



**ENGINEERS
AUSTRALIA
Tasmania Division**

2009

Alan Burn Memorial Lecture

6.00p.m. Tuesday, 10 November 2009
Old Woolstore Theatrette
1 Macquarie Street, Hobart

6.00p.m. Wednesday, 11 November 2009
Quality Hotel Gateway
16 Fenton Street, Devonport



The Alan Burn Memorial Lecture was inaugurated in 1964 to honour a most distinguished Tasmanian. Born in 1889 in Hobart, Alan Burn graduated from the University of Tasmania, where in 1919 he became Professor of Engineering and Dean of the Faculty.

At various times from 1922 to 1956 he was a member of the University Council and from 1945 to 1949 he was Vice-Chancellor. In 1948, he was admitted to the Honorary Degree of LL.D. by the University of London.

He was a foundation member of the Institution, a Councillor from 1943 to 1959, and its President in 1950. He retired in 1956 and died in 1959.

**ADMISSIONS TO MEMBER AND SENIOR GRADES OF
THE INSTITUTION DURING THE PAST YEAR**

by

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THE ALAN BURN MEMORIAL LECTURE

by

BILL LAWSON

“ENGINEERS HAVE HEARTS AS WELL AS HEADS”

VOTE OF THANKS

PAST ALAN BURN LECTURERS

1965: Prof. Eric A. Rudd	1976: Sir John Holland	1987: Sir Eric Neal	1998: Paul Gilbertson
1966: Mr. H.T. Loxton	1977: Prof. J.M. Antill	1988: Mr. B. Kelman	1999: Dr Ian Tuohy
1967: Prof. Gordon Newstead	1978: Mr. J.K. Edwards	1989: Mr. D. Fry	2000: Prof. Don Nicklin
1968: Dr. D.M. Myers	1979: Sir Bernard Callinan	1990: Mr. B.T. Loton	2001: Dr Angus McEwan
1969: Dr. M.W. Woods	1980: Sir Victor Burley	1991: Mr. M.K. Ward	2002: Sue Murphy
1970: Sir Allan Knight	1981: Mr. R.N. Morse	1992: Dr. R.H. Brown	2003: Dr Stephen Gumley
1971: Mr. H.F. Sanderson	1982: Sir Arvi Parbo	1993: Dr. D.G. Williams	2004: Prof. Adrian Page
1972: Sir Phillip Baxter	1983: Prof. P.T. Fink	1994: Dr. M.A. Sargent	2005: David Hobbs
1973: Prof. E.B. Bull	1984: Prof. L.A. Endersbee	1995: Prof. W.J. McG Tegart	2006: Geoff Willis
1974: Prof. D.W. George	1985: Dr. P.O. Miller	1996: Prof. R.W. Roye Rutland	2007: Ms Gwynne Allan
1975: Dr. J.A. L. Matheson	1986: Mr. J.W. Butters	1997: Robyn Williams	2008: AVM David Dunlop

Alan Burn Lecture 2009

Bill's Lecture is titled 'Engineers have Hearts as well as Heads'.

In the lecture, Bill will reflect on the challenges facing the professional Engineer today in serving the community in both a technical and social sense. Bill will assert that Engineers have much more to offer in the social sense than has been traditionally been expected but that for that to happen attitudes and expectations need to change on both 'sides'. The lecture will create a nexus to the emerging importance of Corporate Citizenship in building and maintaining sustainable business in Australia today and into the future by reflecting on the aspirations and expectations of clients, staff and the wider community.

Bill will illustrate his lecture with examples drawn from his own career in both a technical and social sense; in particular his conception and establishment of the Beacon Foundation as well as his more recent and current work with SKM in setting and delivering the Company's direction in both Indigenous and Corporate Social Responsibility.



Bill Lawson, AM FIEAust CPEng

Bill Lawson is a Civil Engineer and a Principal of Sinclair Knight Merz with 38 years professional experience across a wide technical and social spectrum since graduating from the University of Tasmania in 1971. Within SKM, Bill currently holds key roles in developing the Company's Corporate Social Responsibility strategy and position, particularly in the Indigenous sector.

Since July this year, Bill has been given global responsibility for SKM's CSR activities. Bill is also the Chairman and founding Director of the now national 'not for profit', \$3M pa Beacon Foundation which works to find new and improved ways of overcoming Youth Unemployment and its many debilitating effects. Beacon is funded wholly by the private sector from which SKM is the longest serving supporter and sponsor. Bill is thus able to combine his Beacon work with his role within SKM's marketplaces. This unique position sees Bill active throughout Australia on a mix of Beacon and SKM tasks with current particular Indigenous interests in both the Kimberley and the Pilbara.

Bill has been widely recognised for his service to both Engineering and young Australians having been awarded a Centenary Medal in 2001, named as Engineers Australia's 'Professional Engineer of the Year' in 2003 and made a Member of the Order of Australia in 2006. In 2007, Bill was named as one of Australia's 'True Leaders' by the Financial Review's 'Boss' magazine.

Alan Burn Lecture 2009

'Engineers have Hearts as well as Heads'

Hobart, 10 November 2009 & Devonport, 11 November 2009

Introduction

I feel very privileged to be invited to deliver this lecture as it has always been something of an annual milestone throughout my career – not so much for my infrequent attendances but for knowing it being there as part of the Engineering Calendar each passing year. So here I am in my 62nd year reflecting on some aspects of my career in the context of both 'head and heart'.

I note that Alan Burn was born in Hobart in 1889 and died in Hobart in 1959 and was a member of the Burn & Son dynasty of Auctioneering and which established Burns Mart as a Hobart feature on Tuesdays for over 100 years. In fact, I recall regularly trolling through the Burns Mart offerings in Glenorchy in my earlier years.

In my reading on Alan Burn I noted several intersections with my own career and the subject of this lecture. Alan Burn was, amongst many other things, a Bridge Engineer with notable contributions to both timber bridge technology and Hobart's Floating Bridge; both of which experiences I have shared during my career. Significantly, Burn is noted to have taught his students that the Professional Engineer needs to be a community leader. He was also particularly noted for his view that education should encourage moral as well as mental development. I could not agree more.

In preparing this lecture I have therefore felt somewhat connected to Alan Burn and make my offering in the sincere hope that its content justifies its delivery and credits his memory.

As an introduction, I briefly summarise my Engineering career in (approximate) decades below. I do not do so in any sense of self gratification or false pride but in order to allow the reader to gain a sense of what shaped the way I think and act.

1967 to 1975 - Study for my Bachelor of Engineering at the University of Tasmania (67-70) followed by a period of consolidation in Structural Design and Geotechnical Engineering with the Public Works Department. I acknowledge here my primary mentors as various staff members of the University of Tasmania, Dick Slade and John Robertson. This was my decade of learning.

1975 to 1985 – Involvement in bridge construction and some road construction by Day Labour with the Department of Main Roads. I acknowledge here my primary mentors as Tod Jillett and lifetime mate, Tony Hurd. During this decade I was also busily engaged building many houses and a 34 foot steel ketch- which was the hardest thing I have ever done. This was my decade of valuing practicality.

1985 to 1996 – Building a business starting from me alone to become LPH Consulting, employing over 70 staff by 1995. I acknowledge here again Tony Hurd and all the wonderful, hard working people who helped achieve LPH's success. This was my decade of building business and learning about the Private Sector.

1996 to the present – Merging LPH with SKM and seeing up close how the big league works. I acknowledge here again Tony Hurd, Paul Douglas, Bruce Sinclair and many wonderful mentors and friends within SKM. This has been, and continues to be, my decade (plus) of bringing together both technical and social engineering.

Lying alongside all this over almost 4 decades has been my community involvement during which I have come to understand how Engineering can be both ‘technical’ and ‘social’. My ‘Community’ odyssey has been as follows;

1970 to 1988 – Involvement in Youth-work through the Uniting Church of Australia in both Hobart city and the welfare dependent suburbs of Bridgewater and Gagebrook. This took me into conflict with Church politics and ethics and introduced me to the legal system with young offenders; I was for many years an Honorary Probation Officer. During this formative period, I came to distinguish between ‘cause’ and ‘effect’ and gradually realised that I was often consumed in consequences of a dire nature which had been caused by someone else ‘upstream’. By then I was also learning what a wonderful profession we share in Engineering and how its focus on understanding ‘causes’ and then intervening ‘upstream’ worked for positive ‘downstream’ effects.

1988 to 1994 – In 1988 I took the conscious decision to withdraw from the front trenches of welfare work and leave it to the heroes and heroines who still populate them today. These then became years of thinking and planning what became the Beacon Foundation, a now national, \$3M pa ‘not for profit’ and wholly independent organisation focused on overcoming Youth Unemployment and its many debilitating effects. In this Lecture, amongst other things, I’ll try to show how my Engineering education and experience was instrumental in conceiving, establishing and growing Beacon across Australia.

In closing this opening to my Lecture, I want to also note and acknowledge my wife of 38 years, Lea, and my family who have supported and persisted with me during my adult life. I also note and acknowledge my wonderful Mum and Dad, Nancy and Don, who gave their all for my sister and myself.

The Engineer

The Engineer today is still not that well known – many still think we only drive trains and aerobridges. There are many good initiatives going on today focused on giving the community a better understanding of what we really do. I think that they will work to a degree but that we are still failing to reach the masses. I give a couple of pointed examples;

- 1) Why is there still no Engineering based soapie replete with the seducing ingredients of sex drugs, rock ‘n roll and even violence? In my own limited and sheltered experiences I have seen all this – so where are the script writers, underwriters and ratings experts? It is noteworthy that so many other professions have provided the setting for successful soapies; consider particularly the huge numbers of aspiring forensic scientists off the back of ‘Crime Scene’ based soapies and then contemplate the very small number of such career opportunities. Engineering is the very opposite of this scenario.

- 2) Remember the wonderful BBC production 'The Seven Wonders of the Industrial World'? Hoover Dam, Panama Canal, Brooklyn Bridge included and chock full of Engineers and Engineering – but not a mention of either in the title or credits? Why?

I have no doubt that we have much more to do outside our own Engineering based circles to get the masses to know what we do. When we do, we will attain a higher level of recognition and invited participation in our communities.

As part of SKM's support to Beacon's work across Australia, there is a continuum of secondary student and teacher visits to SKM offices and sites to 'find out what we do' Feedback from students and teachers is always full of surprise and aspiration towards a career in Engineering. Likewise, from another Beacon program which sees senior SKM staff mentoring Secondary School Principals, there is frequent feedback that even School Principals don't know what Engineers actually do. I find this amazing.

That's enough of the perception based, critical comment so let me now acknowledge some of the many positives about Engineers. We are a technically based group with strong skills in mathematical modelling and the sciences, both physical and bio-based. We are taught to seek to understand causes and then to design to intervene and/or control them. In my own case, I often reflect that gravity never sleeps but Structural Engineering seeks to defy gravity. Structural Engineers seek to first to understand the loads on structures, gravity always included but usually not alone, and then to design a structure to accommodate the loads in service of mankind. To do this we draw heavily on our education and mathematical modelling skills. These days I marvel at the computing power which allows us to do so much more modelling so quickly when compared to a hand calculated moment distribution or pipe network analysis – to air my limited knowledge a little bit!

All Engineering disciplines take this approach of investing first in understanding – Tod Jillett's oft quoted mantra of 'Time spent in reconnaissance is seldom wasted' often rings in my ears – and then apply our gained knowledge of science and mathematical modelling to design a way to achieve the desired effect. Note that this is always 'upstream' with positive 'downstream' effects or consequences. Often the general public have no idea of how or why it all works and take it for granted.

I note that perhaps this is because Engineering works in an environment where there is little or no tolerance or expectation of failure. When there is a failure, they are few and far between – West Gate Bridge, Comet Aircraft, for instance – there is shock and indignation in the community. I sometimes contrast this with the prevalence of failure in other professional sectors – medical, legal, financial for instance – and wonder if this is an underlying cause of community ignorance of what Engineers actually do? Not that I am advocating failures but I wonder.....!

All of this is 'head' stuff.

But, I assert that Engineers also have hearts – obviously!

In my experience, we are not seen to care much about the world around us but are thought to be so immersed in our tech-head stuff that we are oblivious to the wider community. Nonsense!

We all have families and friends who know us otherwise. True, our pre-occupation with maths and science in our early years often, but not always, mitigates against our involvement in the 'Arts' or the 'creative' spaces. My recollections of my Uni days are dominated by how hard we had to work to get a BE. I recall in 1st year having 46 contact hours per week when sharing the same building with Law students with only 14 contact hours – 'a lot of reading though', I recall being told!

I vividly recall Dr Malcolm Gregory distributing Shakespeare to us in 3rd year Structures and entreating us to learn about some of the finer things in life to be found in its pages. I was lucky to have had a mother who taught English Literature and a father who espoused the virtues of music to me. Both rubbed off on me, to my good fortune.

What I am saying is that we were so immersed in getting through University and then working out how to apply it as a Graduate, we had little time for other things – other than of course sport and in most cases, but not mine, beer drinking! Whenever I get to speak to under-graduates or graduates, I implore them to awaken to the 'other side' beyond technology alone and to recognise the need for communication skills and deep connection with the community we seek to serve. If we cannot convey our meaning in plain language, we are limiting or even totally negating the usefulness of our output. We need to entuse others to allow our 'invention' an opportunity to prove itself. This usually involves convincing others to part with money to pay for it, so we need to be able to communicate and entuse. If we are not connected with the community then this is hard to do.

I think this applies two ways – from us to the community and vice versa; viz

- Engineers need to expect to participate in the community and not merely hope to be invited.
- The Community needs to recognise their need for the Engineers' input and expect to have it.

In my experience, on a lot of occasions neither happens and Engineers end up isolated and excluded in the 'back room'. This means everyone loses. It is perhaps related to the previously mentioned poor level of understanding of what Engineers actually do?

I believe that Engineers have a very special attribute to bring to the community in their analytical approach to first finding and understanding causes and then devising ways to intervene to remove or control that cause. I call this 'Social Engineering'. Take vandalism, graffiti in particular, for example. For all property owners, particularly Councils, this is an evergreen issue in our communities. I know of one particular, very large Council where the Elected Members directed the Council CEO to 'fix it'. The CEO in question held a staff summit with all his departmental heads, except the City Engineer, in order to 'fix it'. They didn't, but guess what? The City Engineer did by a combination of anti-graffiti coatings on walls, 'show walls' and a voluntary graffiti busting team of local retirees. My point is that everything has a cause – in this case perhaps a mix of boredom and social exclusion? – and that understanding the cause shows a way to fix the problem. Neither the CEO nor the City Engineer expected any input from Engineers.

In my own case, my two decades of involvement in the front trenches of welfare work led me to understand that I was immersed in 'consequences' with mud and blood and bandaids everywhere and that for me, as an Engineer, I had more to offer if I could get free of continuous crises and my head into looking for 'causes'. 'Social Engineering' I called it. That realisation, followed by 5 years thinking, talking and reading led to the Beacon Foundation which today is a \$3M pa nationwide 'not

for profit' organisation funded entirely by the Private Sector. Beacon is now in all States and Territories with over 150 projects all focused on helping young Australian school leavers to choose against welfare dependence in favour of employment and/or further education and training. Beacon's focus is thus 'upstream' seeking to remove/control the causes of the negative downstream consequences I experienced between 1970 and 1988 in the front trenches of welfare support. Simple Engineering logic isn't it?

There are countless examples in any of our communities of need for such intervention based on the logic of 'cause and effect'. Engineers need to realise what they have to have to offer and follow their heart to where they can apply their head. If we do not do so and communities just keep cranking the handle we will get the same results. Engineers need to get involved in this way, both through their own and their communities' expectations.

Lastly in reflecting on 'The Engineer', I'd like to make mention of what I call the 'Engineering Team'. Engineers head up a team – drafters, technical officers, tradespeople and labourers - just like Doctors lead theirs – nurses physio's, pharmacists, hospitals and all their staff.

In fact, a trip to hospital clearly shows how interdependent the whole of the medical team is on each other to get the patient well. Alone, an Engineer can't do a lot but as a member of his/her team he/she can seemingly work miracles. During my career, I have known three Engineers who worked their way up through the ranks from a Trade to para-Professional to Professional. All have become exceptional Engineers with a tremendous grasp of what they are trying to achieve from start to finish. I have already noted that the hardest thing I have ever done was building a 34 foot long steel ketch in my backyard. This task showed me a lot of what I had hitherto taken for granted in terms of others' skills and knowledge. I am humbled by the skills of the trades and admire the patient detail of the drafter and know that I can do nothing without their skilled assistance.

The Changing Landscape during my Career – 70's, 80's, 90's, 00's

The circumstances in which we work have always influenced what we do and how we do it. For instance, it is a fact of history that in times of war survival is dominant whereas in times of extended peace the fine arts prosper. The circumstances which have been the backdrop to my working life have been very much associated with my work in all regards, as follows;

- The emergence of 'Green' – the Lake Pedder challenge, between 1967 and 1972, occurred during my student and early work life. It represented a clear challenge to our past thinking in Tasmania, and in particular the power and influence of the HEC. Whilst it is a matter of record that the Green thrust failed and the Lake was flooded, the dispute was 'full on' and galvanised and consolidated the Green movement in Tasmania. Notably, this was in synch with a growing green global movement. Lake Pedder was followed by a similar campaign against the Gordon below Franklin Scheme between 1973 and 1983. This time the Green view prevailed and the project was aborted. This all happened when my education and career was in the formative stages and it made all Engineers think about what it meant. For me it meant that we as Engineers now needed to take careful account of the environmental impact of our actions at the planning, concept, design and construction

stages. To me it required a point of acceptance and even repentance to be reached. Today, I acknowledge that we had it wrong if we didn't consider environmental impact – I know I had it wrong. In my view then this means that we owe the Green movement a vote of thanks for the wake-up call. I personally have no problem with the strength of the environmental safeguards and barriers which are well and truly in place and I now apply an immediate environmental impact parameter in my thinking about potential projects and opportunities. In fact, I admit to being a 'bit green' and willingly acknowledge the Green movement's role in my conversion. I think that today, we all must consider environmental impact either as a matter of choice or compulsion; I much prefer the exercise of choice.

- The emergence of 'Orange' - All that said, I now am having a sense of déjà vu in the current emergence of 'Community' or 'Orange' considerations and matching controls. I first became aware of this wind shift in the early 90's through the work of Dick Pratt who was, regardless of his commercial misdemeanours which, in his latter years, so over-shadowed his tremendous achievements, in my view Australia's greatest ever philanthropist. I recall his words in an early speech to the Business Council of Australia that *'in today's emerging consumer society, if price and quality are comparable then the consumer will buy on corporate reputation'*. Since then, I have seen many examples, positive and negative, of this happening in fact; Dick Smith Foods, Nike's SE Asia Sweatshops, Shell in Nigeria and very recently and locally 'Betta Milk versus Pura Milk'. I have absolutely no doubt that consumers will vote with their wallets as a reflection of community opinion. More recently, we have seen the emergence of employee power encapsulated neatly in the increasingly used phrase 'Employer of Choice'. Whilst the recent national skills shortage strengthened the arm of employees, I have no doubt of the willingness of staff to move towards or away from an employer due to their engagement or otherwise with the 'Community' at the local, regional, national or even international level. I have a real and growing sense that the emergence of the 'Orange' to match the 'Green' is now providing a changed set of considerations against which we as Engineers must make our decisions. I feel fortunate to have had my working career within these windows of challenge and change and have no doubt of the legitimacy, wholesomeness and sustainability of both the 'Green' and the 'Orange'.
- The Tools of 'Orange' – over the past couple of decades we have seen the emergence of 'Triple Bottom Line' (TBL), Corporate Citizenship, Corporate Social Responsibility (CSR), Sustainability and Social Inclusion into corporate vocabulary. Pick up any copy of the Financial Review and you will find them there as the Corporate sector picks its way through the minefield between making money and recognising the communities in which they earn it. I have no doubt that at the present time in the late 'noughties', any member of the Private Sector, big or small, which seeks to grow and prosper will have 'orange' considerations in its decision making processes. It is interesting to contemplate motivation for this though – doing good CSR/TBL is 'good for business' but it is also 'good to do'. Compare it to truth telling to 'keep out of trouble' or to 'do the right thing'. In my view, there is currently a mix of motivations behind the move towards good corporate citizenship by putting back into the community; better to be doing it than not doing it. Hopefully we will all move towards to right reasons in due course – better to be telling the truth than lying, whatever the reason!

- The 'Three Prongs' – it is no fluke that both Triple Bottom Line Reporting and Sustainability Practise both have the three prongs of making money, protecting the Environment and putting back into the Community.

All are interdependent and are now becoming an essential requirement for 'doing business' in Australia, perhaps even globally – I'm not so sure though about the so called 'Third World' and its developing economies. I find a three legged stool to be a useful metaphor in understanding this interaction. All three parameters – financial, environmental and social - need to work together or failure follows. Whilst there are sometimes overlaps, I find it very interesting how easily any project can be dissected into its financial, environmental and social components. Perhaps this is not so surprising when one considers the Engineer's traditional role in bridging between science/technology and the community.

Some Pertinent Lessons Learned

During my career, I have learned many lessons, both technical and social. Many are as a result of mistakes made which are too embarrassing and irrelevant to mention here but I want to describe a few as they are very relevant to bringing this Lecture to a worthwhile set of conclusions.

- Causes and Consequences – I don't really want to say much more about this one as I have espoused it sufficiently already. Suffice to summarise it by saying that 'Causes' lie upstream and are very compatible with the Engineer's propensity to investing in understanding them ahead of devising interventions and controls. This 'homework' is time consuming and requires self discipline as it is truly proactive. On the other hand, 'Consequences' are reactive, lie downstream and are caused by someone or something happening upstream. They often evoke emotional reactivity and frequently present as 'must do's'.
- The Power of Choice – We all make choices in life, little ones daily and big ones periodically. Some choices are made for us by circumstances or other people – often faceless – but the ones I want to discuss are those we can truly take for ourselves. Once we make a choice, we commit to it and its successful outcome. Even if we fail, we know we have tried - to whatever extent - and perhaps sometimes have to admit we didn't try hard enough and are therefore responsible for the failure. We do this in private and know the truth in our hearts. The main thing I want to stress though is that we have choice in so many aspects of our lives. This builds dignity and self respect and, in our work ethic based society, is often related to our vocation. 'What do you do?' is a common social greeting, for instance – not so much of 'what do you contribute?'.

Compare and contrast this with a situation when liberty is deprived, incarceration is an extreme but relevant example. Choice is nowhere to be found but is replaced by compulsion and association punitive measures for non-compliance. This easily and well understood at the incarceration/jail level but I have learned it lies at the heart of a far more subtle deprivation in Australia. I refer to welfare dependence as the jail and government programs as the jailers. 'If you want this support then you must do this or that will happen.....'. On the surface this is fair enough to the tax payer who funds it but, in my repeated experience, it strips dignity and self respect and leads to social exclusion. Through the mindless pursuit of this approach, Australia has developed a social malaise known as 'generational welfare dependence' whereby kids grow up with welfare based ambitions – 'when I grow up I want to be like you Dad'.

- The 'Victim' and the 'Culprit'- there is a curious propensity alive in Australia which sees a morphing of the victim and the culprit and vice versa; otherwise called the 'blame game'. I think it is unfair and despicable and tackle it aggressively 'head on' whenever I meet it. By spending time on identifying and understanding upstream causes, it should then be clear what or who has caused what; that is, the culprit and the victim should be seen for what they are. Curiously though there is a defensive art-form which sees the culprit making the victim accept the responsibility for their own misery. For example, we readily blame the kid who grew up in a welfare dependent family in a welfare dependent street and suburb for having welfare based ambition. That 'kid' is the real victim but how often do we hear grumbings about how he/she needs to help themselves and not rely on us, the taxpayer? What about the oft heard criticism of how Indigenous tenants of public housing so often 'trash the place'? This complaint usually comes from the remote taxpayer who doesn't bother to try to 'get it'. Make no error, both the 'kid' and the 'Indigenous tenant' are victims. We should look in the mirror to find the culprit who allows these circumstances to develop and persist.

- The Three Sectors – there are three sectors in Australia today representing the Public, Private and Community. I have been privileged to work in them all and have learned something of their respective roles, responsibilities, expectations and values. My rough Engineer's summary of them is as follows;
 - Public Sector – three levels of both elected members and serving bureaucracies which are responsible for keeping Australia great and safe through good governance, democratic processes, law and order, defence and taxes. Funded by taxation of various sorts at all three levels and typified by programs and processes in pursuit of equity and accountability. The fact is that Australia is a wonderful and free country – the 'lucky country' – and this is no fluke, so I conclude that the Public Sector works well and 'ain't broke'. We should applaud and protect it in my view.

 - The Private Sector – very free and responsive recognition of opportunity with an historical pursuit of making money but morphing today into a TBL focus which sees making profits alongside environmental and social responsibility as the fundamental driver. Self funded by profits – 'no profit today means not here tomorrow'. Typified by innovation, problem solving and initiative in relentless pursuit of competitive advantage.

 - The Community Sector – heart based volunteering of enormous proportion applied across a truly amazingly wide spectrum of need.

Populated by heroes and heroines on whom many rely in times of need. Funded by a mix of taxation revenues, donations and fund raising and a key element of keeping Australia great. Most Aussies are active in this sector to some degree.

Whilst I think the convergence and coordination of these three sectors is an ongoing work in progress, I particularly note the relatively recent arrival of the Private sector on the 'Community' Stage. I think this is a very exciting and promising development in that it brings the problem solving and innovative mindset into a place which has hitherto been the province of Public Sector Programs and Community Sector rescues. In my view, the application of the Private Sector's innovative outlook to intransigent social issues as welfare dependence carries

with it great hope for the future. However for this to happen requires a willingness by the Public and Community sectors to accept and trust the Private Sector and a willingness of the Private Sector to mature in its CSR outlook. I have no doubt that this set of circumstances lies behind the success of the Beacon Foundation and I am optimistic that it may hold a key to helping to close the gap between Indigenous and non-Indigenous Australians.

- 'Riding the Ripple' – I expect that most people will have experienced the sense of frustration and dejection when confronted by a seemingly enormous problem which does not seem to be resolving despite our best efforts. The exclamation – 'what's the point? - it's only a drop in the bucket' says it all.

This was a frequent emotion I felt when working in the 70's and 80's against the social problems of exclusion in Bridgewater/Gagebrook. It seemed that every time we achieved something positive we would then be immersed in bigger or more such challenges; it's understandable that if someone in trouble finds help then they will refer others in dire circumstances. I recall there seemed to be no end to it all and I arrived at the 'what's the point?' stage once too often in 1988. I reluctantly decided to quit the front trenches to search for causes. Beacon came out of 5 years thinking after that – already discussed. But another realisation came out of it – that the drops all made ripples and that left alone these would just dissipate and disappear. I realised that I had wasted the opportunity to 'ride the ripple' from my many drops because I had not thought of it nor had I saved any energy or resource for the ride.

So, not surprisingly, I set out to explore what this might mean and lead to. I realised that without a drop there would be no ripple and that therefore I needed to still work on drops but that I should also anticipate and plan for the ripple. This realisation is reflected in Beacon's way of doing things as a 'Demonstrator' but not a 'Service Provider' – but doing things remains paramount. 'Ripple Riding' has now permeated my thinking for 20 years and it works. It is now becoming part of SKM's CSR and Indigenous thrust. It means that we still need to make good drops for the benefit of the recipient but that we don't spend all our effort on the 'drop' but hold some back for the 'ride'.

An issue of current contemplation to me is how much effort/resource for the 'drop' and how much for the 'ride'? I now reckon on (80-90) % on the drop with Beacon efforts but believe that it may need to be 50:50 for Indigenous thrusts. As an analogy, consider planning and holding a party;

- For us white fellas, we might plan to spend (80-90) % effort on planning the venue, food, drinks, entertainment etc and (10-20) % on the invitations. We would ask for rsvp's so we could plan for the right numbers and then hold the event in confidence.
- I've learned over and over that this approach will not work for 'black fellas' who, for whatever reason, just don't turn up. My advice is to accept this as a fact and not spend too much time on why – yet anyway. Plan to spend half of the effort on making sure the right people turn up at the right place and the right time. Then the party might work. Otherwise, plan to eat and drink lots as you will have a lot left over.

Bringing this analogy back to earth means that we need to spend time identifying the right people, understanding their constraints and accommodating them as far as possible. In my experience this may mean getting people out of bed, dressing them and getting to their job or TAFE or whatever is the objective. A good working example of this is the Argyle Diamond Mine in the East Kimberley where they have now achieved 28% of their workforce from local Aboriginal communities compared with single digit percentages everywhere else, mostly low digits at that. Argyle have invested heavily in understanding the problem and allocating a lot of resources to making it work. Perhaps the rest of the Resources sector should look at the Argyle 'drop' and get ready to 'ride the ripple'?

Some Relevant Aspects of my Career

I'd like to reflect on a few specific career happenings which are pertinent to this discussion, as follows;

- My time in PWD and DMR between graduation in 1971 and 1985 when I left to start my own business was followed in 1986 and 1987 by a 2 year full-time contract with the Tasmanian Local Government Industry Training Committee. Through my contract I was involved in developing and delivering on the job training for Council day labour workforces. It taught me how important good and clear communication is in getting our message across. History is strewn with disasters and unintended consequences of poor communication. Engineers are well known to lack communication skills and we need to learn how to communicate their ideas and inventions as without being able to enthuse the right people to back us our good ideas can come to nothing. Whenever I get the chance I urge Engineering Graduates to follow their technical education with public speaking and look for opportunities for participation in group forums and discussions.
- My time with SKM has shown me what can be done with the backing of a big organisation. I have been privileged to be given considerable freedom to pursue my passions for Beacon, Indigenous issues and now Corporate Social Responsibility within my work with SKM and am truly grateful and gratified and what has been and is still being achieved.
- The Tasman Bridge Disaster gave me an extraordinary opportunity to solve unique problems as well as being able to involve some of my University Lecturers in a manner which was truly amazing – too long a story to tell here, but suffice to say that it was perhaps the only time I have had to solve a problem not already encountered and solved by someone else. To be involved in successfully solving it was a stimulating challenge and built a lot of self confidence in myself and belief that I could, in fact, 'do things'. A very liberating and empowering outcome for me.
- Beacon Foundation – I was instrumental in conceiving and then establishing the Beacon Foundation wholly and solely out of my frustration in dealing with consequences of Australia's welfare system typified by mud and blood and band-aids. In making this implied criticism of our welfare system, I need to also acknowledge that it works ok to a degree in that we do not have beggars on the streets. As a safety net it clearly works ok. My problem with it though is that it strips dignity and self respect with its compulsion and punitive measures; for me, it fails the 'choice' test.

In my thinking on what became Beacon, I was very well supported by two other people who I want to acknowledge here; Sociologist Peter Gunn and Accountant Geoffrey Garrott. Both these men helped me shape my thinking by a mix of discussion, reading and suggestion reflective of their vocation. So after five years of balanced thinking by an Accountant, Sociologist and an Engineer Beacon started to take shape in 1993, with the key points as follows;

- A neutral and independent 'not for profit' organisation with absolutely no political or religious ties or associations – so that we could always 'say it as we see it' without fear of severance of support or favour.
- A single focus in finding new and innovative ways to overcome Youth Unemployment along with all its many debilitating effects – a single focus would, and has, created a clear corridor for thinking and action without distraction.
- A focus on post compulsory education/school leaving when three real choices are available - Further Education/Training, Employment or Welfare Dependence. We decided that whilst the optimal point to intervene in the welfare dependent cycle is post natal, we would not be able to sustain support for the nearly two decades to achieve adulthood and hence prove our point one way or the other. School Leaving variously happens at year 10, 11 or 12 when kids face real choices spanning the next 1 - 3 years and we considered that we should be able to sustain support for this period.
- Only do new things related to removal or control of 'Causes' of Youth Unemployment – upstream, 'Social Engineering'. We believed then, and still now, that the re-badging and re-application of past government programs would not break the cycle and that anything 'not new' would not warrant our attention.
- Seek funding from the Private Sector only as it aligns well with independence and neutrality – if we were going to do 'new things', then full alignment with Government funding programs would be unlikely. We considered that efforts to fit within such program requirements would be likely to dilute our effort and diffuse our focus.
- Once a 'new thing' was identified, prove its worth on the ground one way or the other – actions, not words, would be required to both learn and build credibility and credentials. Importantly, we recognised that if we were going to get involved in doing things then we would have to be wary of becoming bogged down in process and accountability and sustainability. This led to the invention of the device we called the 'Demonstrator' as opposed to the 'Service Provider' at one extreme and the 'Researcher' at the other. We reasoned that being a 'Demonstrator' would allow us to *do* both but not *be* both. To do this we recognised that we would have to do whatever we do in a partnership with a local entity; Schools, Councils, etc. This in turn led to recognition that Youth Unemployment is a 'Local' issue – local kids, local communities, local schools, local jobs – and that 'Local' means very different things in urban and non-urban communities.
- Action on the ground would mean working with kids and 'using' them as real life lessons and learning – but respecting their individual rights and dignity. We agonised over the

morality of this and finally resolved on an initial position of undertaking to leave our demonstrator kids better than we found them. This proved to be acceptable and remains a keystone of Beacon's work even though its achievement has sometimes cost a lot of effort.

- If a 'new thing' worked (as a 'drop'), then its value lies in its replication (as in 'riding its ripple'). We therefore decided that this ability needed to be built into our projects and programs at their conception. This led us to the use of 'templates' in our work, but not 'manuals' as we did not want to tell people how to do it but rather the main elements of its delivery. We recognised that local conditions would influence its efficacy and applicability and that a prescriptive approach would not work everywhere. We therefore opted for main principles and a cultural approach as could be ensconced in a template based replication vehicle.
- The name 'Beacon Foundation' was chosen to try to reflect all these elements by 'showing a proven, alternative way' and by doing our work in a highly exposed manner to inspire replication.
- Finally, Beacon's Mission Statement was developed; viz

To influence the attitudes and culture of Australians so that each young person develops an independent will to achieve personal success through gainful activities for themselves and their community.

These then became the essential elements of the Beacon Foundation. We have been faithful to them now for 15 years and they have under-pinned the organisation's successful growth throughout Australia to the level of today's annual spend of about \$3M sourced wholly from the Private Sector.

I believe Beacon incorporates all my key life learnings in a 'Social Engineering' sense as outlined earlier in this Lecture; viz

- Identify and understand upstream causes and devise interventions for positive downstream effects
- Work on the 'drop' but plan for 'riding the ripple'
- 'Choice' is key to all Beacon initiatives
- Teams of local stakeholders are essential
- Private sector problem solving fused with the local community sector and involvement from all three levels of Government

At the current time I am in the process of carefully moving away from Beacon's operations in order to progressively and carefully remove its reliance on me personally and build its own sustainability. I am now only the Chairman, not the virtual MD, with a focus on strategy and governance. I try hard to not interfere in Beacon's operational machinations. I think the fact that I no longer know details of Beacon's activities is a good progress sign in this journey of 'letting it go'.

- The First Australians today – This is my current focal point on which I am now thinking hard and learning lots at this time in my life. I am extremely privileged to be allowed great latitude in this pursuit as a key part of my employment with SKM and I want to particularly acknowledge that credit here.

In my current view, the situation in which most Indigenous Australians are living today is a national disgrace and one which is a blight on Australia's greatness. It needs to be recognised, accepted, understood and fixed without further delay.

Whilst I wholeheartedly endorse the PM's 'Apology' and 'Closing the Gap' declarations, I don't think that the job can be done by government at any level. Nor do I have any doubt that the many, many good people of the Community Sector working to relieve the misery of our First Australians cannot solve it – they're too busy and sentimentally affected. I believe that the time is right for the Private Sector to take the lead here and I am keen to be a part of that landscape.

In keeping with all of my 'life lessons', I am currently working hard to try to identify and understand the upstream causes and I carefully share my current thinking here now, even though it is very much still 'work in progress'. In doing so I hasten to point out that I am not expert but one who has been in this space for nearly a decade and who brings a different 'Social Engineering' outlook which I have tried to describe earlier.

- Until the 1967 Referendum, Indigenous Australians were governed under the 'Flora and Fauna Act'. This is a shocking revelation when first encountered but it is true – until 40 years ago Indigenous Australians were seen to be nothing more than wild animals. I think that contemplating this fact goes a long way to understanding why things are as they are today.
- In the 1967 Referendum the PR thrust was almost solely, 'should we give the black fellas a vote or not?'. To their credit almost all Australians said 'Yes, of course'. What seems to have been missing, as far as I can so far determine, is a real 'thinking through' of the consequences of that decision. A critical consequence was that 'the vote' meant citizenship meant full rights as an Aussie meant welfare support. Just think of it, you an Aboriginal Australian living on the outskirts of White Australia and all of a sudden you are given access to a sustaining stream of cash. You ask 'what for' to be told 'that's for you because you're an Australian Citizen and, what's more, there's more where that comes from every second week'. I believe understanding this scenario leads to some perceptions regarding how we have since had 2-4 generations of entrenched generational welfare dependence. I also believe it underlies many consequential issues such as loss of dignity and self respect as well as substance and personal abuse of all kinds. Remember that this is reconnaissance for 'upstream causes'.
- Now let's try to understand the Mabo ruling and the advent of Traditional Owner based entitlement claims – basically at least. 'Terra Nullius' means 'empty land' and it was the basis for the British Crown taking possession of all land in Australia. To their then perception, Australia was empty with no fences or boundaries anywhere and the Aboriginal inhabitants were clearly nomadic roaming freely in search of food or climatic conditions. So, perhaps understandably, the British declared ownership and proceeded to cut the land up into parcels for settlers to tame and work. We all know the story of the sheep farming and how Australia

became dependent on wool – that needed land, and lots of it. There was plenty available though.

The First Australians became disenfranchised and dispossessed and their culture, which was and remains, so closely connected to ‘the land’ rapidly unravelled. In 1966 the Aboriginal stockmen and their families walked off the job at Wave Hill Station in the NT to press their claim for payment for their labour. It should be noted that until 1968, after the referendum, it was illegal to pay Aboriginals and so it was that Wave Hill became a watershed and remained unresolved until 1975 – a long story. Next up was Eddie Mabo who realised he could make a case to prove continuous occupation and use of his family’s land on Murray Island in Torres Strait. Mabo died before the 10 year legal challenge to ‘terra nullius’ was over but in 1992 the Australian High Court ruled that native title exists in Australia but that it was up to Indigenous Australians to prove who owned what land. Hence the growth in native title claims and the emergence and importance of the ‘Traditional Owner’ (TO). I think a basic understanding of this piece of history is helpful to understanding many things now going on in Australia between Indigenous and non-Indigenous Australians.

- I’d like to now ponder the personal characteristics of Indigenous Australians as I have come to know many of them across Australia. In my repeated experience, Aboriginal people are a welcoming, sharing, caring and gentle people. Just read a bit of early Australian history – Robert Hughes’ ‘Fatal Shores’ is a very good start – and you see repeated evidence of sharing and caring towards the British ‘invaders’, not aggression. Then imagine them as putty in the hands of the British who came with the belief that the land was theirs for the taking. Understanding this goes a long way to understanding how the whole disaster happened to Indigenous Australians and their culture. It also goes a long way to understanding the roots of racism which is, I assure you, well and truly alive in many parts of Australia – but to which Tasmania is somewhat insulated, I think.
- Given all this history, is it any wonder that education was absent and has continued to this day as one of the biggest, perhaps the biggest, deprivations of Aboriginal Australians. I note here how Beacon’s work and approach, based on school retention and positive life choices away from welfare is the key to young peoples’ futures as well as to breaking the cycle of generational welfare dependence. Perhaps not surprisingly, Indigenous Youth Unemployment is a current specific and strategic focus for the Beacon Board. I want to digress briefly in order to debunk any racist based thinking about the inability of Indigenous Australians to learn and perform at high academic levels. A little bit of googling will show how well Aboriginal kids learned in the Mission Schools of early Australia; they clearly matched their white colleagues. It is a matter of fact, perhaps surprising though, that there are today about 130 Indigenous Doctors practising in Australia with about the same number studying medicine to become doctors. Interestingly, and embarrassingly, there are to my best knowledge less than 10 Indigenous Engineers currently practising in Australia today. There are many good initiatives now underway to redress this but they will take time;

UNSW and Newcastle University’s annual Engineering Summer School is one good example. I’m proud to say that SKM’s own Indigenous Cadetship Program now stands at 34 participants in both Engineering and other related disciplines.

- The final piece of the upstream causes I'd like to share is the ATSI demise. This failure was arguably the culmination of 40 years inability to deliver true citizenship to the First Australians. It failed miserably on three basic counts; Indigenous Education/Employment, Housing and Health. It was presided over by the Public Sector, principally but not solely, at the Federal/National level at both the Elected Member/Politician and Bureaucratic levels in successive governments of all colours. In my view, this failure should be exposed, noted and understood in pursuit of at least knowing 'what not to do'. For me, it simply means the government cannot fix this problem, at least in isolation. I recognise the many good people who have earnestly tried at both the elected and bureaucratic levels and believe it is not them but 'the system' which, in my perhaps overly simple view, turns on the ballot box, the electoral cycle and the understandable desire to get re-elected. That in turn means that bold and difficult steps cannot be taken. I recognise too the many wonderful Australians who give their lives over to helping Indigenous disadvantage in the front trenches of the Community Sector. So who can fix it? I believe there is only one answer and that is the Private Sector. This brings me to the present time both for me personally and for my country.

However, before leaving these comments about the First Australians I want to put in a free commercial for the screening of the wonderful, but unsettling film 'Samson and Delilah' on ABC 1 at 8.30pm on 24th November. I commend to everyone to watch patiently and take in what it conveys as it goes a long way to increasing awareness of the terrible situation of many Indigenous Australians in 2009.

My role in SKM today

I am very fortunate to have been able to extend my career over the last 13 years within SKM from technology to business development and community involvement. Initially in 1996 this entailed support for my work with Beacon in Tasmania followed by 3 years movement to the national stage. It then moved to include the Indigenous space in the early 2000's as a sub-set of Local Government and then in 2004 to a more strategic Indigenous focus. In 2007 my role moved towards the CSR space and on 1st July this year into a global CSR leadership role. These movements occurred against the already described changing community focused TBL/CC/CSR etc landscape for Corporates. I am fortunate indeed to be part of a large and powerful Corporate with such a strong commitment to putting back into the community. For me it is a time of tremendous excitement and opportunity as 'the last roll of my dice' – I'm now 61!

I'd now like to share some SKM CSR strategy and direction with you in order to draw this lecture to a close.

Firstly, an excerpt from SKM's recently adopted CSR Charter which reflects most, if not all, of my thoughts and learnings as outlined earlier in this lecture;

SKM's CSR Charter

SKM seeks to address the following key objectives:

- Seek to build the capacity of the organisations and individuals we support, to foster independence and sustainability.
- Foster employee attraction and retention.

- Enhance the SKM brand.
- Building and maintaining meaningful and lasting client relationships.
- Help position SKM as a leader in its sector in Australia and overseas.

To achieve these objectives, SKM will apply the following investment principles:

- Building on SKM strengths by focusing on knowledge-based investment.
- Creation of positive legacies through building capacity and sustainability within beneficiaries, not dependence on SKM.
- Alignment and compatibility with SKM's vision and ethical declarations.
- Preserving and encouraging both Group-level and regional initiatives.
- Staff engagement – not 'cheque book charity'.
- Sensitivity to cultural and creed-based limitations.

In summary,

- SKM seeks to build capacity, not dependence in our beneficiaries with a mix of pro-bono, 'in kind' and cash contributions after having first invested in seeking to understand issues of focus and concern and their upstream causes. We seek to do so with strong staff engagement, supporting our people in what they want to do in the community space.
- Shareholders were canvassed regarding where they want to direct their CSR efforts and stipulated three focal points – communities in need, environment and disaster relief.
- In 2008, SKM's Shareholders resolved to forgo \$1M of dividends to pay for the Company's CSR initiatives in 09/10. This has been split 40:60 between Group and Regional activities.
- Group level focus is currently on Beacon Foundation, Engineers without Borders, RedR (under current review) and Indigenous action. Global environment projects are currently under investigation. Strategic, technology based disaster relief strategies are currently under development.
- Regional focus is driven by regional issues and support within the context of the CSR Charter. There are now 53 individual CSR projects underway across the globe, many of which complement Group level beneficiaries at the regional level.

SKM's Reconciliation Action Plan

SKM's RAP was developed in 2009 and launched on World Indigenous Peoples Day on 8th August 2009. This document was developed in close collaboration with Reconciliation Australia and contains 32 firm, measurable and timed commitments to specific actions SKM will undertake to play a part in closing the gap between Indigenous and non-Indigenous Australians. It contains stories and illustrations of what we have done in this space in the past decade and what we are now doing as well as our promises for future action. The SKM RAP brings together our Indigenous contributions in a strategic framework which will impact across SKM's entire business in Australia.

I would be pleased to make copies of the SKM RAP available to anyone and to provide advice and support for anyone considering embarking on the RAP journey.

The Future Landscape?

I am very optimistic about the emergence and maturing of TBL, CSR and the consolidation now occurring which is seeing the Private Sector invited into community spaces and issues which have previously been to domain of the Public and Community Sectors. I believe bringing the Private sector's innovation and problem solving outlook into the established mix of compassion and care by the Community Sector and good governance and reliability by the Public Sector is seeing a greater balance and sorely needed 'circuit breaker' for intransigent challenges. I am delighted to be part of this metamorphosis.

I am equally enthusiastic about the potential for getting Engineers more involved in community issues as that will bring our analytical, problems solving outlook to bear on issues which have hitherto escaped our attention. However for this to happen there needs to be changes on both 'sides';

- Engineers need to listen to their heart and give expression to its sentiment and passion through their head based skill sets. We need to be willing to put ourselves forward, even demand to be involved in issues of concern within our local communities.
- The 'Community at large' needs to come to the point of recognising that the daily 'miracles' which permeate their lives and are easily taken for granted – telecommunications, transportation in all its forms, energy at the flick of a switch, tap water to drink, waste collection/treatment/disposal, to name a few - have been caused by upstream interventions, often by Engineers and their teams.

Then the community needs to realise that such miracle workers may also have something to offer in resolving the troubling and persistent community issues of the time and place.

In my view, Engineers hold the initiative on both counts and need to be proactive and perhaps unconventional to get these two things to happen. I have tried to suggest some of the things I think we need to do and have attempted to give the reasoning behind my suggestions. I note that this appears to align very closely with what Alan Burn was espousing more than half a century ago! My hope is that more Engineers will, in the future, allow their hearts to drive their heads a bit more. If they do, then I think that both Engineers and the wider community will reap very substantial and sustainable benefits. To achieve this though, the Engineering profession has work to do to better inform the whole community.

Bill Lawson, AM FIEAust CPEng

November 2009.