

**On the Value of a University -
a Journey of Discovery**

La Trobe University, Bendigo

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Professor Rhett H Walker

Worner Research Lecture 2004

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National Library of Australia Cataloguing-in-Publication details:

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Published by La Trobe University, Bendigo,
POBox 199, Bendigo 3552 Australia

Printed by Media Services, La Trobe University, Bendigo

ISBN 0909977429

ISSN 1327-3272

Biography



Professor Rhett H Walker joined La Trobe University, Bendigo, in October 2003 as Professor of Business – Regional Development in the School of Business and Technology. Immediately prior to taking up this appointment he was Head of the School of Marketing at RMIT University Melbourne for three years. His research and teaching interests include customer service and the nature of service mindedness; the marketing and management of services, particularly in business-to-business contexts; competitive market positioning; and tourism. His research papers have been presented at, and published in the proceedings of, many academic conferences nationally and internationally, and his work has been published in a variety of leading scholarly journals including the European Journal of Marketing, the Journal of Marketing Management, the International Journal of Service Industry Management, Marketing Intelligence and Planning, and Advances in International Marketing. He is the co-author of three textbooks one of which, Services Marketing – An Asia-Pacific Perspective, is the leading text in this field throughout Australasia.

He also has over 25 years of senior level marketing and management experience gained principally within the electronic communications and entertainment industry in Australia, the UK and the USA, and played a central role in the establishment of the commercial FM broadcasting industry in Australia. He has been the recipient of several industry awards including a prestigious Australian Hoover Marketing Award.

On the Value of a University - a Journey of Discovery

Professor Rhett H Walker

Introduction

I'd like you to come with me on a journey. A journey through the past, into the present, and with a view towards future horizons. A journey of review, reminiscence and reflection; a journey of discovery, re-assessment and possibly re-discovery. In the course of this journey together we will also consider the role of discovery itself within the context of a university. My aims and purposes? Well, I trust they will emerge and become self-evident as we progress together. The title of this lecture will, however, give you some idea of its focus: *On the Value of a University – A Journey of Discovery*. In this I clearly betray my indebtedness, one may even say indenture, to Newman. But, as I intend to reveal, there are several key others whose thoughts on this topic are no less germane, insightful and significant, whose thoughts have influenced my own, and whose thoughts I trust you too will find correspondingly stimulating. So come with me, please, and let's venture forth together.

Historical Overview

The year is 1854, the Bendigo Diggings population stands at almost 15,500 souls and, despite having the characteristics of a frontier town – ‘dusty, dirty, thirsty, swarming with flies in the summer and wallowing in mud during the winter’¹ – already there are discussions being held about the need to establish an institution of higher learning – a Mechanics Institute which, ultimately, was officially opened two years later, on the 5th of August 1856.

It bears noting here that among those who planned this institute there was a shared recognition that the future of the Bendigo Goldfield depended, amongst other things, on ‘...the invention of machinery and its adaptation to gold mining.’² The pre-occupation with the discovery of gold is now accompanied by a corresponding recognition of the need to discover new and improved ways of facilitating its extraction.

Despite the optimism of those associated with the Institute’s establishment, and the view that it would help bring enlightenment to the masses, it rapidly became more something of a club than a place of learning and education; although records of public lectures given during the Institute’s early years suggest that the discoveries of scientific enquiry stimulated much interest. This notwithstanding, the Institute evolved into a School of Design in 1871 and, subsequently, the School of Mines, in 1873, the main purpose of which was to provide formalised instruction useful to those engaged in mining pursuits. However, it bears noting that by the turn of the century, and having acquired all of the holdings of the original Mechanics Institute – including its extensive library, – the School’s interests had developed into substantially more than mining alone, and ranged from the sciences to education, literature and the arts. Classes were offered in pottery and china painting, stone and marble work, stained glass manufacture, decorating, cookery and the arts, as well as in metallurgy, chemistry, mining and electrical engineering. Clearly the local interest in discovery had progressed from simply the search for precious metal to the search for something else as well. Training for purpose alone was evolving into wider studies that served to enable and enhance understanding of the physical as well as aesthetic worlds.

This notwithstanding, the onset of the First World War also saw the collapse of Bendigo’s mining industry which, in turn, had a profound impact on the School. Indeed, it wasn’t until the early 1920s, with considerable support from the State Education Department, that it began to experience a renaissance as a trade or technical school that, in 1959, became the Bendigo Technical College. This subsequently became the Bendigo Institute of Technology in 1966, which subsequently merged with the State College of Victoria, Bendigo (formerly the Bendigo Teachers’ College established in 1926) to form the Bendigo College of

Advanced Education (CAE). This CAE then became affiliated with La Trobe University in 1991 as La Trobe University College of Northern Victoria, and in 1994 integrated into the University as La Trobe University, Bendigo. However, before we move too quickly through the 20th century I want to us to return to the late 20s/early 30s and focus on three students in particular enrolled at the Bendigo School of Mines at this time: Howard, Neil and Hill Worner. Three very remarkable men, each in their own right – three outstanding and eminently recognised achievers, each in their own particular way, and for whom each discovery played a key role in what they achieved.

When I began thinking about this lecture some months earlier this year, and I sought to explore the origins of this institution, I became acquainted with the brothers Worner, and the more I learned of them, their background and achievements, the more fascinated I became with them. One question in particular intrigued me and prompted me to search for its answer. This related to the many significant achievements and accomplishments of Howard, Neil and Hill. What was it, or what combination of factors was it that equipped and enabled each of them to succeed so prominently in their respective fields of endeavor? Was it their family background and inculcated values? Was it their training? Was it their genetic and innate make-up? Or maybe it was a combination of these, and possibly something else. In any event I was moved to make personal contact with these people of whom, prior to arriving here at La Trobe Bendigo late last year, I knew nothing, whose family name is that attached eponymously to this lecture series, and whose varied achievements are remarkable to say the least – particularly when considered against the background of their early upbringing and life in the Mallee. I wanted to make the acquaintance of these remarkable men because I felt strongly that there would be something to be gained by doing so – something that would prove worthwhile sharing with you tonight, as well as for my own personal edification. I will come later this evening to the answers that I have arrived at in response to the questions as to the derivation or grounds of their achievements that intrigued me and that I have just now expressed. For the present, however, let me share with you something of the highly impressive accomplishments of the brothers Worner: Howard, the eldest; Neil, the middle sibling; and Hill, the youngest who, regrettably, passed on early in 2002. I regard myself most fortunate to have now made the personal acquaintance of Howard and Neil and, in a sense, through them, I have also learned something more of Hill as well. Let me start with him.

The Worner Accomplishments

Like his older brothers, Hill was a gold medallist and scholarship winner at the Bendigo School of Mines. The scholarship took him to the University of Melbourne where he continued to distinguish himself by securing his undergraduate degree in

science with First Class Honours, the Dixon Prize in Metallurgy, and a further scholarship to pursue postgraduate studies. After a number of years in industry, including 16 years as a member of CSIRO where he eventually led the Industrial Chemistry Group and the Physical Metallurgy Section, Hill returned to the University of Melbourne, which, during the intervening period had awarded him a Doctor of Science. He returned to take up the post of Professor of Metallurgy, a post that had been held by his older brother Howard from 1946 to 1955. Hill remained at the University for the next 20 years and during this time was Director of the Brown Coal Research Laboratories, Dean of the Faculty of Engineering, and Associate Dean of Applied Science, and received international recognition for his pioneering research into titanium. He left the University of Melbourne in 1976 as Professor Emeritus to become a member of the CSIRO Executive in Canberra, and shortly thereafter became Director of the CSIRO's Institute of Industrial Technology. In recognition of his many outstanding achievements Hill was appointed an Officer of the Order of Australia in 1981 and, in the following year, was awarded the Kerner Memorial Medal (one of many Hill received during his professional life) by the University of Melbourne for his many distinguished engineering achievements.

Like his brothers, Neil, who will turn 90 this year, also graduated from the School of Mines with a gold medal and a scholarship to study civil engineering at the University of Melbourne. He graduated in 1936 with First Class Honours, and was also awarded the Argus Prize in civil engineering. After a short stay at the university as a member of academic staff, while at the same time pursuing postgraduate studies in geology, Neil was approached with a view to accepting a position as a mining geologist with Gold Mines Australia, a posting that took him to Western Australia where he stayed for the next 2 years. By 1939, however, Neil decided to gain experience in civil engineering and secured a position with the State Rivers and Water Commission here in Victoria. This led to valuable experience with the construction of dams, experience that laid the groundwork for a subsequent distinguished international career in this particular field. By way of illustration: Neil played a central role in the construction of Rocklands, Cairn Curran, Eildon and, some years later, Dartmouth dams, was appointed the Chief Engineer responsible for civil design and scientific services for the significant Snowy Mountains hydro-electric scheme, and went on to oversee similar significant dam construction projects in various parts of South East Asia and the Pacific. Most significantly though, Neil achieved international renown for being the first person to find what at the time was an entirely new way of constructing dams on sites with high levels of rainfall, and therefore demanding wet impervious cores. This had never been done before, and the prevailing wisdom was that it was impossible to do. This, however, Neil accomplished more than once, on very large sites and projects in Fiji, Mauritius, East Java and Central Borneo – accomplishments for which he has justly received the professional recognition, respect and accolades of his peers internationally.

The oldest brother, Howard, who has just turned 91 (his birthdate is 3 August), is similarly distinguished. His graduating gold medal and scholarship secured at the School of Mines were just the beginning of what was to become a very long list of achievements and awards: Both undergraduate and Masters degrees achieved at the University of Melbourne with First Class Honours, the youngest graduate from the university to be conferred with a Doctor of Science at the age of just 28, and awards and medals throughout his life so extensive that they, with his mineral and rock collection, now fill three special display cases at the University of Wollongong. At different times in his highly distinguished life and career he was Professor of Metallurgy and the Dean of Engineering at the University of Melbourne, Director of Research for BHP, Director of New Process Development with CRA, and National Chairman of the Committee for Australia-China Relations. He has achieved enduring international renown for his pioneering research in many diverse fields including, for example, the manufacture of dental and surgical materials, continuous metal extraction, energy, cements, plasters and plastics, microwave irradiation and other applications, thermal processing of coal, and recycling. Many of these achievements, especially those related to refining, are now applied worldwide. He has received honorary doctorates from several universities Australia-wide, including La Trobe; like his brothers he is an Honorary Fellow of the Institution of Engineers (Australia), and is also an Honorary Fellow of the Australian Institute of Mining and Metallurgy, and the Australian Institute of Energy. He is also a Fellow of the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering, and in 1978 was awarded a CBE. In short, Howard Worner's many significant achievements have been widely recognised and acclaimed in the award of the highest university, professional and civil honours, and he has been aptly described as a true icon of Australian metallurgy and materials science.

Now the considerable accomplishments of each of these brothers are impressive, to say the least. However, they become all the more marvelous when considered in the light of their personal background. All three were raised and spent their early childhood on a Mallee farm west of Kerang. Their parents, John and Ida, had both come from farming backgrounds, and, largely because of the remoteness of where they lived, neither had progressed beyond primary school. Certainly the parents valued education, and encouraged and supported all three boys in acquiring this. But where did the respective intellectual capacity of each of the boys come from – their thirst for knowledge and ability to achieve what each did so outstandingly? As I said earlier, this question intrigued me and gnawed at me, and prompted me to try and find the answer by talking with Neil and Howard personally. And this, thanks to their good graces and forbearance, I did. Earlier this year, with notebook and tape recorder in hand, I met on separate occasions with Howard and Neil to discover what it was to which they attributed their achievements. I will share these reflections with you shortly, but before doing so, let us briefly change tack.

I want us just now to diverge on another journey of discovery, albeit a related one – a path parallel, as it were, to the one we are presently taking, and which will ultimately converge with our present course. My reason for asking you to join me in this temporary diversion lies in a second question that has played on my mind for quite some time, and that surfaced yet again as I started thinking about this lecture and the Worner achievements. That question relates to the respective role and value of different teaching and education models and institutions at the tertiary level.

It has concerned me for some time that a university education appears increasingly to be regarded as little more than a vocational qualification – a requisite means to gaining professional employment – with a growing emphasis more on personal gain than public good. This is a view that I see represented in comments expressed by a diverse range of interests – including politicians and policy makers, professional associations and employer groups, community interest groups and parents, as well as students themselves – and it is a view that is not unique to Australia. Arguably, this view is particularly observable in my own general disciplinary field of business where, for example, the distinction between marketing education at TAFE and university levels is unclear and uncertain to say the least. And when I have inquired of colleagues at both TAFE and university institutions how they define this difference I have received very ambiguous and unconvincing responses that have left me unsatisfied and no less uncertain that this is a key question that remains to be answered definitively. So it is this question too that I wish us to consider together tonight: wherein lies the true role, purposes and value of a university education; and, not unlike the motives of current mining operations in our midst, might there be something here that yet remains to be discovered, or possibly re-discovered?

The University Defined - its Role and Purposes

Arguably, the most compelling definition of a university and its purposes was that expressed by John Henry Cardinal Newman about 150 years ago in a series of discourses given at the time of the founding of the Catholic University of Ireland. He said, and I quote:

*A university is the high protecting power of all knowledge and science, of fact and principle, of inquiry and discovery, of experiment and speculation; it maps out the territory of the intellect, and sees that ... there is neither encroachment nor surrender on any side.*³

Newman defined the university as a place of education, rather than instruction; and education, he said, implied ‘...action upon our mental state, ... the cultivation of mind ... and the formation of character.’⁴ Thus the functions of a university, according to Newman, were education of the intellect, exercise of the mind, and development of the power to reason and reflect. Knowledge, and the communication

of knowledge, should not be thought of as an end in itself, he said. Nor did he believe that knowledge and education should be confined to any particular and narrow end. Rather, he asserted, the value of knowledge lies in what its presence in us does for us, and therefore the value of a university education resides not simply in the knowledge transferred and acquired but, rather, in the extent to which it cultivates our intellectual capacity and capability, develops our curiosity, insight, and ability to think and to reason. In other words, the life of a university is a process of discovery – for faculty and students alike – discovery of knowledge and truth, and of one’s own intellectual capacity and capabilities. In this way progress is brought about as a consequence of new creative thinking, as opposed to simply perpetuating current accepted thought and practice. Again, in Newman’s own words:

*...Training of the intellect, which is best for the individual himself/herself, best enables him/her to discharge his/her duties to society. Education gives [one] a clear conscious view of their own opinions and judgments, a truth in developing them, an eloquence in expressing them, and a force in urging them. It teaches one to see things as they are, to go right to the point, to disentangle a skein of thought, to detect what is sophistical, and to discard what is irrelevant.*⁵

It is curious that all too often today the word ‘education’ is used when what is really meant is vocational teaching and training, and the process of transferring and acquiring knowledge – particular discipline-specific knowledge. To employ the word education in this sense would have been anathema to Newman – and to others of a like mind – for whom education, particularly a university education, implied far more than teaching - a meaning grounded securely in the Latin roots of the word: a drawing out and development of the student and, more to the point, their intellectual capacity and capability.

Newman was certainly not alone in conceiving of university education in this way. Many other great minds that have been brought to bear on this intriguing topic have arrived at markedly similar conclusions. By way of example, one of this century’s most respected and revered figures in American Higher Education, Robert Maynard Hutchins, proposed that the core purpose of a university was to think as profoundly as possible on society’s most puzzling problems and, in this, ‘...to unsettle the minds of young men [and women], to widen their horizons, to inflame their intellects.’⁶ He further asserted that an ideal university education was not one that was directed to immediate needs; it was not a specialized, utilitarian or pre-professional (as he put it) education. Rather, an ideal university education was one that developed the mind, intellectual power.⁷ Similarly, the distinguished British philosopher, Alfred North Whitehead, avowed that the justification of the university was not to be

found in the mere knowledge conveyed to students, but in the uniting of young and old in learning and inquiry that, invested with the intellect, transforms knowledge.⁸

Of course education also implies teaching which, in turn, implies knowledge transference and acquisition. This, however, raises a question as to the derivation of knowledge – verified fact and truth as distinct from opinion. Knowledge is acquired, developed, advanced and transformed not solely in the environs of a university; but a university is most definitely charged with the responsibility of questioning and advancing knowledge. Indeed this is a primary responsibility of a university's scholars who, thus, are much more than teachers alone; for, in their capacity as teachers and scholars, they are also charged with the responsibility of contributing to knowledge advancement through a continuing process of critical inquiry, discourse and validation. They also have a duty to foster in their students a corresponding capacity for critical inquiry, and to develop the intellectual ability of students to engage productively in this pursuit. Thus, according to John Brubacher – another eminent North American educator and recipient of the John Dewey Society's Distinguished Service to Education Award – a university has three principal functions: to transmit higher learning, to expand its limits, and to put its results at the service of the public.⁹ For him, however, teaching is far more than didactics; it implies heuristic and philetic aspects as well – that is, developing the student's own intellectual capacity and capability, and encouraging and enabling them to bring this to bear in discovering for themselves, through critical inquiry, logic and rational argument, what can be asserted to be verifiable knowledge and truth. In other words, to think independently.

In the course of preparing for tonight's lecture I happened, quite serendipitously and yet totally by chance, to discover a collection of essays on the purposes of a university written and published by a number of Polish scholars. The Introduction to this anthology took the form of an address given by Kazimierz Twardowski on the occasion of him being awarded an honorary doctorate by the University of Poznan at about the time of his professional retirement in 1932. Although Austrian by birth, Twardowski went on to become the eminent founder of the so-called Lvov-Warsaw School of philosophical thought, the work of which was to attract international acclaim. One doesn't have to go far to discover that here was an extraordinary mind and personality. Having successfully completed a doctoral dissertation on Descartes, Twardowski went on to pursue studies in classical philology, mathematics and physics in the rich intellectual environment that eventually gave birth to the renowned Vienna Circle. He was subsequently appointed Professor of Philosophy at the University of Lvov, a position he retained with great distinction for 35 years. Now, back to the occasion of his honorary doctorate in recognition of his outstanding achievements. His address was entitled 'The Majesty of the University', and in this he articulates some of the most elegant and profound thoughts on the

role and purposes of a university that I have ever read. And I felt moved to share these with you. He said, and I quote:

Whenever I utter the word "University" I do so – I admit – with a kind of solemnity. It is true that it was many years ago that I came into contact with that institution for the first time. For almost half a century I became familiar with it, at first as a student and later as a teacher. In spite of that I to this day feel the great majesty of the University as when, with pride filling my heart, I became a member of the academic community. That majesty is due not only to the advanced age and the glorious traditions of the institutions bearing that name. It originates from the very idea of University which, with the lapse of time, has been established and which determines the role it has to play in the collective life of contemporary mankind and its various national parts. In accordance with that idea the task of the University is to discover scientific truths and probabilities, and to spread the skill of arriving at them. Hence ... it is the duty of the University to discover ever new scientific truths and probabilities and to improve and spread the ways whereby they can be discovered. These efforts build the edifice of scientific knowledge, objective knowledge which claims recognition solely on the strength of being substantiated by laws of logic and which imposes itself upon the human mind only, but irresistibly, by the force of argument.

[The University] carries to mankind the light of pure knowledge, it enriches and deepens science, it wins ever new truths and probabilities – in a word, it creates the highest intellectual values available to man.¹⁰

There are two points in particular that I want to highlight here before proceeding further. One is his point about discovering scientific truths; the other, his point about improving and spreading the ways whereby these may be discovered. It seems to me that here Twardowski has encapsulated the real essence of a university: discovery and knowledge advancement through research and critical inquiry, and inculcating in others – our students – the passion and ability to continue and to advance this work. Later, with reference to the experience and work of the brothers Worner, and others, I will illustrate just how this occurs. Just for now, however, let me continue with Twardowski's thoughts. He goes on to propose that

Underestimation [of the role of the University] occasionally results in the tendency to deny the University its quite exceptional status in society, and see in it an ordinary school, an institution intended to teach young people which is on the same footing as various general education and vocational schools. And yet the University, called to scientific truth and objective knowledge and to improve methods of research, should above

*all teach people scientific thinking – scientific thinking – as it is exactly that mode of thinking which leads us to that knowledge and truth.*¹¹

Twardowski makes more of this key point a little later in this address when he asserts ‘students ... are supposed [also] to acquire the ability of thinking – thinking – as a research worker should do.’¹² And here’s his punchline:

*The education of young people by the University consists in arousing and increasing in them comprehension of the immense significance which objective truth and the striving for it has for mankind.*¹³

No mention here of teaching. Rather, education, and all that that implies, with a particular emphasis on the inculcation of a different way, an enlightened way, of thinking and behaving.

Twardowski’s thoughts are similarly reflected in observations made by two other Polish philosophers, albeit not contemporaries of Twardowski: Leszek Kolakowski and Leon Gumanski. Kolakowski first:

*The University is most obviously both an organ of current social life and an organ for the universal drive for the cognition of the world. ...the university totally reduced to a set of vocational schools would cease to be a university...*¹⁴

And now Gumanski: ‘...the main role of the University [is] educating creative individuals by teaching them to think independently...’¹⁵

These are not mere expressions of opinion by the common man in the street as it were. They are thoughtful, logical and exceptionally well argued and articulated dogma propounded by pre-eminent minds whose thoughts, in turn, have been inspired by the reflections and philosophical arguments of the like of Socrates, Aristotle, Plato, Cicero and Abelard. So what, collectively, do they all appear to be saying to us about the role and purposes of a university - any university? If we are inclined to accept their propositions, how do they inform our understanding of what a university exists to do? Well I think the central points are these:

First, that a university is not solely a teaching institution. Rather it is place in which a broader and deeper educational experience takes place – among faculty as well as among students – through thoughtful and thought-provoking discourse and debate. Second, although it is a place where knowledge is shared, a university is also, and arguably more importantly, an institution committed to knowledge advancement through critical inquiry and research; knowledge that can be shown to be grounded in objective and substantiable truth. Third, it is an institution whose primary purpose is cultivation of the intellect, independent thought, and the power to reason. By

these means knowledge is verified and advanced, the individual is educated to become a creative yet deliberative contributor to society, and society is thereby benefited. In the words of Newman: ‘...the true and adequate end of intellectual training and of a university is ... thought or reason exercised upon knowledge.’¹⁶ In other words, knowledge alone – its transference and acquisition – is an insufficient end in itself. A university also has a responsibility to continually question and advance knowledge, and to develop the ability of its students to do likewise.

If one were to try and distil all of this into a single word, for me it would be discovery. By this I mean that, for me, the essence of a university is encapsulated in that word discovery. Discovery of knowledge and truth; discovery of self; discovery of the capacity and enabling capability to discover – among faculty as well as students. This neither denies nor devalues the rightful place of technical and vocational training. Rather, it serves to delineate and distinguish the true role and purposes of the institution to which we have given the name university. Let me substantiate this proposition with reference to the life experience and considerable accomplishments of the Worner brothers. And in doing so I will also provide answers to the questions that I put earlier this evening about what enabled these accomplishments. That is, what was it, or what combination of factors was it, that equipped and enabled each of them to succeed so eminently in their respective fields of endeavor?

When I first put this to Neil Worner he laughed and said that he himself had long pondered the very same question. He added that possibly his preparedness to find new ways of doing things was born of his life on the land where one is forced regularly by circumstances to find solutions to problems. But as I probed further he acknowledged the very personal attention, mentoring and encouragement that he had been fortunate to receive as a student – initially at the local primary school, and then later at the School of Mines and at university. More particularly he recognised that the real value in this cumulative experience was the inculcation in him of a preparedness to think outside the square, to find new ways of dealing with ever new problems and challenges – the sense of discovery. Not only a willingness and preparedness to engage in discovery but, also, and more importantly, the intellectual capacity and capability to do so with effect.

I found similar clues in what I read about Hill’s life and achievements, particularly in how he was described and characterised by others. Various different people, commenting on his excellence in research and his firm commitment to finding new approaches, acknowledged his scientific curiosity and his inspirational way of challenging and stretching others – his students in particular – and encouraging them also to find new and different ways of advancing knowledge: self-discovery as well as fruitful engagement in the process of discovering some thing. Clearly discovery was undertaken as a necessary part of Hill’s own vocation, but it was also something he similarly inspired and imbued in his students.

And again, when I explored what others have said about Howard and his many accomplishments I was struck by the way in which he was characterised by those around him, who knew him and who had worked with him. For example: as a man of rare, questing intelligence and boundless curiosity; someone who continues to seek another way and break new ground. And when I asked Howard himself to explain what he thought provided the grounds for this, he acknowledged that it was the thirst for knowledge that had been implanted in him by a select number of teachers and educators throughout his life, their inspiration and encouragement to inquire and to discover – not only knowledge and new ways of doing things but, also, and arguably more significantly, discovery of his own innate intellectual capacity and capability. And it is these same purposes and values that have motivated Howard as a scientist and educator, and that have inspired and empowered those students who have had the good fortune to benefit from his tutelage and mentoring.

So how does this all come together? Are the answers to my two questions – the one about the root derivation of the Worner accomplishments, and the other about the distinguishing nature and purposes of a university – related? I believe they are, and I will now attempt to show in what respects they are, and how they are germane to my purposes this evening – that is, wherein lies the core value of a university.

Wherein Lies the Value of a University

Let me first return to Newman. He argued that the value of a university resided fundamentally in the contributions derived from principally two endeavors: education and knowledge advancement. As we have seen, by education he did not mean simply the teaching of a prescribed curriculum. For him, education implied substantially more than teaching or instruction alone – it implied the cultivation of mind and the formation of character.¹⁷ Cultivation of the mind thus meant education of the intellect, empowering one to reason and to reach out for the truth. And indeed this is the very gift that was bestowed on, or rather instilled in, the Worner brothers: the education, the drawing out and development of their respective intellectual capacity and capability that thereby empowered and enabled them to accomplish what they did, to find new ways, to advance knowledge. Correspondingly, the knowledge that they each acquired in and through their education was but one part, not the end, of that experience. Each was also empowered to challenge and advance that knowledge – through critical inquiry, through research, through the application of their personal, cultivated and highly distinctive intellect. As Newman put it:

*Communication [of knowledge] is not the whole of the process. Enlargement [or enlightenment, of the intellect] consists, not merely in the passive reception into the mind of ideas hitherto unknown to it, but in the mind's energetic and simultaneous action upon and towards and among those new ideas.*¹⁸

John Brubacher and Robert Hutchins, to whom I have also referred earlier this evening, held similar views in asserting that knowledge alone, and its usefulness, was but a by-product of education, and that the essential value of education resided in the cultivation of one's intellect, the enlargement of mind. Indeed for Hutchins true education implied a process through which the student was grown and improved by enabling them to learn how to think for themselves. A related viewpoint was also recently expressed here in our own country by Professor Glyn Davis who has just taken up the distinguished position of Vice Chancellor of no less than the University of Melbourne. In an article published earlier this year in *Campus Review* he was quoted as saying that true professionals within a university '...have a view of what they do that's bigger than the job of the day. It's about teaching, yes. But it's also about contributing to society, and building professionalism and adding to the **intellectual capital** of the country.'¹⁹

In other words, the value provided by a university resides not simply in the transfer of knowledge but, rather, in the contribution made to knowledge, and in the development, the education or inward endowment of one's power to question, challenge and help advance this knowledge. In this way, as Newman would have it, one is made fit for the world – to make a valuable and valued contribution to the world. And where could we find a better testament to this than in the lives and accomplishments of the Worner brothers?

So if we accept that the core purpose and value of a university resides in education – in the sense employed by Newman – and in advancing knowledge, how does knowledge advancement occur – by what means? Certainly through the application of intellectual power, but engaged in what pursuits? Yes, you are right: the pursuit of knowledge, and truth – through critical inquiry and research – through discovery. And it is this very pursuit and its outcomes that also form the value provided by a university to the communities it serves. This I believe is also reflected in the fact that this country's most prominent, substantial and prestigious support for university research, funded under the aegis of the Australian Research Council (ARC), is called the Discovery Grant scheme. And, significantly, the ARC's recently retired Director, Professor Vicki Sara, had these things to say about the future of university research just earlier this year:

*...the future of research in universities lies ... [in] discovery research – the sort of research that pushes back the frontiers of knowledge. Universities play a pivotal role in generating new knowledge, and in disseminating that knowledge. So the future of research in universities is essentially the future of discovery research.*²⁰

Let me now illustrate this proposition – that is, the value contributed by universities in the form of education and knowledge advancement - with reference to particular

people and activities within this university and campus. In them and their work we will see clearly a value provided by this university that is boundless, that resides not simply in teaching and the transfer of knowledge but, more significantly, in education of the intellect and knowledge advancement through critical inquiry and research, through scholarship. I acknowledge that my chosen examples are highly selective, but this is partly because time tonight does not suffice for me to undertake a comprehensive survey. This notwithstanding, I think you will concur that the examples that I will now share with you serve very well to illustrate the veracity of what I have been arguing for this evening.

First, the work of Professor Bob Seviour and his colleagues which is concentrated in the fields of microbiology and environmental biotechnology. More particularly, they and their work have pushed the boundaries of knowledge internationally by explaining ways in which bacteria cause water storage and processing plants throughout the world to malfunction. By resolving the systematics of bacteria and their effects on water, Bob and his colleagues have made a significant and invaluable contribution to knowledge and practice worldwide. Their work and findings are now used for research and consultancy work around the world, and have deservedly earned them international standing and repute. And the key to the findings and contribution of this very significant work lies not just in the intellectual endeavours of a few, but in how they have developed a corresponding capacity in others who have been motivated and inspired to engage in, and contribute to, this work. This is a point to which I shall return shortly.

Second, related research undertaken on this campus by Dr Michael Angove and his colleagues. I have chosen two exemplars in particular, both of which serve to illustrate how they too are advancing knowledge and, thereby, contributing to improving our social welfare not only here close to home as it were, but everywhere. First, their research into the impact of bushfires on soil conditions in the Victorian high country, and the composition of run-off water during rainfall events, will make a significant contribution to understanding the ability of natural habitats to recover from natural events that have a catastrophic impact on environmental ecology. Second, their research into nutrient sources in aquaculture stands to benefit aquaculture activities and practices worldwide. In both respects they are discovering ways by which everyone everywhere may interact with our natural environment in a more enlightened and ecologically sound way.

My third example lies collectively in a range of collaborative work being undertaken in the health sciences here, particularly that under the mentorship of Professors Ruth Endacott and Kenn Raymond. A brief sample of this work includes highly significant research into symptoms of heart attack, appropriate medication use, side effects of new drugs that are progressively required to combat antibiotic

resistance, and means by which those who look after cancer patients and people with mental health problems might be better equipped to fulfil their responsibilities; work that collectively and most importantly is advancing knowledge in ways that will have widespread benefits. In addition, it bears recognising work that has been undertaken by Dr Erica James and her colleagues in Public Health, much of which has been done in collaboration with the Bendigo Health Care Group, that collectively has the aim of informing beneficially public health practice and the interests and needs of practitioners and patients alike.

Finally, I'd like to refer to work being done by two separate groups of scholars, each in different parts of the university, but both with the related aim of enabling and enhancing the lives of young people – not just in our immediate community, but worldwide. First, the work of Dr Pam Snow and her colleagues which is focussed on previously unidentified language impairments in juvenile offenders with the ultimate aim of helping to improve the oral competence of high risk adolescents. Second, the work being undertaken by our Pro-Vice Chancellor, Professor Peter Sullivan in collaboration with a wide number of colleagues, which is focussed on identifying and developing strategies that teachers anywhere can use to overcome particular disadvantages that students experience in learning mathematics. In both cases this is empowering research, the outcomes of which will contribute not only to knowledge advancement but, also, to the development and wellbeing of young people anywhere in the world. Research outcomes that will empower teachers as well as students and, thereby, that will have the effect of improving the self-efficacy, confidence and abilities of both.

These select examples that I have very briefly described, and to which as a consequence I have not done full service here, serve nonetheless to illustrate how here in our midst knowledge is being advanced – through discovery, and as a result of a passion and ability instilled in each of these scholars to engage in this endeavor. Thus these examples also indicate that significant discoveries are being made because a number of scholars – who are not teachers alone – are applying their respective intellectual capacity and capability with the shared aim of pushing the boundaries, making a valued contribution to improving social and environmental welfare, and instilling in others around them a similar passion and commitment to join with them in these admirable pursuits. Thus the value they contribute, through the institution of the university, to their students and to society, resides in far more than the discipline-specific content of what they teach.

Now let me turn to students with whom these scholars have worked or are working, for in their experience we will see the intellectual cultivation and development that, as with the Worner brothers, has enabled them too to engage in discovery and to contribute correspondingly to knowledge advancement. I've selected three

examples, whose respective experience illustrates this very well. First, Emma Carr, now Dr Emma Carr, who has worked alongside Professor Bob Seviour for some years now studying the effects of bacteria on hospital hygiene and waste water treatment. Through her work and critical inquiry, through the application of her developed intellectual capacity, she has identified and described seven new species of bacteria. Not surprisingly, her findings have attracted the interest of leading scientists around the world but, more importantly, these findings have an applied value not only here in our region and state but, also, nationally and internationally. Of course this is recognised by Emma herself who, when I talked with her about her work earlier this year, had these things to say:

I began to realise that the work I was involved in was beneficial not only locally but globally ... that I had developed an ability to view the world as something much bigger than just Bendigo ... that I had developed an ability to problem-solve.

Lyn Talbot - who is presently on the verge of completing her Doctorate in Public Health - admitted to me that when she first 'signed up', as she put it, for tertiary education, she saw it as a means to an end, to appease the demands of her workplace supervisors and to enable her professional career advancement. In other words, vocationally-specific professional training. Now, however, she openly acknowledges that she has experienced a transition: from that of being a student whose original aim was to acquire a necessary professional qualification, to someone in whom a thirst for knowledge has been created, as well as an ability, herself, to contribute to this endless process of knowledge advancement.

One of the most enriching conversations on this topic that I've had with various different people over the past few months has been that with one Jan Pascal. Let me tell you a little bit about her. Not unlike many of her peers, Jan originally decided to undertake a university education here at La Trobe Bendigo for entirely vocational and pragmatic reasons: it would lead to a qualification necessary for employment in social work, it would help with career advancement, it was accessible and close to home. In her own words: 'I saw that I needed a better education to get a job'. When, however, she was asked to reflect on her own personal journey, she had these very illuminating and most eloquent things to say:

Because I have always been a person to ask "why", I found myself becoming absorbed into theoretical understandings and deeper complexities. I used the lectures as a springboard for further reading, and, thinking. For me this [became] a transformation ... the degree became more than pragmatics, it became a pleasure unto itself ... a love of learning for its own sake. This was the beginning of a sense of freedom.

The staff did more than transfer knowledge ... [they] gave me a sense of hope and belief in myself as well as mastery with content.

I am here [as a PhD student] now because of my ... enthusiasm for contributing to knowledge. I hope I can encourage and foster a love of knowledge, mastery and critical thinking with [other] students.

When considered together, these experiences and reflections serve to demonstrate very well, in my view, wherein lies the essential value provided by a university: in and through its ability to transform people from students to independent critical thinkers, from knowledge acquirers and purveyors to knowledge contributors. As a consequence, those same people acquire far more than simply knowledge that serves a practical end; they develop the intellectual capacity and capability to contribute beneficially and substantially – in some cases, such as the Worner brothers, significantly – to this temporal existence and our understanding and management of the place and welfare of that of which it is constituted.

And indeed this has been my own personal experience. As a marketer by profession – if you will allow me to call it that – I have long held the view that professional knowledge gained is a means to effective professional practice, and I have consistently articulated that view to students with whom I have worked over the years. Correspondingly, the focus of much, if not most, of my research – which over the past 5 years or so has concentrated on understanding more of the reasons why people use or choose not to use services that are technologically facilitated, and what they like or dislike about these services – has had a similar practical orientation. Yet when I reflect on my PhD work and experience at the University of Melbourne, in the early '90s, I see that what was given to me was far far more than knowledge alone: it was intellectual stimulus, nourishment and growth. At some point during my candidature, I can't remember exactly when, I experienced this somewhat epiphanous realisation of how much I was being changed. The process of critical inquiry and thoughtful reflection, and the engagement with scholars in philosophical discourse and debate, had begun to transform the way I thought, to give me a power to think, reason and argue in a way, regardless of professional discipline, that I had not before had. And it's a transformation for which I remain infinitely grateful – not simply because of the particular competencies developed, or because it enabled me to pursue an academic career, but because it has equipped me to explore, find and prove substantiable and undeniable truths, to satisfy myself and others of the veracity of things through logic, reasoning and sound argument, to think independently. This is a great and marvellous gift that was inculcated and developed in me by those scholars with whom I have had the great fortune to work, some of whom became personal mentors, and it is a gift that makes manifest the real value of a university education and experience. A second realisation was how

very much less I knew than I thought I did, and that I had but begun a journey of critical inquiry and discovery that would absorb me for the rest of my life. It is a journey that I continue to make, with great enthusiasm, gratitude and joy, and because it is a journey that, unlike my life, has no end, I continue to encourage others to join me, and to enjoy helping and supporting them to do so.

Concluding Comments

So what's been my purpose in all of this tonight? Why have I asked you to indulge me in joining me on this journey of discovery and self-discovery? Why have I prevailed upon you to consider, or perhaps re-consider, wherein lies the value of a university. Surely this is understood and in no need of questioning. I wonder however if, as this campus becomes progressively more aligned with La Trobe University, we might benefit from addressing and considering thoughtfully the question of what it really means to justify the name 'university'. I believe this is a question of significance that holds profound implications for how we, as an academic community, think and behave, particularly when considered in the context provided by a university of such justifiably earned international repute as La Trobe – how we engage with students, set their expectations, challenge and motivate them to aspire to substantially more than knowledge acquisition alone. I submit that this question also holds implications for how this community, of which this campus is a part, defines and regards the place and purposes of this institution. It is, and must continue to be, substantially more than an institution that provides vocational instruction and training if we are to be seriously regarded and respected as part of an already very highly regarded university, if we are to maintain the right to call this institution a university, and if we all are to derive the full benefits of what a university – any university – has to offer. In putting forward this proposition it has not my intention to deny, denigrate or diminish the place and value of vocational training. Rather, my purposes here have been to delineate and distinguish the distinctive nature, role and purposes of a university, populated by a community of scholars who are capable of offering substantially more than vocational training alone, and to explain wherein lies the unique and very special value of this. In closing, I'd like to leave you with some thoughts of Immanuel Kant upon which to reflect:

Parents usually educate their children merely in such a manner that, however bad the world may be, they may adapt themselves to its present conditions. But they ought to (provide them with) an education so much better than this, that a better condition of things may thereby be brought about by the future.²¹

I hope very much that my remarks tonight have, at least, prompted you to reconsider the question of what it means to be a university, and implications of this for a community in which a university resides. I hope too that these observations will have the consequence of stimulating ongoing discussion that will lead to, and result in, a clear, observable and convincing articulation and manifestation of what it means to be a university in practice.

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The Worner Research Lecture Series

The annual Worner Research Lecture forms a series of public lectures at La Trobe University, Bendigo. The aim of the series is to publicise research carried out at La Trobe University, Bendigo.

The University is proud to be associated with the Worner brothers, Howard, Neil and Hill, who were students at Bendigo School of Mines, a forerunner of La Trobe University, Bendigo. The three brothers were raised on a farm in the Mallee. In the early 1930s, they studied at Bendigo School of Mines: Howard and Hill for a Diploma of Industrial Chemistry and Neil for a Diploma of Civil Engineering. All three brothers later won prestigious scholarships to The University of Melbourne.

Howard Worner's distinguished career in academia and industry led him to his present honorary professorship at the University of Wollongong, where he has been Director of the Microwave Applications Institute since 1989. In 1994, La Trobe University conferred on him the degree of Doctor of Science (honoris causa).

Neil Worner pursued a career in civil engineering, including the position of Chief Civil Engineer with the Snowy Mountains Hydro-Electric Authority. His career continued in senior and advisory capacities in Australia and overseas on projects such as the design and construction of major dams.

Hill Worner's career included several years on the Executive of the CSIRO and 22 years as Professor of Metallurgy and three as Dean of Engineering at The University of Melbourne, where he is now Professor Emeritus in Engineering.

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- 1995 R. J. Seviour, *Micro-organisms: the Good, the Bad and the Ugly*
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- 1998 John Humphreys, *Rural Health and the Health
of Rural Communities*
- 1999 Vaughan Prain, *Learning in School through New Technologies*
- 2000 Bruce Johnson, *Soils: Our Interface with the Environment*
- 2001 Jill Francis, *I Would be Good, I Should be Good,
but gee, oh gee oh gee: The development of a psychological theory*
- 2002 Ruth Endacott, *Developing Clinical Wisdom:
a Challenge for Academia and Health*
- 2003 Roger Sworder, *Is the Poetry of Homer Philosophical?*