

which promised one year of sabbatical leave on full pay 'to encourage research and maintain the standard of teaching', but that move towards accepting a right to study leave was not formalised until April 1953 when Senate approved formal conditions proposed by the Acting Vice-Chancellor, A. D. Trendall. In February 1955 because of the implications for tax, Senate resolved that for staff on study leave one half of salary would be paid as travelling allowance, and then in 1958 Senate decided to pay travel grants for overseas study leave.

That remained the position on study leave until the Commonwealth Minister requested the Universities Commission and the Commission on Advanced Education to investigate study leave schemes. The result of that investigation, which was not completed until the Tertiary Education Commission (TEC) was established, was published in August 1978. The TEC announced that the speed of travel and the increased sophistication of Australian institutions had reduced the need for long periods of study overseas. It proposed that time spent outside their institutions should not exceed 7 per cent of available man years of staff time of the grade of Lecturer and above, and that the terms 'sabbatical leave' and 'study leave' should be discontinued. The Sydney Scheme became Special Studies Programme (Study Leave) Scheme! That intervention was one of an increasing number of unsought actions by the Government to restrict university autonomy. There were many actions by Governments that were sought by universities, as after the Second World War for the determination and support of salaries.

Salaries

The first professors were paid a salary of around £900 and half the class fees in their subjects. In 1889, when such class fees ranged from 30 per cent to 40 per cent of salaries, the salary for the new Challis Chairs were set at £900 without participation in class fees. That made the emoluments of Challis Professors considerably less than those of the other Professors. The decline in the proportion of expenditure that could be financed

from the State Endowment and income from investments was making student fees much more important in the general finance of the University. However in 1898, Challis Professors aged 50 or more were given the right to an annual pension of £400 after 20 years of service.

That salary of £900 was not increased until 1920. Prices had come down between 1853 and 1900 by 25%, but doubled between 1900 and 1920. In 1920 salaries were increased from £900 to £1100, but even after that increase the salaries of Professors when corrected for price changes were only 60 per cent of the level in 1900.

Salaries were increased in 1938, which raised real salaries to 80 per cent of the level in 1900, but they were not raised again until 1947 when real salaries had fallen back to the level of 1920.

The capacity of the Universities to improve salary levels was transformed by Commonwealth Government action on the Mills Report of 1950 and the Murray Report of 1957. Between 1950 and 1960 real salaries of Professors increased by 60 per cent and were back to the level of 1910. Between 1960 and 1975 real salaries increased by a further 33 per cent, but then fell back by around 3 per cent between 1975 and 1985.

Consideration of changes in real salaries should of course be related to movements in production per person. In *Status and Leadership*, David Wood and I have shown that the real salaries of Professors fell sharply relative to real GDP per person (as calculated by Noel Butlin) between 1900 and 1920, rose relatively between 1929 and 1940 but lost that relative rise between 1940 and 1950, more than kept pace with the increase in real GDP per person by 75 per cent between 1950 and 1975, and then fell by 3 per cent between 1975 and 1985 while GDP per person rose by 12 per cent.

What of the other ranks? At the turn of the century Assistant Lecturers and Demonstrators received 39 per cent of a Professor's salary. By 1920 that had fallen to 32 per cent.

After 1920 the Lecturer category became the key category, and the Lecturer salary became 45 per cent of a Professor's. By 1985

the midpoint of the range (introduced in 1950) was 55 per cent of the professorial salary.

The midpoint of a Senior Lecturer's salary rose from 42 per cent of a Professor's salary in 1944 to 70 per cent in 1985. The Associate Professor grade when re-introduced in 1954 was 78 per cent of a Professor's salary, and by 1985 it was 85 per cent.

Professors in the Law School at Sydney sometimes complained of their lot by comparing their salaries with those of District Court Judges, to which they claimed their salaries used to equal. In fact they started 10 per cent higher, but by 1900 they were 40 per cent less. After the Commonwealth responses to the Mills and Murray reports they recovered to 85 per cent by 1960, but then declined to 77 per cent in 1975 and to 73 per cent in 1985.

Status in the Community

In *Power, Privilege and Prestige*, Dr Ann Daniel gives the results of her survey of the public rankings of occupations. She asked the people in her sample to give rankings from 1 to 7. Judges came top at 1.2 followed by Medical Specialists and Barristers at 1.5. These products of the universities were ranked above their teachers. Professors had a rank of 1.8, along with Church leaders and General Practitioners, and Lecturers 2.5, below professional Engineers, equal to Vets though above Chartered Accountants.

There were very different responses from social groups. Trade Union officials and students ranked Professors and Lecturers closer to Judges. Public servants in NSW ranked Professors near the average of 1.9. By contrast, Commonwealth public servants gave Professors a lower rank than did any other social group. Why that ranking of Professors by Commonwealth public servants?

1. This article was delivered as an address to a history seminar on university histories at the Australian National University, Research School of Social Sciences, 26 March, 1990.

is a selective one that does not aim at mirroring the tendencies in the FRG but rather at presenting a few select issues and tendencies in the light of current changes here. This leads to my first general hypothesis: at present, research and higher education are in a state of flux not only in Australia but internationally, and — despite certain national specificities — the general tendencies of change are shared by most western societies.

Within the Australian context this is a relevant point to make, because the view that most of the changes proposed or already in operation are the products of a young and agile Minister and will therefore disappear once he has changed portfolio or the other party has formed government, is still widespread. Looking at the White Paper in an international context, it soon becomes apparent that this is an illusion. Also, the common habit of perceiving and analysing the situation in purely national terms demonstrably tends to lose the opportunity of looking behind the symptoms and more often than not is caught up in short term considerations characteristic of the domestic debate. The aim, expressed in a few recent conferences on the future of research and higher education in Australia, to analyse the White Paper and then fight the Minister is the result of an oversimplification of highly complex issues and will inevitably lead to frustration. International developments make it clear that approaches reminiscent of actions and leftist slogans of the sixties are incommensurate with the current situation. It is no exaggeration to say that the Minister's major objectives had already been achieved during the early phase of the public response to the Green and White Papers. It will take some time before the landscape of research and higher education in Australia will make visible the full extent of the changes. However, despite a number of compromises and minor alterations, it is only a matter of time before the fundamental reconstitution of the system becomes visible.

It has been argued that Australia is once again following the British model and that the iron lady is approximately 18 months ahead of John Dawkins' schedule. It seems to me that this is only half the story. In the UK certain trends are being pushed through with more rigour than elsewhere and often with less or even no consideration at all given to detrimental effects which implemented changes will possibly have in the long term on research and teaching. In an attempt to understand the Australian scene, it is clearly important to monitor English developments. It seems to me, however, that a number of points become much clearer by looking at societies and universities which are to a greater extent dissimilar to the Australian situation.

The international debate is characterised by a striking absence of philosophical, educational and general academic issues,

and by a predominance of arguments from and the language of economics. It is not necessarily the 'human capital' approach of the early seventies, so central to John Dawkins' plans, but there is no doubt that it is economic theory which provides the framework within which the current worldwide debate about the future of higher education is being conducted. In *La condition postmoderne*² Jean François Lyotard puts this very clearly in the appropriate philosophical context, namely the collapse of metaphysics, the deterioration of the concept of truth and the decline of teleological systems of history. The only criterion left for the 'relevance' of research and higher education, he argues, is that of its economic applicability for which he introduces the term 'performativity'. On the other side, philosophers such as Habermas and Wellmer continue to emphasise the importance of maintaining a concept of the modern university with an integrated structure and universalistic mission, which would have to play a central role in modern society's way into a more rationally structured future.³ Mittelstrass recently reinforced the view of a university committed to the ideals of an enlightened society: 'Education means the gaining of full orientation and recovery of a complete ego. It is the future other of the modern world.'⁴ I shall not pursue the philosophical line here but make a few concrete observations in relation to current changes in the Federal Republic which will have, I am going to argue, serious implications for the very idea of the university. My historical points of reference will be the emergence of the 'modern university' as a direct result of Wilhelm von Humboldt's contribution to the reform movement following the collapse of the Prussian state (the University of Berlin was founded in 1809), and the reforms introduced during the late sixties and early seventies of this century.

To begin with, public debates concerning research and higher education in Germany (or in France for that matter) seem to differ fundamentally from those in Australia. If we imagine for a moment a conference of departments of English, French and German held at a university and devoted to questions concerning the future of the humanities in general and language and literature in particular, it seems highly likely that such a conference in Australia would attract a handful of participants and be passed over in silence by the rest of the community. At Bonn University, where such a conference was organised earlier this year,⁵ it attracted large numbers of participants, some papers drew several hundred, it was widely covered by the printed and electronic media and government representatives cared to comment publicly on some of the suggestions made concerning the future of the study of languages and literatures. Apart from such rather exceptional occasions, issues of research and higher education regularly find

their way into papers and periodicals, and there is a public discourse fed by politicians from all parties, university representatives, and professors from various disciplines, in particular social and political philosophers and sociologists. Glotz, Eppler, Maier, Biedenkopf, Habermas, Mittelstrass, Lübke, Ellwein, Leggewie, to name only a few, have all published their often substantial reflections on general and philosophical problems of the future of research and higher education. It has been argued that the Australian public sphere is characterised by an extreme pragmatism and complete absence of a philosophical and moral discourse.⁶ The FRG appears to be at the other end of the spectrum where the smallest political move seems to provoke an abundance of philosophical reflection often of an apocalyptic nature. However, looking at the situation in practical terms will easily lead to disillusionment: differences to Australia in the current restructuring of research and higher education are often minute (but not in every respect, as I shall illustrate), and for all the sophistication of the debate, it seems obvious that it always comes too late, making itself a cultural decoration of an increasingly economy-driven system. In the face of stiff international competition, scientific, technological and economic, the intense debate within and outside the universities concerning their future role is often reduced to ritualised lament and immaterial reflections after the interests of the economy and business have been realised. The most recent slogan calls for a relaxed relationship (*entkrampftes Verhältnis*) between universities and the economy.⁷

One of the targets of the reforms of the late sixties was the privileged position of the university. Removed from the ordinary life of its time, it seemed to enjoy a prestige inherited from a pre-modern period, incongruous with the principles of a democratic society. The aim to open up the university and make it an element within egalitarian structures of public discourse was directly related to Kant's idealist concept of a liberal bourgeois society with an open market for competing ideas. Dahrendorf, then a professor of sociology at the University of Konstanz and later Secretary in the Federal Ministry for Science and Education, propagated the 'civil right to education' without, however, relating it to the structure and capacity of the labour market. Habermas, von Friedeburg, Deninger and Wiethöler⁸ were the most prominent representatives of the attempt to 'democratise' the universities. Their model has attracted much criticism and by now the large majority of professors seem to consider it a complete failure.⁹ In the meantime the age of the electronic media has taken care of this project and reduced the university, once it was stripped of its aura, to yet another theatre for staging sensationalist happenings, and the systems of research

Reforming research and higher education — the example of the Federal Republic of Germany

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This essay consists of three parts, an introduction in which I try to locate my argument within the current debates on the future of research and higher education, a second part which addresses three aspects of the ongoing restructuring

of the system of research and higher education in the FRG, and a conclusion in which the concept of time is used in an attempt to draw together various international tendencies in the reconstitution of research and higher education.

tion.¹

The future of research and higher education

My choice of topic was influenced by the current debate in Australia and my approach

and higher education to occasional media events. "What good is the spirit-stirring or even redeeming new idea which fails to make it into television — but then what good is it when it does?"¹⁰

Even worse, partly in reaction to intensive debates about conceptual and ethical implications of outside funding for university research, large corporations are making themselves increasingly independent of universities by financing private research institutions and expanding their own research departments. Of the almost DM60 billion (approximately A\$43 billion) which are annually spent for research and development (nearly 3% of GNP and almost as much as the total Australian export volume), industry pays 63% (DM 38 billion), and an increasing share of this sum is spent outside the public system of research. It seems to be no longer the exception that in a university laboratory five or six students are competing for one work place, are unable to find important books in the library and, standing in an overcrowded lecture theatre, listen to the televised lecture of their professor, while, in the neighbouring town, luxuriously equipped private laboratories cater for all the needs of a smaller number of apprentices.¹¹ In the light of this trend, the intense public debate about ethical dimensions of research and the future role of the university acquires a somewhat abstract quality. There is, as Leggewie and others observed, a considerable potential for protest and politicisation among West German students. However, the importance attributed to student unrest is minimal, and this seems a clear reflection on the changed place of the universities in German society. They no longer occupy the central position and are no longer the place for social and cultural orientation which made them for generations the focus of public attention.

Yet, there is also continued public concern about matters of research and higher education and this is not completely without consequences. When the state government of Baden-Württemberg recently developed plans for a fundamental restructuring of the young and small University of Ulm, opening it to the needs and interests of the State's economy, the President of the nearby University of Tübingen, himself a rather conservative administrator with a background in law, protested in no uncertain terms and made it clear that similar plans were unacceptable for his university and, should a conflict between university and government emerge over similar plans, he would offer his resignation.¹² The position of President of a German university is the equivalent of an Australian Vice-Chancellor. Another example may be even more striking. There seems to be a growing group of graduates (estimates for certain disciplines are as high as 45%) characterised by particular moral commitments, unconventional attitudes and,

for the most part, an extreme sensitivity to environmental issues. In recent psychological studies they have been characterised as "highly motivated and often high achievers", but not primarily interested in high wages or the social prestige attached to a luxurious company vehicle, but rather needing room and a specific atmosphere for their creativity. They are the product of a type of higher education in which ethical and general cultural dimensions have not yet entirely been subjected to the technical objective of 'skill formation'. It seems that new types of industries, particularly in the areas of ecologically sensitive products, are emerging which correspond very well to the motivational patterns of those young graduates who differ from the traditional and successful social climbers.

Thus, the general situation is not easily characterised. It became apparent during the fifties that Humboldt's university was no longer able to cope; the late sixties were characterised by hectic activity and reforms aiming at both greater efficiency and democratisation. Today, most aspects of these reforms are considered a failure. Complaints are common that standards deteriorated, a gap between teaching and research emerged,¹³ degree structures and requirements of the job market do not match and intrinsic administrative structures are in need of reform. While undergraduate teaching at Australian universities seems in danger of being choked by restrictions and a narrow vocational orientation, at German universities any desirable orientation to the job market is being swept away by conditions which have now deteriorated beyond the control of university administrators or politicians.¹⁴ By far the most pressing problem seems to be one of student numbers: in 1988/9 institutions designed for 800,000 places had to cope with 1.5 million students.¹⁵

The concept of research

To begin with, a brief semantic clarification seems appropriate. Research is the English translation for the German *Forschung*, but there are distinct differences between the two words. A high school pupil who collects material for his/her history or chemistry project, a journalist who gathers information for a news item and an office clerk who collects the necessary information for drafting a business contract are all doing their research. Research as referred to in the term "research and higher education" is but one type of activity within a broad field of diverse activities. The German term (*Forschung*) is much more narrow and only applied to research in higher education or industry where new ideas or processes and innovative approaches are involved. Even the term "research student" has no real equivalent in German. *Forschung* is often used in conjunction with "science" *Wissen-*

schaft and this combination puts emphasis on the definition of research as the systematic inquiry aiming at the discovery of the new within the framework of the sciences (which covers the natural and social sciences and humanities).

This exclusive quality of the term was reflected in the social prestige attached to research in the modern university after Humboldt. Research used to be a privilege of the universities and despite the foundation of pure research institutions (of which the Kaiser-Wilhelm, later called Max-Planck-Gesellschaft, founded in 1911, is the most notable) until recently the universities remained the foremost centres of research. Much can and has been said about the two most prominent aims of Humboldt's university reform: freedom of research and teaching and unity of research and learning. The concept of higher education defined by an entwining of research and learning, where the education of students is approached as an integral part of the continuous process of reflection, experimentation and innovation has always been problematic and included a good deal of elite building. It collapsed with the enormous expansion of the system beginning in the mid-nineteen-fifties and the reforms of the sixties virtually abandoned this classical aim. When a decade later a process of stocktaking and the sweeping criticisms of the consequences and the underlying philosophy of these reforms began to emerge, this aspect was given particular attention. Despite numerous complaints about the deterioration of standards in higher education, no practicable solution has been offered.¹⁶

The other aim, freedom of research (and teaching), is even more complex. Its philosophical background in the 18th century Enlightenment movement has been widely discussed. Humboldt's intention to safeguard the new university from interference by church and state and to create a sphere outside the power structure of the absolutist Prussian state has led historians to argue that Humboldt's concept of the university revolved around the ideals of disinterested research epitomised in pure philosophy, and that since the ideal of the pursuit of knowledge provided the legitimation of the new university, the faculty of arts (which he called faculty of philosophy) formed its core. Recently Lyotard and Derrida reinforced this idealist concept.¹⁷ I do not intend to discuss this view here. I have done this elsewhere,¹⁸ and would now only like to repeat that in my view, Humboldt's university is characterised by a complex balance between opposing principles including that of freedom of research and its obligation to the state, which we would now call society. He states explicitly that the university should be left alone because in the long term the state will benefit much more from a system free from external interference. It can be said that the success of

Humboldt's model in the 19th and early 20th centuries was largely due to the careful maintenance of this balance. Distanced from immediate requirements of state and economy and unconcerned with direct applicability, research at German universities prepared the ground for the rapid technological and economic development which at an unprecedented pace had turned the nation into the world's second largest industrial power by the turn of the century.

There is no space here to comment on the ambivalent attitude of the reform movement of the late sixties toward the status and social function of research. It must suffice to say that there was increasing alarm at the growing dependence of university research on applied research and projects servicing the interests of and funded by the military and the economy. There was, on the other hand, even greater concern about the gap between society and university research which was considered esoteric and of little social relevance. Indeed, during these years "social relevance" became the central issue in debates concerning the future of research and higher education. This situation has now completely changed, and although university research in most areas is still more generously funded than in Australia, the magnitude of funds necessary to support large research projects as well as a general change of attitudes has led to entirely new developments which are symptomatic of a general trend and shed light on recent Australian developments.

In my reading, John Dawkins' White Paper is a marked departure from the traditional pragmatic approach to research and higher education in Australia. From the Martin Report onwards, Australian governments attempted to harness research and higher education to the perceived needs of the economy. John Dawkins' strategy is a different one: his aim is to reconstitute the structure of research and higher education after the model of industrial corporations.¹⁹ His is no longer the traditional instrumental approach but one which could be called the integrating approach. The call for managerialism, centralisation and entrepreneurial spirit, together with the predominant language of economics give expression to the view that there should be, and are at the same time a powerful means to ensure that there will be, only one type of structure, namely that of the economy within which the universities of the future are expected to operate like industrial corporations.

The German system, which is much larger, more diverse and has a strong universalistic tradition, is a far harder nut to crack. However, the levers have been put into position. I am going to characterise the situation only schematically by referring to two distinct tendencies which can be called the approach of 'reconstituting whole universities', and the approach of changing universities by 'restructuring their immediate

environment'. An example of the former is the University of Ulm, whereas the latter is more widespread, examples being found in many states of the Federal Republic, and I shall refer to West-Berlin as one striking example. Ulm is a small and young university in Germany's south-western and most prosperous state of Baden-Württemberg. It has never been able to attract large numbers of students and apart from certain areas of research, was always rather marginal. The plan designed by the Government in 1987 and vigorously pursued with the apparent consent of the university administration is to restructure substantially this university and provide the conditions for a complete responsiveness to the economy of the region.²⁰ In order to finance the first step of the restructuring, a sum of DM 550 million (approximately A\$393 million) is being set aside by the state. The main arguments in favour of the project are of an entirely non-academic nature: requirements created by competition on the international markets and the creation of jobs in the region. External research and, in particular, external diplomas and research degree programs are central elements of the concept. A determining influence on higher education and research on the part of industry and commerce seems to be the idea behind the project.²¹

In Berlin (and elsewhere) another model is being pursued. With support and often financial assistance from the states, independent institutions for applied research are being created with the intention of relocating lucrative research projects and 'freeing' them from various inhibitions and restrictions imposed on them by the universities.²² Controversial fields (such as genetic engineering) and particularly large or trans-disciplinary projects often with a potential for military application have led to the creation of ten independent research institutions in Berlin alone. Many of them are loosely attached to a university benefiting from its reputation and infrastructure but without giving the university any substantial control over their operations. This particular construction has led to the common name "an-Institute" i.e. associated institutes. They are small, flexible and profitable and will have a profound impact on the future of university research.

Both moves are designed to close the gap between publicly supported research and the economy at a time when high specialisation, rapid change in key disciplines and the growing cost of research make it ever more difficult for universities to keep up with the expansion. The magnitude of the development can be deduced from two figures. In 1988 German industry spent DM 38 billion (approximately A\$27 billion) for research and development, whereas the universities had one-fifth (DM 7.5 billion) for all their research activities. Universities still have one advantage over research done in other

institutions. Basic research remains their clear field of expertise. This is the main reason why corporations are increasingly interested in close collaboration with universities. At universities, researchers can afford to, and are used to, design curiosity driven projects and think and plan in long terms. D. Rösner from an "Institute for the applicability of scientific research" says it clearly:

*What is lacking in the laboratories of industrial corporations is not money. Money is plentiful. What they are looking for are creativity, independent conceptions and ideas. This is what industry expects PhD students and diploma students to gain. That's why a closer collaboration between industry and universities is so desirable from the point of view of an industry which is continuously exposed to pressures for innovation.*²³

The danger is, however, that with the narrowing of the gap between university research and industry this very quality of university research, which is one of attitudes and mentalities and therefore rather fragile, will be absorbed by the trend toward the prestigious and well financed projects of applied research. It is not only, as Lyotard observed, the absence of a philosophical legitimation for the pursuit of knowledge and the dissolution of the concept of truth but the intrinsic logic of economic rationalism which leads to a fundamental reconstitution of the concept of research.²⁴

It must be emphasised, however, that the aim of maintaining the international competitiveness of the German economy is combined with long term planning in terms of research and development. Basic research has always been a particular strength of German universities. It has been argued that their conceptual abilities and experience in theoretical work made migrants from Germany under Hitler particularly valuable for US universities, so much so that the combination of American pragmatic approaches with the theoretical abilities of German migrants has been credited with the rapid take off of US science, both natural and social, from the thirties onward.²⁵ (Despite a considerable influx of scientists, no comparable development emerged in Australia.) In any case, emphasis on basic research is still maintained to a considerable degree, and after recent increases, 38% of the Federal Ministry's (*Ministerium für Forschung und Technologie*) budget of DM 7.8 billion (approximately A\$5.6 billion) is spent on basic research. In terms of distribution, it is apparent once again that the universities have lost their traditional and privileged position: a third of the funds are received by industry, a third by thirteen Major Research Centres (*Großforschungszentren*) and a third goes to the universities and research institutes (Max Planck and Fraunhofer).

University autonomy

Humboldt's concept of the university to a large degree retained the formal structure of the classical university and was clearly associated with the interests of the Prussian state. Political and economic considerations played a significant role in his reform concept, and recent reconstructions of the modern university based on Kant's reflections on it fall prey to an idealist misconception of its history.²⁶ Certainly, Humboldt made it clear that a turning point in the history of the university and its rejuvenation would exclude an unmediated connection with the state. No direct spin off can and should be expected. On the other hand, he argues that the state will benefit much more from granting full freedom to the new university. Success will depend on the degree to which the faculties will be free from state intervention.²⁷

This approach was indeed new and had its analogy in the emancipation of the individual during the 18th and early 19th centuries. Similar to the liberated individual who no longer needed to be subjected to external pressure but identified with his/her society and internalised its needs and requirements, the new university could be expected to be much more creative and beneficial to the state, once it was liberated from direct external control. Using a colloquial phrase one might say that it was Humboldt's explicit moderate aim to lift the game, but that the result was a new type of university. As a result, links between German universities and the economy, state and society have always been substantial.

The innovative character of the new university can be seen in its careful balance which distinguished it from its predecessors: a balance between freedom for teaching and research and the indirect expectations on the part of the state, and later of society, concerning its "performativity"; a balance between a dependence resulting from state funding and an independence based on reputation of the staff derived from research and national/international scholarly standing (this was the deeper reason for Humboldt's preoccupation with great names); a balance between autarky and state involvement through its participation in examinations and staff recruitment; and a balance between pure and applied research. The line between self determination and dependency was a very subtle one and was easily blurred or even removed (1933-45). It seems nevertheless reasonable to suggest that during the more than 150 years of its history this careful balance based on pragmatic and philosophical grounds was successfully maintained and contributed significantly to the complex process of educating and modernising German society. It is this delicate balance that should be seen as providing the basis for what appropriately can be called "autonomy".

This autonomy of the modern university cannot adequately be defined in terms of freedoms from political interference but should be seen as the constitutional ability to determine, process and communicate problems in any field of human knowledge and activity within a framework of its own definition in terms of both conceptualisation and temporal order. Its intrinsic structure liberated the university from needs to respond immediately to challenges and enabled it to deal with them within its own parameters. It is specifically defined by a constitutional distance with the potential to separate complex intellectual and practical operations from their objects and hold in suspension any possible connection with practical needs and aims. This epistemological rupture can indeed be seen as the constitutional principle underlying the unique structure of the modern university and its autonomy. As long as it was possible to maintain this constitutional distance, questions concerning financing of research and teaching or of amalgamations would, in spite of their unquestionable importance, not necessarily affect the identity of universities. It seems, however, that it is precisely the constitutional question which current changes tend to raise, without the universities being ready to respond to this challenge.

The fragile autonomy of the German university as I have presented it, was based on three major prerequisites:

- As far as society was concerned, there was no challenge to the relevance of the sciences, social sciences and humanities as well as that of a general education and the privileges attached to academic qualifications and it secured the position of the university as a privileged institution and major agent in the distribution of social and personal opportunities;
- a clearly structured and unified system of academic disciplines, organised in faculties, was linked to degrees which guaranteed stable and transparent procedures for the recruitment of an educated elite in state and private enterprises;
- freedom of research was not only philosophically legitimated but also vindicated by technological progress and economic growth proportionate to funds invested. An autonomous status for the universities was therefore not questioned and implicit common consensus rested on a combination of philosophical and pragmatic grounds and reasons.

These three prerequisites no longer exist.²⁸ It seems important to emphasise that until recently universities were small with a simple structure and, compared to current budgets, inexpensive to run. With the explosion in numbers, size (large universities have between 50,000 and 60,000 students) and cost and their increasing complexity since the middle of the 20th century, these prerequisites were all lost, and it has to be

acknowledged that the universities themselves have contributed little if anything to resolving the problems which have ensued. Two major intrinsic contradictions in the constitution of the universities emerged which seem largely responsible for their inability to come to terms with their own problems.

i. The idea of universality in the concept of education was never fully put into practice. Instead, the university remained a reflection of the class and gender structures of its society. As far as education was concerned, an autonomous university, in Humboldt's view, would have to maintain a distance from class distinctions by emphasising the general ability to act and reflect according to universal human, not particular class or state based, ideals. In reality such a distance from the given political and social realities were seen as a threat to state, church and moral order. Partly as a result of interferences from outside, but mostly as a result of internalised mechanisms, the class character of the universities was maintained. Also, discrimination against female students remained deeply ingrained in its structures. Such observations gave the reform movement of the late sixties its momentum and provided a few popular slogans about the "civil right to education".

The end of the political period ten years later and the discovery that education has little revolutionary potential but may well be a factor in economic growth, have made the role of educational reformers more attractive to some state governments. Baden-Württemberg seems to be taking the lead.²⁹ Structural changes, introduced into the universities around 1970 and which were politically motivated, now seem to facilitate the introduction of economically driven changes. The dismembering of faculties, shake-up of administrative structures and weakening of traditional positions of power within this structure, initially intended to lead to more democratic transparency and greater efficiency, in reality contributed to a deterioration of fragile structures of self determination. Thus conditions for making research and higher education more open to external interests and functional within an economically defined framework came into operation. The reforms of the sixties failed to achieve their stated aims but had, to a degree, the unintentional effect of opening the gates for tendencies of change determined by the economic and social requirements of the electronic age. In Australia, the emphasis now put on amalgamations, centralisation and managerialism clearly points in the same direction.

ii. The concept of the unity of science and research and of pure and applied research which underpins the entire organisation of the university, is rooted in the 18th and 19th centuries and was developed prior to the triumph of technology. It has failed to

respond to the challenges of the technological age. As a result, a tendency toward two universities within one administrative structure emerged: the traditional one, centred around the concept of truth and independent scientific inquiry; and the other one oriented to solving pre-given problems and the applicability of research and knowledge. Whereas the first one may still carry some prestige and harbour the ideals of autonomy, it is endangered by its possible loss of relevance; the latter, which is a product of its immediate relevance, seems not to care about autonomy and finally seems to have gained a long struggle for its recognition. Technological disciplines are only the most striking examples of a broader development in which applied research and performativity, which used to be seen as the illegitimate children of universities, are now to an ever increasing degree determining the concept of research as such.

The history of the technical universities is a clear illustration of these trends.³⁰ Looked down upon by staff at the traditional universities, these institutions were often considered only second rate. They did not waste time developing an academic ethos or contributing to the shaping of a German identity and had little concern for the grand debates, which placed the "mandarins" (Ringer) of the old universities in the centre of public attention. They considered it important to attract funds and solve problems of a practical nature. No wonder that at a time when universities no longer enjoy a position at the centre of public attention, their concept of research is becoming the dominant one.

The two contradictions in the concept of an autonomous university, a social one, in that higher education was associated with class and gender barriers, and the other arising out of the distinction between a concept of science oriented to the ideal of truth and science focusing on applicability and practical problem solving, came to the fore with the unexpected and unprecedented growth of universities which coincided with the collapse of the traditional concept of the unity of the sciences. The autonomy of universities was structurally linked to their particular constitution as it emerged with the bourgeois age of rationalisation. It seems unlikely that it will survive the apparent disintegration of this period. The autonomy in terms of education seems already to have deteriorated to a degree beyond recognition. Often unnoticed by teaching staff, vocational training has become the ideal of many students. It can be said that despite recent trends, in particular among female students, toward enrolment in Arts and especially in literature related subjects, an awareness of or an attachment to a university education beyond utilitarian considerations is fading.³¹ Certainly the affectionate if not erotic relationship which students occasionally showed toward 'their' universities has become a memory of the past. The student revolt of

the late sixties seems to have been the last example of an affectionate identification of a middle class generation with this idealised middle class institution.

Autonomy of research is more and more seen as a safeguard against the demands of political, ideological and economic praxis. Such a defensive position is bound to lose. Certainly, peer group assessment, an important issue in this regard, seems to have secured effective protection. But for how much longer can it be justified in times of diminishing general confidence in the sciences and scientists? And are the scientists themselves protected from the impact of changing preferences in their own cultural environment? When whole states are unashamedly run like corporations, will universities remain exempt? This becomes a particularly challenging question when these states are demonstrably successful and a primitive media coverage of recent changes in 'socialist' countries seem to convey only one message, namely *Thou shalt have no other Gods before the market*.

'Autonomy' is not an indivisible concept and the autonomous university, free from external pressures and political interference never existed. The balance between freedom and social commitment was always precarious, and it can be said that the hidden cleavages in its structure brought about the current threat of disintegration into separate units, held together only by pragmatic administrative arrangements, and oriented toward objectives determined outside the university.

The role of the humanities and social sciences

The crisis of research and higher education is particularly felt in the humanities and social sciences. In the late sixties, questions as to their relevance were raised leading to considerable perturbation. The question, which was subsequently put to rest for more than a decade, is now being revitalised, but in an entirely different way and with opposite intentions.³² The attractions of dialectical theories of capitalist society have now faded, and although considerable critical thought can still or again be observed, its direction has changed and its approach has been completely transformed.

As far as the role and possible reshaping of the humanities are concerned, three basic models are currently being discussed:

- the compensatory approach,
- a view which charges the humanities with the task of debating and clarifying issues in relation to the (lack of) direction of social and technological progress,
- an approach which redefines the humanities in terms of possible requirements of the electronic age.

1. The industrial society on its way into the future necessarily creates voids, destroys traditions and does damage to the soul. Pro-

gress then quickly appears to be a rat race and life void of meaning. The humanities are now seen as complementary disciplines with compensatory functions, healing wounds, or rather, applying band-aids. Odo Marquard, who first introduced this approach into the current debate, uses much more noble and erudite words in his elaboration of his basic hypothesis that "the more modern the modern world becomes, the more indispensable will be the humanities."³³ In his view, it is a misconception to consider the humanities old disciplines which are losing their relevance in the modern world of technology. The contrary is true, he claims: "The experimental natural sciences are the 'challenge', and the humanities are the 'response'. The emergence of experimental sciences did not spell death but rather gave birth to the modern concept of the humanities . . . the continuous process of modernisation resulting from the experimental sciences inevitably leads to damaging the life worlds, and thereby makes the humanities contribute to compensating for these damages."³⁴

This view seems an extension of the dubious theory of the two cultures (CP Snow) and leaves many questions unanswered; e.g. it places the humanities in a position of smoothing the way for the destructive processes of technology to continue unhindered, and it also fails to explain how activities such as history or literary criticism could be charged with a task which is traditionally that of psychoanalysis or of a certain type of literature and, in previous worlds, of religion.³⁵ This approach is more refined but not dissimilar to the defensive strategy, common in Australia, which appeals to the ideal of the rounded and humanistic personality.

2. *Vis à vis* the threatening might of science and technology, it is hard to avoid the question of whether it is still reasonable to assume that continued progress will inevitably lead to the realisation of a better world, one governed by reason not only in its instrumental and perverted form but also in its early ethical and political definition. In his recent books Ulrich Beck uses most provocative words in this regard: "Progress is the inversion of rational action as the 'process of rationalisation'. It is a licence for a continuous change of society in the direction of the unknown, with no program and no consensus concerning the destination. It is assumed, for example, that the commercially driven recreation of the world's creation, the creation of plants, animals and humanity through genetic technology which lies in front of us, can be directed toward positive ends. However, educated through recent catastrophes, one asks the question 'how', and immediately turns into a heretic. Consent without knowing to what is the prerequisite."³⁶ The humanities are now seen by some as disciplines where both expertise and a social forum are being created which make possible debates concerning the future

of civilisation.³⁷ To a degree, this approach can be seen as a reconstitution of the critical model favoured by the heirs of the Frankfurt School during the sixties, but, it has to be stressed, with entirely different issues at its centre and approaches indebted to empirical research.

His recent attempt to describe the sciences in terms of their contribution to modern culture leads Jürgen Mittelstrass to redefine education and knowledge as the substratum for any orientation in the complex and fragmented modern reality.³⁸ It is the well educated individual only, he claims, who will be able to come to terms with the manifold and disorientating tendencies of the technological world. In this view, education is seen in the context of creating and enhancing open, democratic structures, and higher education in particular has a contribution to make to the maintenance of a society in which human beings are not reduced to functions of socio-economic systems. The maintenance of a universalistic concept of education therefore seems more necessary than ever before.

3. It is surprising to note that at some of the new universities, known for their critical attitudes toward capitalist society, such as Bremen or Oldenburg, but certainly also at many other universities, the reshaping of the humanities is constructed in terms of current and future requirements of the job market and the "information" society. Klaus Haefner, from the University of Bremen, introduced into the debate his "utopia of the homo sapiens informaticus".³⁹ In his view we find ourselves currently at the threshold of a new phase in human evolution, one which will lead to entirely new forms of social, economic, political and legal organisations, characterised by a greater directness ("direct democracy") rather than — as is the view of most critics — an ever increasing mediation in human relations. The most important task for the future of education would therefore be a global reshaping of educational aims and objectives in terms of the enormous potential of information technology for the humanisation of current society and, in particular, increased opportunities for freedom and self-determination of the individual.

Other projects in the area of higher education in the electronic age are less ambitious. New degrees in Book Studies, Media Studies, Literature or Science Translation have been introduced. A most prestigious but highly esoteric discipline, "Oriental Studies", is now being reshaped in a way which makes it similar to one of the current "national priorities" in Australia, "Asian Studies". Others see the advantages of general and unspecific curricula in the humanities and are propagating the broad minded graduate who is, they claim, ideally prepared for certain positions in industry and commerce, particularly those concerned

with personnel or public relations. In his much quoted paper, Klaus Scherpe directed attention toward a "hardware offensive" aiming at literature departments, and discussed the possible implications of the student of literature as an "Animateur".⁴⁰ The proclaimed proximity of the study of literatures and languages to the new discipline of Information Technology is supposed to convince the modernists, I would assume, that as a result of a streamlining of the curricula in departments of German, French or Philosophy, jobs for graduates will be plentiful. Doubts regarding this assumption do not seem inappropriate.

The concept of time

Instead of summarising my points, I shall conclude by briefly referring to the concept of time which, in my view, is pivotal to the ongoing restructuring of the university here, in the US and in Germany. Recently, *Time Magazine* published an essay on "time", and a few weeks later a similar essay, longer but with a number of identical quotes, appeared in *Der Spiegel*.⁴¹ In both essays, the portrait of a hectic society characterised by an extreme shortage of time available to those with jobs was sketched in graphic detail: "Time . . . may have become the most precious commodity in this land." The sense of acceleration is not just a vague and spotted impression. . . . There is now a new supercomputer that operates at a trillionth of a second . . . What is a trillionth of a second? Time is being eaten up by all these new inventions."⁴² This enormous pressure of acceleration and a strange combination of simultaneously gaining and losing time has been experienced in the academic world since the mid seventies. It is some five years ago now, that David Lodge created his well-known figure 'Zapp', jetting around the world from conference to conference, leaving behind all traditional limitations of the normally slow process of thinking and the narrow restrictions of the world of teaching and researching. But while he is liberating himself from most traditional restrictions, the world is closing in on him. As the title of the novel, *Small World* suggests, the conquering of time and space generates a feeling of being caged rather than one of openness to immediate experiences.

At 5 a.m., precisely, Moris Zapp is woken by the bleeping of his digital wristwatch, a sophisticated piece of miniaturised technology which can inform him, at the touch of a button, of the exact time anywhere in the world. In Cooktown, Queensland, Australia, for instance, it is 3 p.m. . . . Moris Zapp, who has nodded off these last few minutes, suddenly wakes again in a flurry of panic, but, examining the illuminated face of his digital watch, is relieved to discover that it is only 5.15. . . . Three thousand miles to the west, at Helicon,

*New Hampshire. . . . Moris Zapp's ex-wife Désirée, tosses restlessly in bed. It is 12.30, and she has been awake since retiring an hour earlier. This is, she knows, because she is anxious about the previous day's work. A thousand words she managed to write . . . In Chicago it is midnight . . .*⁴³

The author continues to use the clock as a means to tie together people who, though scattered all over the world, are equally haunted by their commitment to short term productivity. The possibility of experiencing self-determination is lost in the ever more tightly knit web of time.

In the meantime, David Lodge's satirical fiction has been turned into routine for some and an ideal for many. The new type of academic work, appealing to current reformers of all parties in all western societies, can be subjected to ever more sophisticated performance indicators as it is producing results at an ever increasing pace, and has created its own new rules. There is a new elite of academics who condense their teaching into a few months per year or are paid by academies or institutions where no teaching has to be done; they are jetting from one conference to the next and one committee to the other, constantly busy with consultancy work, dictating into a microphone and presenting to expert bodies their expert knowledge. An American economist said in an interview: "I flew 80,000 miles last year. . . . You start losing touch with things. My work is research, which at its best is contemplative. If you get into this mode of running around, you don't have time to reflect."⁴⁴

It seems obvious that this acceleration means both gaining and destroying time. From being a prerequisite for the time-consuming activity of reflection and research, it has been turned into the most precious objective of academic labour. The academic is no longer freed from the time constraints of material production with the expectation that the absence of such constraints will lead to creativity and innovative thought and that very special vocation Max Weber referred to in his essay on 'Science as Vocation'.⁴⁵ Instead, the gaining of time, efficiency and effectiveness are moving into the centre of academic work and are subjected to public or rather some administrator's scrutiny. From the early phase of industrialisation on, the creation of a sense of linear time and the acceleration of time became modes of destroying traditional lifestyles, customs and attitudes and replacing them with new ones compatible with the requirements of economic rationalisation. It seems that universities and their particular forms of academic labour have been spared many of the effects of this process. If academic life was seen as sheltered and the university as an "enclave" (Adorno) in a society haunted by its desire to save time, this was primarily

due to its concept of time which has so far only marginally been subjected to the principles of economic production. While after the First World War, Taylorism revolutionised industrial production via rigid definitions of time and time-motion correspondences, research and higher education remained largely unaffected by these changes. Indeed, it was commonly held that time related productivity assessments would be alien to the specificity of academic work. The introduction of control clocks, occasionally contemplated by university administrations, was always quickly subjected to satire and to my knowledge has never taken place anywhere in the world.

We are presently experiencing a fundamental change in the approach to research and higher education. In the electronic age, the acceleration of time seems to be gaining a new dimension which may well lead to a decomposition of intrinsic structures of research and higher education, and it seems no hypothetical speculation to me to assume a tendency towards a dissolution of their specific structures within their social and economic environment. The delicate balance of two sides of academic labour which Max Weber analysed as that of hard work, drudgery and instrumental labour in combination with another side for which he had only old fashioned words such as devotion, inspiration, and Plato's "mania",⁴⁶ and which Hannah Arendt later associated with a cultural attitude she called "contemplation",⁴⁷ is currently being broken up and replaced by a redefined concept of academic labour reduced to its instrumental dimension. As a result, academic work can be subjected to the unbridled domination of the factor time. Hence the tendency to reduce or stigmatise as irrelevant all activities which consume time and replace them with those which gain time. This gained time is not to be re-invested into a process of research and reflection but is being consumed by other 'productive' activities. In the electronic age, the acceleration of information transfer is on the verge of realising a utopian ideal: namely the ubiquity and simultaneous availability of all information to the greatest number. With the emergence of a world wide electronic network, no time needs to be consumed and no distance travelled to place any researcher in the centre of knowledge. And with the supercomputer that carries out operations in a trillionth of a second, Max Weber's image of scientific reflection, of a scientist slowly forming his/her ideas as he/she walks up a slowly climbing road, has become genuinely anachronistic. This sense of the availability of time and space as a precondition for reflection is being replaced with the notion of time and space as an increasingly abstract and dense property which has itself moved to the centre of academic activity, and is therefore most precious and must be saved. It is no longer the aim to have time for, and to save time in,

pursuing certain ends. The nature of the ends hardly matters as long as the process itself is being accelerated. The process of gaining time increasingly seems to be becoming an aim in itself, which would clearly be the ultimate step in the destruction of the very good that was intended to be gained in the first place. Angst vis à vis the exhaustible pool of time seems to have initiated a process that includes as one of its possible results the extermination of time as a mode of creating experienced reality.

The reconstitution of research and higher education and of the university as the foremost social place for performing these activities in their traditional definition is characteristic of both the German and the Australian current situation. It remains to be seen whether the strong universalistic tradition of the modern German university will be a more effective protection against the tendencies of decomposing its integrated structures than the pragmatic definition of the Australian system of research and higher education seems to be.

As far as the Australian universities are concerned they seem to be drawn into the current with little awareness of its nature and even less desire to resist. Given the dimensions of these tendencies and their international character, neither an idealisation of the past nor pragmatic political activism seem promising approaches. There are few signs, however, that those concerned are ready to engage in a public debate concerning the very concept of research and higher education in Australia beyond the narrow confines of economically and politically motivated definitions. Without a clarification of their own position, the universities will continue to be made a pawn in a game with rules entirely determined by others. It seems to me that this condition guarantees that harm will be done to the development of both research and higher education and the Australian society.

References

1. The essay is a revised version of a paper given at the conference "Europe Today", held at Monash University, 12-15 July 1989.
2. Jean François Lyotard, *The Post Modern Condition: A Report on Knowledge*, University of Wisconsin Press, 1983 (original: *La condition postmoderne. Rapport sur le savoir*, Paris 1979).
3. Klaus Haefner, *Mensch und Computer im Jahr 2000. Ökonomie und Politik für eine human computerisierte Gesellschaft*, 1984.
4. Jürgen Mittelstrass, *Der Flug der Eule*, 15 Thesen über Bildung, Wissenschaft und Universität. In: J.M., *Der Flug der Eule. Von der Vernunft der Wissenschaft und der Aufgabe der Philosophie*, Frankfurt 1989, p. 43-59; here p. 55. See also: *Wissenschaft als Kultur*, ibid. S. 13-42.
5. The conference, held from 8 to 10 March 1989, was organised by the national associations of German, Romance and English Studies. The union representing staff employed by West German universities,

CAEs and TAFE, GEW (roughly equivalent to FAUSA), contributed a carefully researched discussion paper called "Situation and Perspectives of the Philologies". *GEW Materialien und Dokumente No 60*, March 1989.

6. Hugh Collins, *Political Ideology in Australia: The Distinctiveness of a Benthamite Society*. In: *Australia: A Daedalus Symposium*, Ed. by Stephen R. Graubard, 1985 (Angus and Robertson), p. 147-170.
7. In September 1986, the GEW (see footnote 5) in collaboration with the Social Democratic Party and the Green Party organised a hearing concerning the actual situation of the humanities at the universities of Baden-Württemberg. Peter Reinelt (SPD) put their concern in the following words: "The political technocrat, after having defamed the humanities as dispensable, because they cannot be sold, then asks for their subjection to the status of disciplines teaching the acceptance [of living conditions created by science and technology] as if they could exist without autonomy." Peter Reinelt, *Ist es wirklich das Land Baden-Württemberg . . . ? In: Zur Lage der Geisteswissenschaften an den Universitäten Baden-Württembergs. GEW-Dokumentation 1987*, p. 5.
8. Their program for a constitution of a new university in: Jürgen Habermas, *Protestbewegung und Hochschulreform*, Frankfurt 1969, S. 202-243.
9. A collection of highly critical and occasionally satirical essays which tear apart the reforms of the late sixties is Horst Albert Glaser, *Hochschulreform — und was nun? Berichte-Glossen-Perspektiven*, Frankfurt 1981.
10. Claus Leggewie, *Universitäten in der 'Kulturgesellschaft'*, *Merkur* 481, H 3, March 1989, p. 268.
11. In 1989 a range of new initiatives have been launched, partly by the federal minister, partly by state ministers for education, and partly by universities themselves. See various issues of *Bildung und Wissenschaft*, in particular No 5/6, Bonn (Internationes) 1989, p. 3-7.
12. In his report devoted to the current situation of research and higher education, dated July 1987, the President, A. Theis, was highly critical of major tendencies in the area, and he later elaborated on his position in a number of interviews. See "Theis: Nur wer lange plant, hat Erfolg", *Südwestpresse*, 29.7.1987 and "Wir haben doch keine Monarchie mehr", *Badische Zeitung* 29.7.1987.
13. It seems symptomatic that the structure of postgraduate programs and in particular the situation of PhD candidates have undergone numerous changes over the last 25 years without ever being addressed appropriately. In a report under the title "Wissenschaftlicher Nachwuchs", ed. by Ludwig Huber, Karin Fischer-Bluhm and Rolf Holtkamp, the union (GEW) recently (1989) addressed major problems in this field.
14. Alexander Schwan seems to express a common view by saying that despite the apparent need for change, there is neither a political will nor the readiness on the part of universities to address larger issues, A.S., *Wissenschaft als Herausforderung. Neun Thesen zur Zukunft des Hochschulwesens*.

- In: H.A. Glaser (footn. 8), p. 358-367.
15. Current plans are to earmark DM 2.6 billion (shared by the Federal and State governments) per year for extending existing institutions of higher education. Comparable to the Australian situation, particular emphasis is given to "Fachhochschulen" (TAFE).
 16. See a.o. Werner Kaltefleiter, *Eliteausbildung — Verantwortung der Universitäten*. In: H.A. Glaser (footn. 9), p. 345-357.
 17. J.F. Lyotard (footn. 2): Jacques Derrida, *Mochlos ou le Conflit des Faculté. Philosophie 2*, 1984. For a discussion see the contributions by Kevin Hart, Simon Doring and myself in *Arena* 81, 82, 83, 1988.
 18. B. Huppau, *The Universities in the Grip of the Electronic Age, Meianjin 1*, 1988; and *Universities and Postmodernism, Arena 83*, 1988.
 19. See Simon Marginson, *The Culture of the White Paper: Academic Labour for and as Commodity Production*. Paper presented at the Institute for Cultural Policy Studies, Griffith University, December 1988.
 20. The Government's plan to create a "science city" Ulm prompted wide media coverage and was received rather critically. See: "Geheimhaltung der Forschung steht schon im Vertrag", *Frankfurter Rundschau* 12.9.1987 and Wolf Schröter, *Wer befreit die Wissenschaft? Aussengesteuerte Hochschulen*. In: *Evangelische Kommentare* December 1987, No. 12, p. 704-706.
 21. At one stage even the minister concerned seemed to have doubts about the degree of external pressures put on universities and warned industry not to go too far in trying to influence decisions regarding basic research which is predominantly financed through public funds. Wolf Schröter, p. 705.
 22. Associated institutes are also a prominent aspect of the new University of Ulm, and plans seem to be under consideration suggesting a relocation of research in the area of risk assessment into privately financed institutions.
 23. Hochschule: Prinzessin oder Hure? *Der Spiegel* 44, October 1988, p. 86-99.
 24. At the last national Vice-Chancellors' conference (WRK), the quest for a "relaxed" relationship between the universities and industry was particularly prominent. Walter Zimmerli repeated his view that the interests of the economy and the universities coincided in their aim to further 'the common good'. See: *Bildung und Wissenschaft* (footn. 11), p. 5/6.
 25. This view has been disputed: Wilfried M. McClay, *Weimar in America*. In *The American Scholar* 55, 1986, p. 119-128 and in particular by Alan Bloom's bestseller *The Closing of the American Mind*. New York 1987.
 26. Lyotard (footn. 2) p. 35/6.
 27. Wilhelm von Humboldt, *Über die innere und äussere Organisation der höheren wissenschaftlichen Anstalten in Berlin*. In: W.v.H., *Werke in 5 Bänden*, ed. A. Flitner and K. Giel, Bd. 4: Schriften zur Politik und zum Bildungswesen. Darmstadt 1982, p. 255-266.
 28. See in particular Wilhelm Hennis's analysis of the implications and consequences of structural reforms: W.H., *Studentenbewegung und Hochschulreform*. In: H.A. Glaser (footn. 9), p. 37-60.
 29. The State's Premier, Lothar Späth, published two books, in which he maps out his vision of a technological society of the future: L.S., *Das Kabel — Anschluß an die Zukunft*. Stuttgart 1981; and L.S., *Wende in die Zukunft. Die Bundesrepublik auf dem Weg in die Informationsgesellschaft*. Reinbek 1985; there he charges the humanities with the task of contributing to resolving the social and emotional implications and consequences associated with the rapid growth of new technologies. (p. 64f).
 30. See for instance: Reinhard Rürup, *Die Technische Universität Berlin 1879-1979*. In: R. Rürup (ed), *Wissenschaft und Gesellschaft. Beiträge zur Geschichte der Technischen Universität Berlin 1879-1979*. Berlin, Heidelberg, New York, 1979, p. 3-47.
 31. Klaus Scherpe's essay on the future of research and teaching in the field of German language and literature is a thoughtful and sensitive response to these general

tendencies: K.S., *Ist eine Modernisierung der Germanistik möglich? Gedanken und Vorschläge zur gesellschaftlichen Selbstbeteiligung unter hochtechnischen Bedingungen*. Akten zur Tagung des Germanistenverbandes 1987. Tübingen 1989, p. 1-18.

32. Examples of the current intensive debate are: *Kursbuch 91: Wozu Geisteswissenschaften?* Berlin March 1988; and various issues of *Universitas*, in particular No. 1, January 1987.
33. Odo Marquard, *Über die Unvermeidlichkeit der Geisteswissenschaften*. In: O.M., *Apologie des Zufälligen*. Stuttgart 1986.
34. Marquard, *ibid.* p. 38.
35. See Scherpe's critique of Marquard in K. Scherpe (footn. 31), p. 8/9.
36. Ulrich Beck, *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Frankfurt 1986. U.B., *Gegengifte, Die organisierte Unverantwortlichkeit*. Frankfurt 1988.
37. Friedrich H. Tenbrunck, *Was sind und was sollen die Geisteswissenschaften heute?* In *Universitas* 2, February 1987, p. 125-136. See in particular his thesis no. 11, p. 134f.
38. J. Mittelstrass, *Wissenschaft als Kultur* (footn. 4), p. 13-42; here p. 36ff.
39. Klaus Haefner (footn. 3).
40. K. Scherpe (footn. 31), p. 13ff.
41. America runs out of time. *Time Magazine*, 24 April 1989, p. 64/5. Im Reisswolf der Geschwindigkeit. *Der Spiegel* No. 20, 1989, p. 200-220.
42. *Ibid.*, *Time Magazine*, 24 April 1989, p. 64.
43. David Lodge, *Small World*. Penguin 1984, p. 83-92.
44. *Time* (footn. 41), p. 65.
45. Max Weber, *Science as a Vocation*. In: M.W., *Essays in Sociology*. Translated and edited by H.H. Geertz and C. Wright Mills. London 1948, p. 129-156.
46. *Ibid.* p. 136.
47. Hannah Arendt, *The Human Condition*. Chicago 1958.

how the proposed reforms will remedy those deficiencies.

In addition however, the separation of the executive and the legislature in the USA makes it more difficult for the executive to impose poorly conceived policy, since each legislator votes according to their own agenda. This system not only requires more telling arguments on the part of the executive to change the status quo, it also gives opponents much more opportunity for lobbying and persuasion. Finally, since universities are not federally funded but are either state funded or privately endowed, no government can control more than a small proportion of the institutions available. Any one state government would run a risk in introducing major changes which a substantial proportion of the academic community considered ill-advised. Good staff and students can always go elsewhere.

Different models of tertiary education in the USA

The USA has developed an enormous number and variety of tertiary institutions, reflecting many different conceptions of higher education and of national and state needs. These range from poor and small religious colleges almost entirely dependent on fees, to the extremely well-endowed private colleges and universities of New England; from community colleges with negligible academic standards to the best State universities of the country's West and mid-West which have some departments consistently rated the best in the land by other departments.

The best known distinction is between public and private institutions. This distinction is, however, relatively recent. Ivy league universities such as Harvard and Yale were by and large set up in close association with the state¹ and with considerable financial dependence on it, as well as on private benefactors; not altogether unlike the early days of the Universities of Sydney and Melbourne. The ambiguity in the relationship between the Colleges and the State came to an end in the landmark Dartmouth case (in 1819) in which it was ruled by the Supreme Court that Dartmouth College, which had originally been chartered by the State of New Hampshire, was not a public institution subject to public control.²

From then on the established colleges tended to promote the view that they had been privately set up with a traditional independence of the state which could only be preserved by generous alumni donations. Although a myth, this view was convenient in establishing the Ivy league mystique. In fact it was not until the late nineteenth century, when huge fortunes were made by people with a philanthropic bent, that major private universities, such as Johns Hopkins and the University of Chicago, were established and financed independently of the

state.³

By the late twentieth century, however, the great private universities were again heavily dependent on government funding in the form of student loans and indirect costs on research grants and contracts. The indirect cost rate is negotiated separately with the federal government by each institution and is very substantial. At the State University of New York, for example, the rate is 70 per cent of the salaries and wages component of a grant, so that for a grant of \$60,000 in which the salary component was \$40,000 the university would receive an additional \$28,000. At elite universities such as Princeton the rate is much higher.

It is not the custom for this money to be given to the individual researchers responsible for gaining it or even to their departments. It may be used by the university as it sees fit and represents a very large government-sourced income for the top institutions, where many people have grants. Indeed, it represents a non-bureaucratic and politically non-controversial way of subsidising institutions with public funds roughly according to their research quality. I'll say more about this later.

The diversity of institutions in the USA and their competitiveness with each other means that new ideas and experimentation flourish. Innovations in curriculum, graduate education, student living arrangements or governance can be tried by one institution and copied if successful. This is the basic mechanism for evolutionary change. For example, the idea of a largely elective undergraduate curriculum was first introduced by Harvard in the late nineteenth century⁴ and later spread widely. Similarly, Johns Hopkins was a pioneer in graduate education.⁵

Diversity has also allowed tertiary training to be developed for half the population of the country at all levels of ability without diluting the quality of the best. Different states have solved the problem of varied student requirements differently. The university systems of California and New York, for example, have many academic levels, with highly prestigious university centres and less prestigious state colleges, as well as specialised institutions, such as colleges of agriculture, fashion or maritime studies.⁶

The funding for any component institution per student unit⁷ depends upon its classification which largely reflects the degree to which academic staff are expected to conduct research. Indeed, tertiary institutions in the United States are informally classified as to quality, largely on the basis of the teaching load carried by staff, which is inversely related to the time they have available for research. A good state university would normally require academic staff to teach two courses per semester, some of them graduate seminars. Any more than three is considered the mark of an academically inferior institu-

tion. Prestigious four year colleges, such as Amherst or Swarthmore, may require up to three courses, slightly more on the average than universities with students of equivalent calibre. (Colleges, as opposed to universities, normally only offer BA degrees).

However it is quite wrong to suppose that in institutions such as these, academic staff do not do research. The best of the four-year colleges hire staff with excellent research records, especially in the humanities and social sciences where expensive laboratories are not required. The staff at these colleges are willing to tolerate a somewhat higher teaching load in exchange for an intimate and pleasant atmosphere and the high quality undergraduates these colleges attract. Some faculty even welcome the absence of graduate students.

The nearest approximation to an all-purpose university in the USA is Pennsylvania State University (Penn State), one of the biggest universities in the country in a remote region of Pennsylvania (in a town called State College) with everything from high-quality academic departments to the best course in icecream-making in the country. It is said that one in every thousand Americans is a graduate of Penn State. It began as a land grant college in the 1860s, being one of many set up at the time on grants of federal land given by Abraham Lincoln's administration for the purpose of establishing institutions to teach rural people agricultural and mechanical arts.⁸ These institutions provided a stimulus to the introduction of science and technology in the American University.

In general, the more distant a top level state institution is from the East Coast of the USA, the higher the quality tends to be, since it does not have to compete with the long-established "private" universities. The universities in Michigan, Wisconsin and Iowa are in that sense more similar to Australian universities than are any East Coast institutions.

While it is, of course, not necessary nor desirable for Australia to mimic overseas institutions, it is important in the present climate of change that the Australian public are not misled about how things are done elsewhere. Both the government and the press in this country have been guilty of using inaccurate or superficial accounts of the US system to justify innovations in tertiary education here which lack face validity and violate our own traditions.

Despite impressions to the contrary,⁹ nearly all state systems in the US are at least binary, not unified, both in funding and student intake. Furthermore I know of no reputable university department there in which it is considered acceptable for some academics to devote themselves entirely to teaching whereas others do research. (There are however entire institutions, such as community colleges, where almost no academics

The American university

Whatever the inadequacies of American universities it would not be possible for them to be so dominated by the conceptions and agenda of a government as has recently happened in Australia. In this article I shall try to explain why this is so and then go on to describe the main features of the US system, particularly those relevant to Australian concerns.

Perhaps the most characteristic quality of the United States, which survives all vicissitudes and excesses, is its puritanism. It is a society which sees itself as having a strong moral base and a strong adherence to traditional values and its leaders are given as everybody knows, to high-flown rhetoric. This is often cause for amusement or disdain to the rest of the world, where it is seen as

hypocrisy and self-delusion. Even accepting the partial validity of this view, there may still be some advantages in requiring public policy to be presented as high-minded and rational. At least there is then a publicly confirmed standard for evaluating that policy.

The cynical attitude towards politicians in Australia is almost self-fulfilling, in that government is barely expected to have any basis for policy other than political expediency. The present government has certainly provided very little justification for its radical innovations in tertiary education. The political goals are easier to discern.

The entire package appeals to the philistine tendencies of the Australian population, and takes advantage of its lack of confidence in its own traditional way of doing things. Even more astonishing from an American perspective, and perhaps also the result of cynicism,

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is the failure of universities in Australia to respond with any vigour to what is being done to them. Not only have they failed (until too late) to present an ideology of the university but they have demanded neither empirical evidence for accusations concerning their performance nor a proper analysis of the likely effects of the changes being introduced.

Although some fairly drastic changes can take place locally in the USA when ideology and political expediency converge, in general the history of American universities is one of evolution rather than revolution. One reason for this, as I have indicated, is a strong adherence to a system of values deriving from its traditions, which politicians cannot ignore with impunity. The onus on advocates of change in the USA is to demonstrate deficiencies in the present system and to show