school for the professions
>
> (3) serve as a liaison between the academician and the 'good practical man'
>
> (4) be the home of research
>
> (5) be a trainer of character
>
> (6) be the training ground for leaders
>
> (7) be a custodian of mental liberty and the unfettered search for truth (Menzies 1939).

Later, when the Martin Committee was getting underway, Menzies observed in the House of Representatives:

> I think nothing would be more disastrous than to allow the university structure in Australia to fall into a state of what I might call classical uniformity, as if we were still constantly building on a nineteenth century model. It is for that very reason we have set up ... a committee ... to investigate tertiary education as a whole, in order to see whether we cannot get a variety of types of tertiary training institutions — technological, classical or scientific, whatever they may be.
>
> (Australia. House of Representatives, *Debates*, 1 May 1962)

Menzies and Martin admired each other, so it is easy to imagine that the prime minister's philosophy helped Martin to flesh out his terms of reference, which mirrored those of the Robbins Inquiry (Committee on Higher Education [UK], 1963) being conducted at the same time in Britain. One point of difference may have been their attitude to federalism. Martin understood the politics but was disappointed that these interfered with the need for better teacher education. Menzies, while acknowledging the need for a Commonwealth role in the funding of universities, worried that 'centralised, national responsibility and authority in education would tend to produce uniformity' (Kramer 1987, p.4).

Davies (1989, p.46) suggests that Martin ran the committee according to his own mindset, formed while a student of the Nobel Laureate, Ernest Rutherford, in the Cavendish Laboratory at the University of Cambridge:

> the discovery of knowledge and its application were perceived by Cavendish men as distinct processes to be carried out by different people, who they assumed would require different types of training. They believed in a dual system of higher education: traditional universities on the one hand to train people to discover new knowledge and higher technical institutions on the other to train people in the application of scientific knowledge in industry.

Was there snobbery attached to this mindset? For Menzies and Martin, and Lord Robbins, the determinant of entry to the university should be ability and interest. It was not to be a matter of privilege. The committee had embarked on a radical path: the redesign of a system attached to the traditional British concept of a university, albeit one with the Australian twist of a strong focus from the start on training for the professions. With their new system they envisaged a set of elite institutions devoted to highly academic learning and research.

Another member of the Martin Committee, Peter Karmel, who went on to be involved in one landmark inquiry after another, thirty-five years later reflected on the merits of good training for health professionals (he was convalescing) and on universities. Here is part of that rumination (Karmel 1999, p.4):

> Opposition to elitism in our higher education system from government, the public and the institutions themselves is so strong that all universities have to be treated in exactly similar fashion. There must be no tall poppies; none must stand out from the crowd … The antagonism to providing special support to a limited number of institutions on the grounds of its being elitist is really quite extraordinary, given the obvious ways in which top scholars and researchers stand out above the rest … We must recognise the need for a differentiated system of universities, acknowledging that in the world of the intellect we are not all equal. If we do not do this, Australia, a gold medal country in the world of sport, will soon become a tin medal one in the world of the intellect. Not much of a future for the clever country! We must confront these issues. But I am not holding my breath.

The Martin Committee and the Menzies and Gorton governments had tried to confront the issues. These men were committed to fashioning tertiary education in a way that would serve the nation as well as preserve the pursuit of knowledge. They believed in the sanctity of intellectual freedom and a place for pure research; they were looking for an alternative to universities, one that could offer advanced education to practically oriented men and women; and they wanted to fuel economic growth. However, the liberal element in the initial concept of advanced education — namely, a breadth of education to develop creative minds in practical men and women — lost out to academic drift. As both Martin and Gorton had feared, the colleges gradually became more like universities, thus diminishing their distinctive purpose.

How best to combine general education with technical training remains a challenge for the tertiary education system, at both the sub-degree and degree levels. For instance, in 2008 in response to this challenge, the University of Melbourne's Vice-Chancellor Glyn Davis introduced the 'Melbourne Model', now called the Melbourne Curriculum. Under this model undergraduates choose from one of six degrees designed to lay the intellectual foundations for employment or further study, while most of the professional qualifications, which are undertaken after the initial degree, are offered at master's level, catering to increasing demand in many occupations for postgraduate entry

qualifications. And the body of work undertaken by Wheelahan and Buchanan sparks consideration of what capabilities and underpinning knowledge vocational training should nurture to encourage educational and occupational progression (Yu, Bretherton & Buchanan 2013, p.6). In other words, vocational development requires more than the technical skills required for a particular job; it also needs to help the student adapt to changing conditions within a broad occupational grouping.

The binary policy had sought to introduce a balanced system, but by the mid-1970s the tertiary education system was becoming unstable. In 1973 government teachers colleges throughout Australia had become colleges of advanced education, with the non-government teachers colleges included the following year. This more than doubled the number of colleges of advanced education, although some had only small numbers of students, prompting amalgamations, reclassifications and even mergers into universities (Department of Education, Employment and Training 1993, pp.13—14).

With the boom times clearly over and youth unemployment severe, the Fraser Government thought it necessary to clarify the roles of tertiary institutions. In 1976, the prime minister announced the establishment of the Committee of Inquiry into Education and Training (Williams Committee), whose report includes a thorough review of the problems the binary system had encountered: regulatory, including Commonwealth and state roles; institutional, for example, the proliferation of colleges; and economic, in particular the shrinking job market for graduates and changing skill requirements. Nevertheless, Williams concluded that the specialisations specific to each sector should remain to ensure a continuation of educational opportunity at the post-secondary level (Committee of Enquiry into Education and Training 1979, p.iii). The balance between the sectors could be determined by the various purposes of education, set out in chapter 17:

> to develop the mental and affective capacities of individuals [some of which] will be applied to the production and distribution of funds and services, and therefore one of the objectives of education and training is vocational. Individuals depend on social relationships for the full development of their capacities and interests, and from this derives what is sometimes called the socialisation objective, at other times the transmission of a common culture and a common standard of citizenship. Another objective is to promote social mobility. To further that objective, as well as to promote the primary purpose of education for all, steps are taken to reduce the extent to which opportunities for education are determined by family circumstances. The advancement of learning through scholarship and research is another objective of particular significance in higher education (p.765).

Yet, as the Advanced Education Council pointed out in 1982 in a paper also offering ideas for the future, realising the goal of diversity of opportunity in higher education (delivered by universities and colleges of advanced education) is a:

> complex matter depending as it does on the characteristics of the student body, needs of industry and commerce, the nature of course offerings, the staff and other resources involved, institutional structures, role of coordinating machinery, and not least the attitudes of decision makers at all levels (p.5).

Some of these complexities are examined in the following pages.

Equal but different?

In its report the Martin Committee reconceptualised the role and nature of technical colleges (subsequently the colleges of advanced education) to underscore their equally important but different role from universities:

> 5.(iv) The principal objective of the technical colleges is to equip men and women for the practical world of industry … the education which can be provided by these institutions has long been undervalued because of the overvaluation of the social status of a university degree. Nor is the wide function of these colleges in fulfilling the various needs of commerce and industry fully appreciated by the public. The Committee therefore recommends that efforts be made to strengthen and raise the status of technical colleges.
>
> <div align="right">(Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.127)</div>

> 6.63 … In recommending the provision of funds to permit further expansion and improvement … of those parts of technical colleges devoted to diploma work, the Committee believes that educational facilities and amenities for diploma students should not be inferior to those enjoyed by university students.
>
> <div align="right">(Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.198)</div>

What, as Gallagher observes (1982, pp.186—7), the committee did not do was clearly classify the remit of these colleges. It took only a few years for the distinction between the functions of a university and what came to be called a college of advanced education to blur. Gorton's attempt to forestall this by not funding degrees failed. Nor did Martin's view that 'it doesn't much matter what you call [the qualification], the students will prove their worth' (de Berg 1972) hold up in the face of the established hierarchy of esteem and credentials.

Even in the first parliamentary debate on the government's response to the Martin Report, the rot was setting in. Labor Senator Ormonde thought the 'Prime Minister's scheme of secondary universities, as we might call them, would do me, because unless something is done many people will not be getting any education at all at the tertiary level' (Australia. Senate, *Debates,* 4 May 1965, p.567). Furthermore, the binary system was made up of universities on the one hand and a variety of big, small, old and new colleges on the other. They were not identifiable as a set of institutions with equivalence to universities.

In 1967 Gough Whitlam, the then Leader of the Opposition, elucidated the contradictions inherent in the notion that colleges had 'comparable status in the eyes of the community', while being able to admit students who had done less well at matriculation. How was this to be achieved, especially once the government had closed the opportunity for some to become degree-granting institutions? Whitlam predicted there would be irresistible pressure for Australian technical colleges to become 'in some sense or other universities or parts of universities' (Australia. House of Representatives, *Debates*, 16 May 1967, p.2186).

And they did. As Moses (cited in Meek & Harman 1993, p.17) concluded in a post-mortem on the binary experiment, it was clearly not successful in maintaining two distinct sectors:

> Once established, CAEs strove to become like universities, and indeed to become universities. Academic staff wanted the same privileges, same salaries, same nomenclature as university staff. But was it a wasted effort? No — we have learnt a great deal about how government frameworks

shape reality, how institutional cultures develop in interplay with internal and external forces, how academic drift occurs.

A greenfields site for the experiment was Canberra, where, under the eager eye of Senator Gorton, the Canberra College of Advanced Education (CCAE) was built from scratch. An assessment of its first ten years (1968–78) by the founding principal, Professor Richardson, *Parity of esteem*, chronicled the achievements and mounting challenges of creating a new and respected type of tertiary institution.

The college's early success was based on a determination to be different. According to Helen Crisp (cited in Richardson 1979, p.xiii), a founding Council member, the Canberra College of Advanced Education:

> made its reputation both in its community and further afield through its willingness and ability to produce well educated professionals and technologists either ready or almost ready (depending on which employer you talk to) for the desk, the library, the laboratory, the computer room, the schoolroom and all the other places where graduates find employment.

The college strove for intellectual stimulation and quality.

The Canberra College of Advanced Education welcomed the Wiltshire Committee recommendation of 1969 that colleges should be able to award degrees *with a distinctive nomenclature.* Yet it remained committed to offering courses of a professional nature. Indeed, its postgraduate diploma courses were in far more demand from university graduates than had been anticipated (Richardson 1979, p.12).

Crisp was blunt about the source of some of the college's hurdles: 'the accreditation mill [that is, ministerial approval of courses] as it has emerged could hardly have been more calculated to kill off innovation and experimentation' (cited in Richardson 1979, p. xvii). Employers, too, with whom the college strove to work closely to meet their labour needs, bore some responsibility for the duplication of courses. Crisp commented that some professional bodies were playing institutions against each other in the pursuit of 'unnecessarily high qualifications for their members' (p.xviii).

Then there were the outsiders who found it difficult to come to grips with the notion of 'advanced' education, even if they did appreciate the increased access to tertiary education provided by the colleges. Richardson (1979, pp. 23–4) did not think the public ever understood the term 'advanced'. He also observed that the College Council member 'Sandow's feeling that the College would have fared better with the name "Institute of Technology" is shared by many members of teaching staff and students'. Indeed, several colleges were called institutes of technology, some like the Royal Melbourne Institute to preserve its heritage; another, according to the Williams Report, striving for the top, perceived at the time to be like the Massachusetts Institute of Technology (Committee of Inquiry into Education and Training 1979, p.254). Eventually the larger multi-disciplinary colleges formed a separate group, called the Directors of Central Institutes of Technology (DOCIT), even if not all members carried that label. The group argued for a status separate from other, smaller, colleges, further underlining the segmentation in the advanced education sector and, according to Richard Johnson, a special commissioner in the Commonwealth Tertiary Education Commission, contributing to the system's instability (cited in Kerr, Pullman & Standish 1987, p.61).

The wrangling over names reflects a perennial contest to be on top of the pyramid. The binary policy tried to change the nature of the race by articulating different end points: the expansion of knowledge versus the professional application of that knowledge. It wanted to meet the demand for tertiary education generated by the public's realisation of the vocational benefits it offered. But it

underestimated the forces within the tertiary system that would strive to obtain the same resources allocated to the pinnacle. Some of these institutional problems are examined in the following chapter.

Relevant to today's competition — between universities and other tertiary education providers, in particular publicly funded TAFE institutes[5] — is the place of TAFE in the binary system. Again, it is a story plagued by imprecise boundaries, perceptions of status and institutional rivalries. More fundamentally, the position of TAFE is concerned with different approaches to teaching and learning that have carved out deep suspicions between higher education and vocational education and training (VET). This seems to have been exacerbated by the Kangan report of 1974, which chose, in the words of Peter Fleming 20 years later, not:

> to dwell on academic awards as a means of defining technical and further education; to do so was to invite unnecessary arguments with other sectors, particularly advanced education. Rather, the committee needed to describe a learning environment and its potential clients … Colleges of advanced education were also wary of any new pretenders in the middle area even though their long term objective was the university status they have now achieved. The committee could not guarantee a great deal of assistance from these quarters.   (Cited in Kearns & Hall 1994, pp.50—1)

Jakupec and Roantree's 1991 paper at a conference looking back on the Martin Report after 25 years articulates very well the awkward place inhabited by technical education in a post-secondary system catering to students of enormously varied capabilities and prior learning. They predicted that scope creep would continue. In the binary system, technical colleges (then TAFE colleges) had to move away from the high-level technological courses now offered, often by the very institutions they had spawned (for example, Sydney Institute of Technology; see Neill 1991, p.75). Later, they were expected to offer retraining required by structural adjustments in the economy (hence, the 1980s focus on recurrent education) and, Jakupec and Roantree foreshadowed, it might turn out that 'a binary system including universities and TAFE will exist by default … at the lower end of higher education' (p.12).

That started to happen in the first decade of the twenty-first century, although first, post-Dawkins, came a new divide between knowledge and education on the one hand, and skill and training on the other (National Board of Employment, Education and Training 1994 in Kinsman 1998, p.4). Kinsman offers an explanation for why the sensible idea of curriculum design based on occupational standards (in both university and TAFE) drove a wedge between higher and vocational education:

> the particular version of CBT [competency-based training] adopted by the Australian VET sector can be justifiably criticised because it is not simply based on occupational competencies — it requires the precise replication of these competencies as both the necessary and sufficient condition for a vocational curriculum. This tends to standardise skills training in a way which is inappropriate for diverse and constantly changing labour markets. Moreover it tends to separate these skills from the conceptual understanding which underpins them and which is crucial to future occupational, social and educational mobility.   (Kinsman 1998, p.5)

The Martin Committee was aware in the early 1960s of the twentieth century's 'exceptional acceleration in the rate of increase in knowledge' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.1) and technological complexity. Little could it have imagined the extent of this acceleration in the second decade of the next century. Yet, the functions it envisaged for technical colleges remain relevant. They were to take a more practical approach than the

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5 Callan and Bowman are examining this competition between vocational education and training and higher education providers delivering diplomas, advanced diplomas, associate degrees and bachelor degrees (Callan & Bowman 2013).

universities, whose emphasis was on research. But, as the report made clear, this did not mean achieving competence in techniques was sufficient. Knowledge of the fundamentals was essential:

> The handbook engineer has no place in the future. The technologist of tomorrow must be capable of interpreting completely the significance of all the elements of a complex system and of developing creative ideas for the solution of its problems.
>
> (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.152)

Martin looked to the approaches the United Kingdom and the United States had taken to engineering education. Had he also taken account of German thinking, which resulted in the highly vocational (and highly regarded) institutes of applied sciences (Fachhochschulen), then perhaps the goal of parity — or at least a greater stature for applied learning — would have proved less elusive. This would also have needed a shift in the occupational status of the best tradespeople toward the idea of the 'master craftsman'.

Instead, the tiered approach of the 1960 Californian Master Plan for Higher Education held some attraction. The plan established a three-part framework whereby the University of California took the top 12.5 per cent of high school graduates and was the only segment able to offer research doctorates; the California State University was open to the top third; and the community colleges had open access. The colleges' primary mission was to provide academic and vocational instruction for older as well as younger students. They offered two-year programs from which graduates could transfer to universities. Each part of the system was encouraged to create its own kind of excellence but, as Martin told Davies in 1975, by offering liberal arts programs 'the Americans went wrong in trying to make their colleges second-rate universities ... they didn't really look at it as a training of a technological nature' (cited in Davies 1989, p.94).

Nor, it transpired, did the colleges of advanced education. They soon stretched their mandate from raising 'the status and increasing the scope of the "humanities" side of technical college work' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.165), to delivering arts courses in their own right. The Martin Committee had emphasised the imperative that students of technology learn to express their thoughts clearly and economically, and to study courses such as economic geography, government, statistics, history of science and technology — not as pure academic disciplines but for their relevance to the practical world of work. Volume three of the report went further, suggesting that liberal education at the diploma, and even the degree level, could be desirable but only 'if it is accepted by industry and commerce as a valuable preparation for work' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.3, p.14).

This tension extended also to research (to be discussed in the next chapter). The colleges came to look more like universities, while TAFE institutions were pressed — until the last decade — to relinquish their paraprofessional education. A distinct kind of higher education for the practically minded student with a good sense of his or her vocational direction was lost.

Professional training

Part of the enduring and confounding problem of status has its origins in the courses offered, and jealously guarded, by universities: medicine and law, from the very beginning, and then others. As Aitkin (2000, p.37) notes, the universities never agreed to vacate the vocational field. On the other hand, initially at least, they preferred not to embrace some fields, notwithstanding industry pressures to do so. 'Paramedical' education is a case in point.

Reading today's blurb about Cumberland College, now the University of Sydney's Faculty of Health Sciences, it would be difficult to believe that at the time Martin was conducting his inquiry, the university wanted nothing to do with training physiotherapists or occupational therapists. It considered the type of graduate course these professions required was below the level of university teaching (Rodgers 1985, p.11).

The Martin Committee's conclusion was the same, arguing that much of the content in paramedical courses was inappropriate for universities. The committee doubted the wisdom of various paramedical groups wishing to raise the status of their training courses to the level of a university degree. It did however consider that, while vocational nursing training should not be provided by the universities, colleges of nursing should be further supported and that universities, technical colleges and teaching hospitals should cooperate in paramedical training (Committee on the Future of Tertiary Education in Australia 1964—65, vol.2, p.109).

Cumberland emerged in 1973 as a specialist college of advanced education, coming under the umbrella of the New South Wales Minister for Education and Science, but with Commonwealth financial support (albeit not for the type of clinical education available in university medical schools). It offered 'integrated programs aimed at preparing health science professionals with both theoretical and practical competence' and built affiliations with hospitals, community facilities and private practices to be able to provide the clinical training it deemed essential (Rodgers 1985, p.91). Such collaboration is now the boast of the Faculty of Health Sciences at the University of Sydney. In 1985 when a history of Cumberland was written, the college was proud 'that a College of Advanced Education does not, of necessity, have to take second place in the higher education community because its legislative arrangements do not match those of a university' (Rodgers 1985, pp.xv—xvi). This did not mean vacating the field of research, as we will see in the next chapter.

Unlike the specialist Cumberland College, in Western Australia the 1970s saw the successful integration of two therapy schools and the local branch of the Australian College of Nursing into the Western Australian Institute of Technology (WAIT). WAIT became a large, comprehensive institution with a very broad interpretation of the word 'technology' and a clear mission to provide advanced education that was an alternative to universities. The Western Australian Institute of Technology's historian concluded:

> During the 1970s the clearest example of WAIT's role in meeting the professional needs outside university education was in the health sciences ... the research and development achievements have been remarkable by any yardstick. Yet almost none of these fields could find a home in UWA [University of Western Australia]. (White 1996, p.5)

WAIT's final and determined and often undiplomatic director, Don Watts, attributed the system's demise in 1987 to:

> the inability of the Commonwealth bureaucratic system to recognize [that] the inappropriateness of the two-box system of higher education or the three-box system of tertiary education has limited the diversity of higher education and produced the bureaucrats' major concern, the drive for institutions to claim a place in another box ... The regulation of the binary system is expensive to administer. Its only achievement in recent history has been to direct resources away from the college student to the benefit of university students. So much for the founding philosophy of 'equal but different'. (Watts cited in Kerr, Pullman & Standish 1987, p.79)

Research

This chapter might also be titled 'Money', for the debate about who does research and what type masks a bid for a larger slice of the funding pie. It is a discussion clothed in the dichotomy of pure versus applied research or research versus scholarship. These distinctions deserve consideration.

For the Martin Committee, 'teaching and research are closely linked university activities, and a body concerned with only one of them is clearly no longer a university (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.48). The colleges were not universities. The third volume of the Martin Report quoted Professor Partridge, at the time the Director of the Australian National University's Research School of Social Sciences and, over a distinguished career, one of the prime thinkers on tertiary education:

> The proposition that all university teachers ought to do research work will not be questioned, provided that it is admitted that 'thinking is also research', and that not all research issues in publication or is undertaken with publication in view. Research is necessary for good teaching at least in the sense that unless a teacher thinks critically and independently about his material and has put the stamp of his own mind upon it, he is not likely to produce pupils with independent and critical minds … there are in addition many fields of research both in the natural and the social sciences which can only be carried out thoroughly and with some speed by men who can give almost the whole of their time to it.
>
> <div align="right">(Committee on the Future of Tertiary Education in Australia, 1964—65, vol. 3, p.11)</div>

Here we see the perennial argument for diversity: not in quality but activity. Pockets of research-only activity could be sanctioned but, it is reasonable to infer from Partridge, all higher/advanced education should nurture the capacity for independent thought: what Gorton dubbed 'scholarship' in his 1968 speech at the Canberra College of Advanced Education. By the end of the binary era, the teaching—research divide was one of the major strains on the system; it remains so. These strains were articulated in blunt fashion at a seminar instigated by Bob Pearce, the WA Minister for Education and Planning, in Perth in 1987, because, Pearce said, he thought the binary system was outmoded and he wanted a debate about what should replace it. One speaker, Professor Richard Johnson, Special Commissioner of the Commonwealth Tertiary Education Commission, talked about the value of scholarship across tertiary education:

> 'Scholarship' [as opposed to 'research'] retains some real meaning, of strenuously staying up with the cutting edge of the subject (even if not getting out in front of the edge) and rigorously applying standards of evidence and judgement.
>
> Any academic, in any sector, can do that, and should be proud to do it well, and should not feel the least loss of status in doing that. If their chief executives — Directors, Principals, Vice Chancellors — would proclaim the value of this and would ensure that this scholarship flowed into inspiring teaching, and would then ensure that promotion for the good practitioners followed — as it can follow now for the mediocre 'researchers' — we might see a transformation of the public attitude to the funding of higher education. We tend to forget that most of those who are denying higher education the funds it needs — members of parliaments and senior bureaucrats — have experienced higher education and apparently were not inspired by the experience.
>
> <div align="right">(Johnson cited in Kerr 1987, p.67)</div>

As Johnson commented, research was also linked to staffing. As the colleges expanded their student numbers and offerings, they needed to recruit. This coincided with a contraction in jobs at universities, with the result that academics started to move across the divide. They took with them expectations that the conditions they were used to — study leave and research opportunities, for example — would continue. What ensued was a rising clamour for funds for colleges of advanced education to undertake 'applied' rather than 'pure' research.

In response, the third report of the Australian Commission on Advanced Education, published in 1972, set out seven ways of undertaking research in colleges of advanced education, emphasising research in the areas of the college's specialisation and such that the practical problems of industry or urgent social and economic questions were the focus of investigation (quoted in Rodgers 1985, pp.145—6). The commission did not rule out individuals doing research for their own satisfaction or to acquire postgraduate qualifications, but this activity was to be funded through the Australian Research Grants Committee or from other sources such as industry or college sponsorship. It would not become part of the Commonwealth's recurrent funding and should not duplicate the expensive postgraduate research activities of universities.

This was not just a battle for money. Research implied status. For that reason, participants at that same 1987 seminar recommended there should be, at the system level, irrespective of sector, 'equal funding for teaching and scholarship associated with equal work'. For example, in determining grants to a university and a college of advanced education for the study of engineering at degree level the unit costs per student used in the calculations should be the same. Such disparities have yet to be resolved (see Karmel & Liu 2012; Dowling 2010).

Research did also, as prominent leaders of colleges of advanced education argued, have a place in achieving excellence. The leaders of Cumberland College, the only tertiary institution in NSW educating health science professionals, could not accept a passive role in research if the college were to remain an effective and modern teaching institution and attract the best minds to its academic staff (Rodgers 1985, pp.146—7). At the Western Australian Institute of Technology in the 1980s, Don Watts built the institute's research and development capacity. He did this not only to increase his institution's income but out of a firm belief that the institution must perform at the highest levels to serve industry, commerce and government. This included introducing new, more professionally oriented, approaches to doctoral work. In the face of implacable opposition from the Commonwealth to his arguments for research dollars, Watts set about gaining university status[6] (White 1996, p.263), thus driving another nail into the coffin of the binary system.

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[6] The Western Australian Government passed legislation in December 1986 conferring that status on WAIT. The Commonwealth Government refused the institution additional revenue.

Governance

The Martin Report put forward recommendations for a coordinated approach to state regulation of the proposed colleges as well as for an overarching tertiary education commission:

> 6.69 Successful growth in the stature of ... colleges depends upon the appointment of well-qualified staff and the maintenance of academic standards. The Committee believes that this can best be assured by bringing diploma-awarding colleges of appropriate standard within an Institute of Colleges. To assist in this development it is suggested that each state government should establish an Institute of Colleges
>
> ...
>
> 6.71 The Committee envisages each Institute of Colleges as an autonomous body, each with its governing council, established by its state government by a special Act.
>
> (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.183—4)

> 6.174 The Committee recommends that an Australian Tertiary Education Commission should be created and that this commission should accept the responsibilities already assumed by the Australian Universities Commission in addition to the task of co-ordinating the activities of the Boards of Teacher Education and the Institutes of Colleges. The Committee envisages that the new Commission would then act as the federal statutory body through which Commonwealth grants would be made available to the Universities, the Boards and the Institutes.
>
> (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.196)

Part of the rationale behind the institute of colleges was to enable the Commonwealth to channel funds to help the states elevate their technological education. Nevertheless, not all jurisdictions established an organisation of this nature, an action which would also have introduced a degree of institutional autonomy. They preferred to retain government control. As a result, tertiary education developed different hues in the various states.

Nor did the Commonwealth Government accept recommendation 6.174. Instead it decided to establish 'a separate advisory committee to which proposals ... will be referred, and which will make recommendations to the Commonwealth as to the distribution of Commonwealth funds' (Australia. Senate, *Debates,* 24 March 1965). Gallagher (1982, p.180) explains that the Commonwealth was reluctant to encroach on an area of state responsibility. Nor did it want to relinquish its own control over the new developments in advanced education. It wanted to hear direct from universities and the colleges of advanced education, not via a commission sitting 'on top of the lot', as Gorton put it (Gallagher 1982, p.193).

In his second reading speech on the States Grants (Advanced Education) Bill in November 1965, Gorton announced:

> The Commonwealth has been gratified to receive the wholehearted support of all of the States in this development of the new Colleges of Advanced Education ... We have appointed a highly qualified Advisory Committee under the chairmanship of Dr. I.W. Wark to advise us on proposals which will come from the States as part of the Committee's more general task of promoting the balanced development of non-university tertiary institutions in Australia.
>
> (Australia. Senate, *Debates,* 25 November 1965)

On behalf of the Opposition, Kim Beazley senior wished the bill a successful passage (Australia. House of Representatives, *Debates,* 24 November 1965) but urged the Commonwealth to use its influence with

the states to ensure that the new form of tertiary education actually came into existence. The two bodies established to oversee institutions in this new binary system, the Australian Universities Commission (AUC) and the Commonwealth Advisory Committee on Advanced Education (CACAE or Wark Committee), found it difficult to fulfil their remit. Wark became a strong advocate for the colleges of advanced education, arguing that they take on more of the vocational load located in universities, making the university sector more and more anxious about competition from the colleges.

The lack of coordination in the system was a matter of debate in parliament as early as 1967. The Leader of the Opposition, Gough Whitlam, lamented:

> The Martin Report's emphasis on the transformation of existing institutions which were educationally inadequate has virtually disappeared. So have the proposals for the establishment of new-type institutions. All that remains is a set of decisions for distributing Commonwealth finance for building and capital equipment.   (Australia. House of Representatives, *Debates*, 16 May 1967)

Labor's education spokesman Kim Beazley senior joined in:

> Can we stop guessing at a worthwhile alternative to traditional university study and provide enough university studies or create something new and systematically thought out in tertiary education? Can we end the obsolescence of so many technical colleges that are inadequate to meet the desiderata outlined by the Martin Committee? Our tertiary education problems cannot be solved by merely building and equipping lower status limited institutions, and grants should not be used for this purpose. What is needed is a co-ordinated Commonwealth policy covering universities, teachers colleges, institutes of advanced technology, advanced education colleges and vocational courses and colleges … There is a very real need to end some aspects of the sharp division between universities, institutes of technology and teachers colleges; and there is the unsolved problem of the status and standing of advanced colleges. [7]
>
> (Australia. House of Representatives, *Debates*, 16 May 1967)

That status was undermined not only by different regulatory regimes but also by opposing mentalities. Richardson's account (1979, p.13) of the first years of the Canberra College of Advanced Education highlights the tensions surrounding the endeavour of introducing a new concept in tertiary education:

> academia had ideas about autonomy and government of tertiary education establishments … which were at cross purposes with those of education officers with their experience of tight departmental control and external development and monitoring of curricula which had prevailed in technical education … for more than a century.

The colleges of advanced education had to contend with two layers of bureaucracy. The Commonwealth provided money but the states still exercised control over much of their operations. Peter Botsman, a former teacher and academic, became head of Kelvin Grove College of Advanced Education (previously a teachers college) in May 1975. Asked how he thought he would approach running the college, he replied: 'When you say "run the College", I suppose identifying needs would be more accurate'. Botsman found the mindset of his own staff, used to being part of the Department of Education, parochial and entrenched. More frustrating was having to deal with the consequences of government fiat, like 'when we got lumbered with this blasted amalgamation that made Brisbane CAE'. Botsman learned to watch parliamentary movements in Canberra and to invite politicians to his college to lobby — successfully — for more money (Pechey 1992, pp.165—72).

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[7] In 1978, the Commonwealth Tertiary Education Commission was established by the Commonwealth Government to coordinate all forms of postsecondary education.

Following the 1969 Wiltshire Inquiry into Academic Awards in Colleges of Advanced Education, a national and state system of course accreditation was introduced. Colleges had to get approval for their courses and the resources they required, the proposed number of students, the levels of skill and knowledge to be reached, and the staff employed. This extra administrative burden caused added resentment because universities were not subject to such external supervision (Anderson 1981, p.31).

Reviewing the pros and cons of course accreditation in Australian colleges of advanced education, Houston and Harman concluded in favour of the system, noting that Wiltshire's aim had been to enhance the reputation of the system of colleges of advanced education (Houston & Harman 1978, p.57). They did not think the 'competent and committed' had anything to fear from accreditation (1978, p.61). Furthermore, as the chief officer of the UK accreditation body had observed, given the success of college course validation, it was not good enough to argue against it just because it did not apply to universities (p.66). The race to be equal overshadowed the quest for difference.

Changes in the economic climate through the 1970s and a fall in the demand for some courses, in particular teaching, put the squeeze on funding and gave rise to calls for greater accountability, which administrators of colleges of advanced education felt further constrained them, as Lindsay Barker, Director of Darling Downs Institute of Advanced Education noted:

> the result now [in 1981] is that Australian post-secondary education is enmeshed in a web of bureaucratic control and political expediency from which it will emerge mangled and drained, unless there is a resurgence of institutional vitality.   (Cited in Hore & Chippendale 1981, p.204)

The Williams Committee (Committee of Inquiry into Education and Training 1979, p.269) had foreshadowed this problem, recommending that, while all colleges of advanced education still be coordinated at state level, 'the State authorities acknowledge the administrative strength and maturity of individual institutions within their systems and allow them a greater degree of academic and administrative freedom' — shades of today's notion of 'earned autonomy'.[8]

The Williams Committee (1979, p.260) also commented on one of the tasks of the new body, the Commonwealth Tertiary Education Commission (CTEC),[9] that of maintaining close control over the balance between degree, diploma and associate diploma enrolments and avoiding academic drift in the colleges. John Dawkins abolished the Tertiary Education Commission in 1987, thereby gaining direct policy control over the sector and heralding the dismantling of the binary system (Croucher et al. 2013, p.1). Today, senior university administrators see the Commonwealth Tertiary Education Commission, a statutory body which reported directly to parliament (McIntyre et al. in Croucher et al. 2013, p.18) as a model worth revisiting. Marginson (2012), for example, suggested that the Commonwealth Tertiary Education Commission was able to build up strong expertise, encourage public discussion and take the long view. Moreover, it did try to tackle the big issue of unifying policy on higher and vocational education. Its downfall, he claimed, was to get too close to the sector it was meant to regulate — evidenced in 1987 when the Australian Vice-Chancellors Committee argued for its retention.

The influence of employers

As well as contending with government regulation, higher education providers, both universities and the colleges, had to take into account the views of employers. These were not always welcome.

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8   See terms of reference for the 2013 review of higher education regulation <http://www.innovation.gov.au/highereducation/Policy/HEAssuringQuality/Pages/Library%20Card/TermsofReference.aspx>.
9   From the amalgamation of Australian Universities Commission and Commonwealth Advisory Committee on Advanced Education in 1977.

Houston and Harman (1978) found that academics in both university and college of advanced education engineering schools viewed the influence of the Institution of Engineers on the curriculum as undesirable and a restriction to their autonomy, noting for example that the decision by the profession to accept only students who had done an approved four-year course had significant implications for education budgets. This resulted in what has become an enduring debate about credentialism. The Williams Report devoted a chapter to the issue, which had been raised in a 1976 review by the Organisation for Economic Co-operation and Development (OECD; Committee of Inquiry into Education and Training 1979, p.464) of educational policy in Australia. Credentialism was defined as 'the raising of educational qualifications required by employers for particular jobs even though the content has changed little'. In 1979 Williams doubted that the pressure to obtain certain kinds of credentials was resulting in a shortage of suitable applicants for alternative types of education and training such as apprenticeships (Committee of Inquiry into Education and Training 1979, p.464). However, in 2014, according to *The Australian* newspaper, the Commonwealth Employment Department was worried about university expansion because 'domestic training numbers for technicians and trades workers … have stagnated over the last two years [despite the fact that] persistent shortages are more apparent [among] technicians and trades than for professions' (Lane 2014a). In response, the sociologist Frank Furedi urged a greater 'cultural valuation for technical training and education' rather than the provision of more university places (Cited in Lane 2014b). As well as depending on employers willing to take on apprentices, this would need a major shift in how secondary students are channelled into post-school pathways: today's candidates for the trades and universities come from different pools of people.

The Martin Committee was trying to encourage esteem for 'technological' education, and in so doing took account of the needs of employers. It drew heavily on the engineering profession to help reach its 'conclusions about the educational structure necessary for the proper technological development of the country' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.129). Subsequently, the Commonwealth Advisory Committee on Advanced Education consistently emphasised the need for colleges to 'arrange a more direct and intimate relationship with industry and other relevant organisations' (Committee of Inquiry into Education and Training 1979, p.218).

The Martin Report also suggested that the Institution of Engineers' influence on the curriculum should in turn result in their displaying a sense of responsibility to the broader community (Committee on the Future of Tertiary Education in Australia 1964—65, vol. 1, p.132) and that the organisation should not obstruct experimentation in engineering courses (p.140).

Here was an instance where the autonomy of educationalists had to be balanced with employers, but in a system of quid pro quo. Houston and Harman suggested, for example, that external examiners were a possible mechanism for quality control (1978, p.65). These are live issues in the present vocational education sector, where a lack of systemic validation and moderation has reduced confidence in the accuracy of assessments. Halliday Wynes and Misko (2013, p.34) have recently suggested that the regular involvement of employers in assessments should be encouraged.

Returning to engineering, the oversight of qualifications remains inconsistent across tertiary education, with the VET sector's training packages being specified by industry skills councils and higher education qualifications by engineering faculties, which are influenced by the accreditation requirements of the professional body, Engineers Australia (Dowling 2010, p.41). This brings us to the issue of transfer.

Transfer

An important premise of the binary system was that students would be able to move from one part to another.

> There may be some question as to whether … the colleges … ought to be able to grant degrees, but part of the Committee's report is the emphasis upon transference from the colleges to the universities and transference from the universities to the colleges. This is a most important part of its recommendations, because people mature at different times. People come into their intellectual stride at different times, so that a person may be going apparently slowly at some institute and come into his intellectual flowering and be capable of going on further than it was anticipated he might do. On the other hand, some person may be at a university and apparently doing well and come to the end, virtually, of his intellectual course … Such a person ought to be able to transfer to one of the colleges and end up with a diploma, so that he may make the utmost of his ability. (Australia. Senate, *Debates*, 11 May 1965)

Critics of the binary system asked how the Martin Committee thought it possible to distinguish between a practical and an academic mind and therefore to channel students in the right direction (Davies 1989, pp.152—3). Such critique ignores the committee's effort to break down the stereotypes and to create a system that could accommodate people's personal, vocational and changing interests. Take this passage:

> there is a danger of higher education becoming identified in the minds of the community with university education, and of a university degree becoming the single symbol of intellectual aptitude. Ability is a complex human quality; and emphasis on university studies to the exclusion of others in higher education is wasteful of much human talent.
>
> (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.175)

When Martin spoke to Hazel de Berg in 1972, he regretted that transfer had proved so difficult:

> if a man showed promise as a research man or was likely to show promise at higher levels than were provided by the CAEs, then he was to have the right of transferring across to a university without loss of time. Unfortunately this interchange, which could be very valuable, between universities and colleges of advanced education has not been achieved to any great measure.

Looking back in 1993 on the binary system, Don McNicol, Vice-Chancellor of the University of Sydney, listed the difficulties in transferring credit from the college sector to university: incompatibilities in the curriculum; lack of enforceable policies on credit transfer; and university suspicion of the standards of college courses (cited in Meek & Harman 1993, p.23). We have not learned from history. These remain the obstacles to transfer from VET to higher education in the current tertiary environment (see Watson, Hagel & Chesters 2013; Dowling 2010). Unfortunately, therefore, this chapter can only restate the familiar barriers to transfer and reiterate the importance in a mass tertiary education system of overcoming these.

A significant cause of the problem remains institutional structures: it is in the very nature of systems and organisations of lower status to strive for higher status (Moses in Meek & Harman 1993, p.12). A 1980 Toowoomba conference on the new tertiary era recorded:

> the widespread dissatisfaction of many engaged in Australian tertiary education with the rigidity of its existing pattern of organisation, which promotes inflexible and anachronistic inter-

institutional and inter-sectoral barriers, and the highly negative implications of this for the educational aspirations of the Australian community. (Hore & Chippendale 1981, p.201)

In reappraising California's Master Plan for Higher Education (1960) — one of the influences on the **binary system** — Berkeley senior research fellow John Douglass suggested:

its great contribution was to hold the line on mission differentiation between the community colleges, the state university system and the University of California, thereby sustaining a strong network of colleges and universities. (Quoted in Maclay 2003, p.1)

This differentiation is underscored by legislated transfer arrangements, which require each institution to make transfer a priority and community colleges to have a core curriculum in general education to facilitate transfer and credit for the subjects undertaken.

However, the experience of the community college system in California over the last 50 years is not all good news. Douglass (2011) now argues that it is time for California 'to innovate and to re-imagine a higher education system that has barely changed in five decades'. He has suggested following the Florida experiment, where some community colleges offer degrees in areas in which the universities prefer not to go, degrees that train people for real jobs, in nursing and teaching, for example. There are echoes of Martin here.

Douglass suggests other community colleges could focus their curriculum on getting students transferred to four-year degree programs or offer remedial education. This underlines another problem for successful transfer and completion, namely, the calibre of entrants. With its overriding focus on providing access, California's community colleges have not produced many students who succeed in higher education: some studies show only 18 per cent of community college entrants earn a degree, compared with a graduation rate of more than 45 per cent for California State University and about 90 per cent for University of California (Douglass 2011). This points to a system trying to do too much for too many and to the importance of applying the Robbins principle of making higher education places 'available to all who are qualified by ability and attainment to pursue them and who wish to do' (Willets 2013, p.16).

The question then becomes how to judge the criteria of ability and attainment. Transfer systems have also faltered on the academic—practical divide. Today this is seen most acutely in the clash between competency- and curriculum-based approaches, but also in relation to how best to recognise prior learning. Under the binary policy — formulated at the beginning of a move towards universal secondary schooling in Australia — entry into advanced education did require a matriculation score but could take account of practical experience and maturity (Davies 1989, p.149). Like other elements of the policy, these entry requirements were not clearly articulated and came to be interpreted as inferior.

Another way to look at this is from the point of view of the purpose of the educational endeavour. The initial idea of the colleges of advanced education was to provide advanced vocational education that led to the jobs needed in industry, with transfer available to those able and wanting to pursue higher learning at university. In 1969, Professor Partridge had even aired the possibility of diverting dental science, architecture, engineering and law from universities to other tertiary institutions (Gallagher 1982, p.199). Then for many there would be no need to transfer.

By the end of the 1970s, the nature of student demand was changing, with more adults looking to upgrade their qualifications or reskill, necessitating new entrance criteria and, as the Williams Report (Committee of Inquiry into Education and Training 1979, p.277) noted, the need to adapt financial

procedures to deal with the problems of recurrent and refresher education. By 1987, the *W(h)ither Binary?* seminar in Perth was suggesting:

> Funding by function and within agreed institutional profile statements would assist the promotion of credit transfer especially in geographically remote areas where it would be wasteful to establish higher education and TAFE programmes in the same field of study each with marginal enrolments. (Kerr, Pullman & Standish 1987, p.12)

As well as catering to regional demands, it was hoped that greater specialisiation in higher degrees aimed at producing professional leaders rather than research academics could overcome the sectoral barriers. At the same Perth seminar, Professor Johnson of the Commonwealth Tertiary Education Commission spoke about the possibility of programs equivalent to the PhD being delivered in both universities and colleges of advanced education (Kerr, Pullman & Standish 1987, pp.67–8). Today we have the professional doctorate, which according to the University of Canberra website, while highly regarded, still:

> perhaps ranks a little below the PhD in pure research Universities [while] it often ranks more highly in workplaces. This is because the research done in a Professional Doctorate is usually more applied research with an emphasis on practical outcomes <http://www.canberra.edu.au/faculties/busgovlaw/study-with-bgl/research-courses>.

So we return to parity of esteem, an issue that surely must be tackled again, particularly in times of budgetary constraint and when the supply of doctorates is outstripping demand in much of the developed world (Cyranoski et al. 2011). This imbalance is encouraging scrutiny of the purpose of higher research degrees and the job prospects for graduates.

Lessons from the past

Looking back in 1993 at the binary experiment, the Vice-Chancellor of the University of Western Sydney, Brian Smith, concluded:

> in the overall development of higher education in Australia the CAE experience has been important and enduring. The advanced education values of providing access, seeking to assist those who are not necessarily in the top echelon of entrants, catering for a wide diversity of careers and professions, working closely with community, professional, industrial and business groups are important and must be represented strongly in any future system of higher education.
>
> (Cited in Meek & Harman 1993, p. 177)

The values of access, diversity and community relevance pertain in an era approaching universal tertiary education. In today's demand-driven, fee-based system, the satisfaction of students in their courses and their prospects is another crucial element. Nor was it ignored in the binary era. Moses (in Meek & Harman 1993, pp.13—14), looking at the satisfaction of college and university students with their education, found the binary system did manage to meet the expectations of an expanded cohort of learners. She quotes from reviews of engineering and accounting courses in which college students said they found less discrepancy between the engineering education they received and what they wanted, had more exposure to skills, knowledge and techniques and a better balance in the curriculum than did university students. The college students also said their lecturers stimulated intellectual curiosity.

As Moses points out, satisfaction with their courses does not mean students became competent professionals. Yet the best colleges were also delivering the graduates the labour market wanted: two Canberra College of Advanced Education graduates in secretarial studies — yes, times have changed — were appointed as personal secretaries to permanent heads in the Australian Public Service (Richardson 1979, p.216) and WAIT's pharmacists went on to occupy senior positions in government and in Perth's major hospitals (White 1996, pp.9—10).

Despite these successes in producing higher education graduates who found jobs in their vocational orientations, the system broke down as the institutions within it strove for uniformity. Davies records that Martin was told when on a study tour in Washington, 'the instinct of these lower-level institutes if left to their own devices is to grow horizontally and vertically'. It was dog eat dog 'unless the division of labour between the junior college, the State college and the university, is a good and tenable one' as was the case in California (Davies 1989, p.172).

In Australia, there were ambiguities in the binary policy from the very beginning, although the aim was clear: to find an affordable way to provide access to higher education to all who were capable, as well as to nurture the best in universities in terms of higher learning and research. That demanded a two-pronged approach but it became a tiered one, moving incrementally from one that was 'equal but different', to one that was not equal but was cheaper, to one that was different but not by much (Smith in Meek & Harman 1993, pp.174—6).

Had Martin followed the Californian plan more closely he may have recommended more prescriptive legislation to guide the implementation of a new kind of higher education. But even had he done so, there was no guarantee his recommendation would have been accepted. While the Commonwealth Government was prepared to be magnanimous when it came to funding, it trod very warily when it

came to states' rights. And Gorton moved away from the Menzies model of a University Commission at some distance from government to a more direct oversight of the colleges.

Government regulation was needed to set parameters, not to become involved, as was the case during the binary years, in the day-to-day operations of the institutions. As Davies concluded, 'institutional autonomy is important to foster differentiation and to meet community needs; regulation can help to coordinate a system of institutions of different standards' (1989, p.176).

The way these institutions are funded also matters — impoverished colleges struggled to achieve their mandates. Initially, the binary system in Australia had generous funding, although Gorton always expected the advanced education sector to be cheaper. He envisaged the expansion of college education would free up funds for a smaller set of universities to continue their dual function of academic teaching and research. In fact, the expansion spawned too many colleges, especially once the teachers colleges joined the system in the 1970s, just as the demographic conditions changed the demand for their offerings. With universities also squeezed, many started to encroach on the disciplines being offered in the colleges, which in turn began to envy research funds. Differentiation was lost in the scramble for a cut of the funding pie.

While the goal of parity of esteem was not reached, the idea of a mass higher education system organised to distinguish between educating a growing part of the workforce on the one hand and fostering excellence in research on the other is worth consideration. One lesson from the earlier binary experiment is to avoid false dichotomies in research. Speaking of science in the inaugural Wark Lecture, the chemical physicist, Lloyd Rees (1987, pp.7–8), explained:

> Research is characterized by unpredictability; it is the exploration of the unknown, qualifications, such as 'pure', 'applied', 'basic', 'committed' do not alter these statements … Non-research science may require the exercise of considerable ingenuity, which is the clever manipulation of existing knowledge to achieve a recognizable technical goal.

Attila Brungs, the incoming Vice-Chancellor of the University of Technology, Sydney — an institution that grew out of the Sydney Technical School, established in 1891— also does not like the term 'applied research' as it 'gives connotations that you're down one end of the research spectrum. You can do basic research [which] has impact, and has an intention of impact as well' (quoted in Ross 2013).

To avoid these semantics, it may be useful to revive the word 'scholarship' and recognise, as Professor Johnson pointed out (see p.23), that this is an inherent part of all higher education. This might avoid the emergence of a second-tier 'teaching only' institution, which without scholarly practice (critical reflection and the dissemination of knowledge)[10] is unlikely to cultivate the creative minds needed in the twenty-first-century workforce. That practice can be nurtured by strong collaborations with industry, the professions and the broader community, which could even bring the added benefit of greater appreciation of this scholarly function within higher education, whether it be oriented towards discovering or applying knowledge.

This does not fully address the question of public funding for research in higher education. The experience of the colleges of advanced education showed that drawing an arbitrary line between research and non-research institutions was neither possible nor desirable. Nor do funding models that elevate research above teaching promote excellence across the system. That said, differentiation is essential, as Peter Karmel argued in the 1992 Sir Robert Menzies Oration, 'concentration of advanced

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[10] See Williams, Goulding & Seddon (2013).

learning and research should be promoted among a limited number of universities for each major field of study … It is certainly not clever to spread resources too thinly' (p.14).

In that oration, Karmel also lamented the obsession with the size of universities (a product of amalgamations of many colleges of advanced education, then a mandate under the Dawkins reforms). Karmel recalled that the Martin Report had commented that 'the appropriate size for a university is a question which is rarely considered rationally' and went on to consider the advantages (for example, economies of scale) and disadvantages (for example, impersonality, disunity) of large institutions. Karmel advised universities to find their niche and governments to step back from intervention in matters of fees, student numbers and teaching profiles as well as from 'the tyranny of publicly announced funding formulae' (p.13) and standardised methods of quality assurance. The quid pro quo must be more tightly defined purposes with funding to match.

Institutions are already behaving in this manner. The Melbourne Curriculum has moved away from the Australian tradition of undergraduate professional training in order to give students the opportunity to discover other ways of thinking and new areas of interest within broad bachelor programs (Davis 2010, p.4). This approach lengthens the educational process, adding to both the individual's tuition costs and time out from the workforce. In 2013, Monash University, established in the first wave of university expansion, relinquished its Gippsland campus to concentrate its efforts on being a research-intensive university. The campus became part of the University of Ballarat, which in turn has formed a new institution, Federation University Australia, which 'will provide educational options more closely aligned to the needs of local employers, and enhanced opportunities for local students to remain in the region for university study through flexible entry requirements and articulation from regional TAFEs'. Also in 2013 the University of Canberra led the way for an Australian Polytechnic Network (APN), comprising the University of Canberra, Melbourne's Holmesglen Institute, Northern Sydney Institute, South Western Sydney Institute and Brisbane's Metropolitan South Institute of TAFE.

As the necessity of near-universal attainment of qualifications above Year 12 comes into view, it is time to establish clear terminology, understood by practitioners, regulators and consumers alike. Without it, scope creep and status wars will continue.

Kinsman, thinking in 1998 about this persistent problem, argued for a definition that stemmed from the kind of knowledge and learning with which tertiary education should be concerned. She quoted from an OECD seminar:

> A general principle of tertiary education should be that it helps all students develop independence and creativity in thinking, curiosity and initiative and attitudes and dispositions which may prove to be particularly beneficial in periods of change, when adaptability implies initiative and entrepreneurship. This provides an argument for curiosity-based, student-centred learning that goes beyond conventional distinctions between general and vocational, university and non-university.
>
> (Wagner in Kinsman, p.3)

Names became important in the binary system. As Gallagher (1982, p.187) noted, Martin's 'difficulty of classifying non-university institutions was to be an important influence in the range and diversity of institutions which came to form the pattern of the CAE sector … and contributed to the difficulty of distinguishing between the functions of a university and a CAE'. Today, the distinction between a university and a college of advanced education has gone. Instead, the confusion lies with dual-sector or mixed-sector institutions and the rise of other types of higher education providers. In a demand-driven system it is as important as ever that students understand what they are signing up for and where their decisions will take them, which the great majority hopes will be a pathway to a good job.

As David Willetts, UK Minister of State for Universities and Science, harking back to Robbins recently reasserted (2013, p.14), we must not continue to undervalue 'instruction in skills'.

Some students will want to change tack; some workers will have to change professions or gain additional skills. This makes it imperative that the impediments to transfer between institutions be removed. Watson, Hagel and Chesters (2013) have shown that this requires institutional commitment. The Californian model suggests that a legislative requirement may be the way to achieve such commitment.

Achieving any such change will depend on all those involved in the system — regulators and funders at both Commonwealth and state level, the educational institutions and the professions — adopting a new mentality. A fundamental reorientation of the system also relies on the recognition that not all forms of higher education have the same purpose or need the same funding but that they do deserve adequate public support to pursue excellence in their particular educational pursuits.

In Toowoomba in 1981, participants wanted a shift from 'empires' to 'education' (Hore & Chippendale 1981, p.232). In 2013 Lee Dow and Braithwaite (p.44) called for 'a mission-based compact process [which] allows for open and frank discussion about a provider's mission, strengths and challenges'. That discussion will benefit from an historical perspective, which shows the perils of 'freezing institutions into established hierarchies' (Robbins cited in Willetts 2013, p.16). It must also adopt a common set of definitions underpinned by a united effort to develop a culture of learning and scholarship across the tertiary education sector.

In conclusion: towards a differentiated system

In 2014 various factors are coalescing in a way that calls for structural change in late secondary and tertiary education. These factors include some of the familiar challenges faced by education systems: a finite budget, changing skills demands, youth unemployment; and some newer ones: the fundamental shift in the way information is disseminated and knowledge produced, a global jobs market and an international education industry.

Like their counterparts today, policy-makers 50 years ago were seized by the same dual challenge of expanding tertiary education and containing costs. Their idea was to build a differentiated system. They decided on a binary system, whose implementation foundered, in considerable measure because of a failure to shift conventional attitudes and structure.

The current debate is centred on who should pay for an expanding system. This is a crucial question but one that must be accompanied by consideration of its architecture. To stimulate such thinking, ideas distilled from the roundtable conducted as part of this project are set out in the companion paper (*What next for tertiary education? Some preliminary sketches*). The paper suggests a more staged tertiary progression: either from comprehensive teaching institutions to universities offering professionally oriented education or more research-intense activity; or within vertically integrated institutions that offer education and training from certificate to postgraduate levels for a family of occupations. All elements would be underpinned by research and scholarship and creative uses of the technology that is transforming how we learn. Public funds for research and teaching would be decoupled, with more concentrated research infrastructure support and acknowledgment that all tertiary teachers need to engage in scholarly practice.

The system would have to properly support those with the capability and the desire to move from one part to another. Its differentiation would be achieved by nurturing greater status for applied learning and for middle-level qualifications and their occupations. That would require coordinated governance structures that did not encourage competition to reach the top of a single pyramid but instead rewarded partnerships within the system and beyond to achieve innovation and productivity or, as Martin put it, to ensure 'that Australia makes a worthwhile contribution to the advancement of knowledge and of achievement' (Committee on the Future of Tertiary Education in Australia 1964—65, vol.1, p.1).

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Appendix

Members of the Committee on the Future of Tertiary Education in Australia

Emeritus Professor, Sir Leslie Martin, formerly Professor of Physics, University of Melbourne (Chairman).

Emeritus Professor, CR McRae, formerly Professor of Education and formerly Deputy Vice-Chancellor, University of Sydney (Deputy Chairman). Resigned, 30 June 1962. From the beginning of 1963, Sir Samuel Wadham assumed many of the responsibilities of a Deputy Chairman.

Sir Keith Angas, Prime Minister's nominee. Grazier from South Australia who had served as Chairman of the Council of St Mark's College.

Professor DP Derham, Dean of the Faculty of Law, Monash University, and formerly Professor of Jurisprudence, University of Melbourne.

Professor Sir Arnold (Hugh) Ennor, Professor of Biochemistry, Institute of Advanced Studies, and Dean, John Curtin School of Medical Research, Australian National University. In 1967, Sir Hugh became the permanent head of the newly established Commonwealth Department of Education and Science.

Sir Alexander Fitzgerald, formerly Professor of Accounting, University of Melbourne and formerly Chairman, Commonwealth Grants Commission.

Professor Sir Edward Ford, Professor of Preventive Medicine, University of Sydney, and Director, School of Public Health and Tropical Medicine.

Dr CM Gilray, formerly Principal, Scotch College, Melbourne, and formerly Deputy Chancellor, University of Melbourne.

Mr NE Jones, Managing Director, Broken Hill Pty Co Ltd.

Professor PH Karmel, Professor of Economics, University of Adelaide, and Principal-Designate of University of Adelaide at Bedford Park.

Mr RR Mackay, Principal, Royal Melbourne Institute of Technology. Deceased 4 December, 1963.

Mr A McDonell, formerly Director of Education, Victoria.

Professor JW Roderick, Professor of Civil Engineering, University of Sydney.

Professor Sir Fred Schonell, Vice Chancellor, University of Queensland, and formerly Professor of Education, University of Queensland.

Emeritus Professor, Sir Samuel Wadham, formerly Professor of Agriculture, University of Melbourne.

Mr LW Weickhardt, Technical Director, Imperial Chemical Industries of Australia and New Zealand Ltd.

Dr HS Wyndham, Director General of Education, New South Wales.

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