

Publicity for Electronics

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Ben Furby was born at Ashburton in 1926, and helped by a radio service-man brother-in-law made his first radio receiver - using a triode valve - in 1939. At 16 he joined the local daily newspaper as a reporter, moving to Wellington in 1945. He became a programme cadet at 2YA, but transferred to Head Office Engineering Section to work in the store and mechanical workshop as a technical trainee in 1946.

Ben went to 2ZB in 1947 and 2ZA Palmerston North in 1948, then was lent to the army to serve in the NZ Broadcasting Unit in Japan, at stations AKAA in Yamaguchi and WLKY in Chofu. Back at 2ZB, he worked his passage to the UK in 1952 as a ship's fireman. In London he joined the BBC Overseas Service, later moving to London Outside Broadcasting where he worked with several well-known dance bands, comedians and artists of the era. He then moved to Cambridge to work in Pye with television transmission equipment. In 1954 he returned to New Zealand, to 2YA. After service at 2ZA and Masterton he became deputy technician in charge at the receiving site at Quartz Hill. Although the first technician in broadcasting with experience in commercial TV transmission equipment he was not transferred to TV when it was belatedly introduced to NZ, and re-signed. After a period as a clerk, and as a senior communications technician with the NZ Forest Service, he joined an advertising agency as a copywriter in 1965.

Ben was six months into his second term as Chairman of the Wellington Branch of the NZEI at this point, and after years as a public servant in broadcasting where initiative was not greatly encouraged, he found copywriting with its requirement for original thought so mentally stimulating that, when he stepped down after a third term 18 months later, the Wellington Branch, which had begun after the war with 60 members and had reached 80 twenty years later, went to 120 under his chairmanship and the Hawkes Bay and Palmerston North membership had grown to the point that branches were being formed there. His concept for community broadcasting also occurred then.

As a part-time activity he designed the fire alarm systems for the General Motors factory at Trentham and the alarms for four freezing works and Linton military camp. When Government TV began in Wellington, the NZEI / Wellington Polytechnic TV transmissions under Doug Foster ended and Vic Stagpoole suggested the branch conduct an FM broadcasting project in its place. This inspired Ben, who had experienced FM broadcasting with the BBC, to form-with Vic-the Newlands Broadcasting Society to operate a community station transmitting on VHF FM. Vic had triggered the idea by reminding people of FM, and Ben was in part inspired to conceive the idea of a community station by this experience in Japan where some soldier recruits to the unit returned to NZ and successful futures in the medium: Gary Chapman, Bob Irvine and Dick Allard, for example.

In 1969 Ben became a Government press officer, serving two Ministers of Mines and the Mines Department. He edited "NZ Coal" magazine, was press officer to the Commission for the West Coast, the Public Trust Centenary, and had other Government assignments.

In 1977 Ben moved to Sydney where he edits a business magazine. Holder of an Australian Broadcasting Station Operator's Certificate of Proficiency, he was the only certificated technician volunteer at 2RPH (Radio for the Printed

Handicapped), where he operated a regular shift for three years, was on the Board of Directors and was the station's technical adviser.

Thank you, for the honour you do me by inviting me to speak to you today.

If this Slade Lecture does not follow the pattern you have come to expect over the years I trust it is still relevant to Ralph Slade's memory. I shall explain why at the end.

I have lived in Sydney for the past 12 years, most of that time working as a journalist in business press. These are the technical or semi-technical specialist magazines servicing various branches of industry, engineering or commerce.

Now I am aware of the good job your Trade Development Board does. New Zealanders who are not familiar with Australia usually do not realise the size of the country and the numbers of people. By world standards Australia is still a small country, but it is usually the first stop for a hopeful New Zealand exporter and without help it can be a daunting experience for the first time. Also the three tiers of Government take some getting used to. The Trade Development Board is of great help to prospective exporters.

Australia offers good opportunities for New Zealand manufacturers, now that we have CER. I just wonder why there is not a greater effort to export some of the electronics products. I read about these in "New Electronics". In the July issue - the latest to cross the Tasman by surface post - I saw descriptions of a portable outdoor weighing system, a breakthrough in forensic photography by the DSIR, and a live weight selling and buying system designed and made by Sastek NZ. That was just one issue, so the New Zealand electronics industry is obviously alive and flourishing, and full of invention.

However, I rarely seem to see these appearing in the "New Products" sections of the magazines. The publishing houses I have worked for, which are Thomson's, BPI and Peter Isaacson, are reputable ones that will not expect an advertising trade-off, although they generally prefer to put Australian products in ahead of over-seas ones. While overseas items show what technology is up to over-seas, the products do really need to be obtainable in Australia if they are to be publicised. New Zealand would be regarded as "overseas", but when you are working through an agent it appears as an Australian item. Perhaps you are all working through agents and licensees so I do not recognise the product items as New Zealand sourced. The new products sections of magazines are usually popular with engineers and technicians so they are worth using.

Such new product items need professional public relations service. I have one release from Christchurch that turned up in May, but we could not use it because it had no news value at all. Let me hasten to add, with an eye on Mr. Angus Tait, that the offending release was not about electronics.

I appreciate that you have a "user pays" system now. However, other countries help their manufacturers with such services, and the best of service comes from the United Kingdom. Their product releases are professionally written and set out, with a

professional photographic service to back it up. If I introduce the word "professional" in this, it is because I am afraid that a colour snap of some new product done by the factory store-man, because he fancies himself as a photographer, does your product more harm than good.

Please remember the phrase "exigencies of publishing". With the best will in the world many highly suitable product releases are not used because of a lack of space, suitable size, or other reasons. Perhaps you have had an unfortunate experience, but I am just making the point that even an immaculate release about an interesting product will never guarantee publication.

I used the words "set out" and "professional". Although the publishers I mentioned use computerised type-setting, in some cases we are still hand-subbing - that is, sub-editing - and double spacing and wide margins are still essential. In the wider world of press releases, AAP, which is the Australian equivalent of the NZPA offers a service where one release will access the computers of all newspapers, or the metropolitan ones, or particular areas, in whatever combination you like to specify and pay for. However, the business press section is not linked into AAP's Medianet.

The British back up their service. If you have any inquiry, just phone the consulate and they teletype or fax the UK overnight and you have a reply the next day.

Unfortunately for the British and, fortunately for their international competitors, they are privatising their international information service. We are now in await-and-see situation, to find out if we are going to get a better or worse service.

The Dutch, Swedes, Americans and Japanese are others who provide a product service to our Australian business press, and presumably they provide this service for other countries as well. Surprisingly, the French, with all their engineering and their present attempts to establish better relations and trade relations with Australia, are conspicuous by their absence in this field. Thomson CSF, of course, is doing something but not much, considering the size and enterprise of this company.

The Australians used to pay freelance writers to prepare articles for their trade journals about products whose makers wanted to export. Since this is no longer done by the Department of Industry, Technology and Commerce but by a quango, I do not know if such a service is still being provided.

Queensland, for example, prints a monthly newspaper about its new industries and products with export potential. Fisher & Paykel's decision to manufacture there was quite a cause for excitement in that paper. This is a company I admire greatly, and it has the resources and expertise to attract useful publicity for itself, and notably for its professional medical electronics. New Zealand can be proud of such a company.

As to whether such overseas publicity services can be effectively provided by the user pays system, or if publicising your products needs the Government's resources, I do not know. I accept that business press is not the greatest part of your export drive. All I can say is that when Sydney had a couple of journalists as New Zealand Vice Consuls for trade and publicity we used to have a good liaison with the Consulate. The last publicity officer for the New

Zealand Tourist Bureau was able to point a considerable amount of media space in column centimetres that would have cost far more than his salary and expenses as paid advertising space.

I am trying to hint that New Zealand has had to experience a great deal of reorganisation and trim a lot of fat. New Zealanders are losing more fat by working it off as they work harder, but I wonder if exporters are fully alive to some of the opportunities that exist for publicising inventions and developments and if these opportunities are not being fully exploited, are exporters completely committed to the need to make every post a winning post?

You might like to say that I am wrong, and I would be pleased to hear that. But I am speaking only of what I see of the attitude to publicity from the other side of the Tasman.

I notice Mr. Angus Tait's plea for more Government help last year. He is someone who has certainly done a lot to win export markets, and with some success. May I just remind you that when you have taxpayers' money do not forget that Parliament quite properly maintains the right to over-see its spending.

However, look at these things from the politician's point of view. How many votes are in it?

On the one hand, a \$5M bridge or school may save a marginal seat. Where does that \$5M come from? Who, apart from some factory operators are going to complain - ineffectually and not very loudly - if the Government whips away that money allocated for advertising some peculiar things like earthquake gauges or Philips' fault detector for lines?

However, might I suggest that the industry itself is partly to blame for any lack of service? Or take it further: everyone in the industry must assume some blame.

Most of you would know your local MP, or a Minister or two. When you see them around the electorate, at functions or just walking down the street, do you stop for a chat and praise the Government - if he or she is a Labour member - for the overseas publicity it is achieving for electronics exports? For the Government's far-sighted measures to introduce a technology and science policy? Do you stand up at meetings and praise your local Member for being part of an administration that so wisely looks after the interests of New Zealanders and works to preserve jobs and create more by their admirable export publicity scheme?

In public relations it is a maxim that if you call someone a bastard he will act like one. Praise them and they will usually do their best to live up to the praise. Politicians get quite enough abuse and criticism. I am sure that they would respond gratefully to some praise and thanks for their good works.

Of course, if your Member is in op-position, you really get stuck in about how the Government is failing New Zealand industry. Opposition MPs love meaty stuff to hit the Government on the head with. But this technique must be used judiciously if you do not want to get the backs of power up.

Now parliamentarians cop a lot of criticism and are the butts of plenty of cartoon wit and jokes. This is precisely why the take home pay in this work has a high leather allowance built in. The leather, of course, helping to compensate for lack of a thick skin. But when it comes down to it, most MPs work very long hours and are genuinely interested in chatting to constituents to find out what is bothering them.

Have you invited your local MP to your factory or laboratory to see what you are doing? Keeping him informed on your export programme? As in all professions, you have some duds but, in general, most MPs are keen to learn what goes on in their electorates and to respond to information. Do you brief your staff and union, to make sure they carry the message to the Government through their own channels? The Polytech where you draw your future staff? Universities?

Do you cultivate the local newspaper editor, or senior reporters of the newspapers and radio stations?

Best of all, if you advertise in the local paper or radio station, play hard to get when the space salesman comes around to renew the yearly contract, and hum and hah and delay because you suggest very obliquely - there isn't enough technology coverage in the papers? That one is really kicking them in the slats, where it hurts.

How active are you in backing Mr. Perce Harpham's call for your political parties to set up industrial policies? By the way, Mr. Harpham quoted Australia in his editorial in the June "New Electronics", but we do not have a science and technology policy either.

Just before I moved to Australia, the Tourist & Publicity Department, as part of its work to publicise New Zealand by bringing journalists over for visits, brought the best-known Australian electronics journalist, the late Edwin Westwick, over for a tour. When I went to Australia I worked with Edwin for some time and knew him for several years. That tour impressed him greatly with New Zealand and New Zealand electronics. It influenced him in New Zealand's favour when Australians wrote to complain of New Zealand inroads into their local markets. Edwin used to dismiss these complaints as unjustified because the Australians were not as efficient as the New Zealand industry. From this experience might I suggest that such tours, by technical journalists, are of good value for the industry. All the more as Kiwi inroads into Australia become greater. An important part of such tours is the ability of the journalist who conducts the visitor. I say "journalist" because a journalist escort would usually know better than some other professional what would be likely to interest the visitor.

I am going to be greatly provocative, and leave myself open as a business press editor, but I really wonder if bringing over more technical journalists might, in the long term, serve New Zealand's interests better than when you host general reporters from the popular media.

Australia does have one advantage over New Zealand, in a most unusual Minister of Science, the Hon Barry Jones. He is not only well educated, but

also highly intelligent. It is thanks to him that we have our Commission for the Future. If it has not accomplished a great deal so far, give it time.

For the present its great merit lies in its being an acknowledgement by the politicians who govern us that life extends beyond the next three years. Its existence also says a great deal about Her Majesty's Loyal Opposition in Canberra, because the Commission is on its hit list. If a Coalition gets our Treasury benches, the commission is slated to be one of the first things to go. I do not need to elaborate this further, because it is enough to let the facts speak for themselves.

Our scientists complained bitterly a few years ago about how little they got from the Government's carve-up of the tax take, whereupon Mr. Jones rounded on them and called them a bunch of wimps. Things have improved since then because they got the message that they had to come out of their laboratories, get into the work and do some publicising of them-selves.

I am aware that many people shy away from the media, but a good public relations consultancy can teach you a lot about what the media look for in a news or feature story, and that the way they write news is not necessarily the way you think it should be written. In passing, I note that the teaching profession in Australia spends some of its energy in criticising the media, but they do not appear to teach their classes how a newspaper story is written or how an advertisement is written, and therefore how they should be read. I cannot say if the New Zealand teaching profession has a similar problem.

The management writer, Peter Drucker, wrote that Sweden changed from a backward agricultural nation to one of the leaders in technological manufacturing, thanks to the technical awareness of its bankers. In these days when the banking profession is usually credited with the deforestation of the Amazon basin, I am happy to give credit to such a maligned profession for its farsightedness and dedication to its country's betterment, at least in Sweden.

So, have you invited your bank manager down to see what you are up to every few months? Organised a visit for the tellers and other bank staff? In a few years they will be the managers you will be doing business with.

Australia has a terrible record with its inventions. One of our Prime Ministers, Sir Robert Menzies, is credited with telling our equivalent of the DSIR - the CSIRO - to get out of computer study. That left IBM to pick up the pieces.

Australia designed quite a nice little aeroplane but no Australian would make it. The design was sold to New Zealand and New Zealand was able to make and sell aeroplanes to Australia, among other countries.

Our CSIRO invented interscan radar. Our airlines said that it was a good idea but not needed in Australia because the traffic density at Sydney and Melbourne did not warrant it: why not take it to America? It was just what they needed there. The Americans listened to the pitch, thought it was great and were keen to come down and see it working. The Australians then had to explain that it had not been installed in Australian airports. The Americans, not unpredictably, cooled off. If it wasn't good enough for the inventing country to use, well ...

Did you know that Australia invented a flight recorder some years ago? However, QANTAS said its planes did not crash so there was no need for such a thing. When the need for a flight recorder began to be apparent, the Americans and Europeans developed their own.

Another lost opportunity for Australia.

Our latest is the CSIRO's gene shear. Mr. Barry Jones said that most Australian firms approached to develop it thought that gene shear was something to do with cutting cloth. The French could not believe their luck when we had to look overseas for someone to make money out of it, and I hope some of you have shares in Groupe Limegrain.

Our one bright spot is that development of the Sorich engine continues in Australia, now supported by General Motors. Notice, however, that once again this is an overseas firm?

Mr. Jones suggests that Australian manufacturing has been largely concerned with making products under licence from an overseas developer. In this state of affairs, R & D consists of sitting back and waiting for the original developer to come out with the next model.

Before you laugh too hard at our misfortunes, isn't New Zealand the country that had a nice little thing going in yacht designing up in Auckland? And then Treasury applied the old rule: "If it moves, hit it!" So your top designer moved offshore and now designs in Ireland, I understand. If you haven't got our lack of entrepreneurial get-up-and-go, the Treasury makes up for it.

When I began school we were told that results of our academic achievements would not be recognised with prizes any more because that would discourage those not well endowed mentally. However, it did not appear to worry them about poor runners like me was usually among the last in races and sports, for all to see, of course.

Actually, that was not unreasonable in the 30s. Australia, Canada, South Africa, New Zealand and Argentina fed England and bought the manufactured products in return. All carried in British ships, of course. So New Zealand needed brawn before brains. The farmers ran the country, helped by the Country Quota, and subsidised farming with favourable freight rates for fertiliser and produce. All you needed were hordes of thumping big All Black forwards to toss the stooks and sheep carcasses around, and some nimble back liners to run after the sheep. Farming did not need much more mental effort than being able to buy a good Clydesdale at the weekly horse sales.

Well, I know that farming is much more sophisticated now and farmers are computerised. Also that New Zealand still has some good markets for its primary products, helped by good quality and good marketing.

One of the Electronics Institute members, Mr. Tiedemann of Hawkes Bay, beautifully made the point at the second or third NELCON in the 60s,

"New Zealand," Mr. Tiedemann said, "Is sheep. So I made my electronics sheep."

Again I refer to the July issue of "New Electronics" and the report about the New Zealand field days in May in Hungary. It seems that others have taken Mr. Tiedemann's

hint, or worked it out for themselves. Is one permitted to wonder if the popular media caught on to this one, or is this asking an unpopular question?

About the time of the first NELCON, the South Africans developed the tellurometer for measuring distances in surveying electronically. Suddenly, there was a world market for tellurometers. I mention that as an example of how there may be markets out there for products that people would want and use but do not realise are possible.

The Inquiry into FM in 1969 decided that there was no need for FM broadcasting. Of course, it was an excuse to do nothing. But I always thought that it is a shocking indictment of those who accepted such a negative attitude. I used to counter this argument by saying that there was no demand for America before 1492, nor was there any demand for a trans-Tasman air service before March 31, 1902, when Richard Pearse beat the Wright Brothers into powered flight. Australia's television, FM broadcasting and aircraft VHF bands are still in an expensive mess because political expediency took precedence over international technical conformity and orderly, state-of-the-art development.

Now let's really put the cat among the birds. I am going to commit heresy and dare to question religion in such a manner that, no doubt, will take the heat off Salman Rushdie and make me a marked man, needing police protection.

Really, this fuss over some games next year. If it is anything like the Commonwealth Games in Christchurch a few years ago, the taxpayers are going to be forced to support the Auckland games with handouts of their taxes, and, as usual, without being consulted. However, the idea of a few athletes running around a paddock against each other for the fun of it is well and truly dead. Many winning athletes have Swiss bank accounts, or get good money out of supporting products for advertisers. The Auckland Regional Authority along with other transport companies, the shopkeepers and accommodation industry are going to have a ball.

But what has happened to the "user pays" test? Surely, if so many industries are going to profit out of the games, using taxpayers' money, is this not a precedent for the Government's listening to Mr. Angus Tait's plea for help for the electronics industry for its exports?

I have seen your Frontline programme on athletes and steroids, thanks to the marvels of electronics. The Australian Broadcasting Corporation did a similar one on steroids being prescribed at the taxpayer-financed Institute of Sport. I suggest that sport has to be recognised as merely another branch of showbiz and if it gets Government subsidies along with booster drugs, so should electronics: subsidies, I mean, not drugs. I am not sure that drugs change $E = IR$. Well, if bags of steroids want to go overseas to contest with other bags of steroids, good luck to them. However, I do not see why taxpayers' hard-earned money should be wasted on such an extravagance when the same money put into export promotion would also give the country a return. Or does the New Zealand Government have one rule for businesses with export potential and another for the idols of the voters? Do the people who run these games ever present balance sheets showing the gains to the athletes, news media, shopkeepers and other industries?

At least the electronics profession has been able to get its own back on the athletes. Hewlett Packard did a great job at the Seoul Olympics exposing the drug cheats among the contestants.

In Australia, I should much rather see our Institute of Sport turned into an Institute of Export. Certainly Australia would gain more than a market for steroids if it were. As I wrote this, the Australian Government announced it was going to pour another \$100M from taxpayers into sports for gold medallists. I am just one of the contributors for this fantasy but no way was I asked if I agreed to my tax money going on to more steroids.

I do have a reason for talking about what I regard as a waste of resources and a preoccupation that is near unhealthy with sport. Remember, I am not saying sport is all wrong. Just that putting it before the basics of earning a living in a highly competitive world is a luxury I question our being able to afford, in Australia and New Zealand.

Historically, since Roman or Greek times it has been customary to take the people's minds off their woes with games. But in Australia and New Zealand today it is taking attention - and energy - about our need to make more goods that are marketable overseas. So, beware politicians when they come bearing gifts for the sports profession when taxpayer-financed. Yes, there are jobs in sport. Are there more in a well-developed tourist industry, and in a thriving electronics export industry? The Japanese play Rugby and rounders, but they do not appear to make these their main interests in life.

One reason why I am attacking sport is because of the amount of media effort it commands. It used to be said about New Zealand newspapers that the only specialists they employed were sports writers. Well, main city newspapers in Australia like the SMH the "Sydney Morning Herald" - now have registered medical practitioners, lawyers, economists and computer experts full time on their reporting staffs.

The "New Zealand Herald", I was told when I lived here, had a couple of BScs on the staff, and the "Christchurch Press" used to accept contributed articles on engineering and science. Obviously one cannot expect New Zealand newspapers to operate on the scale of SMH, which often runs to about 150 pages plus a magazine insert on Saturday mornings. However, New Zealand newspapers could develop specialist writers as "correspondents". To do this needs reason-able fees for such articles yet I have been told that the NZJU has tradition-ally blocked proper payments to such contributors. If I, as a member of the Australian Journalists' Association, am unjustly wronging my brothers and sisters of the NZJU, I sincerely apologise and will talk about shortsighted management instead. I believe it is in the interests of the NZJU to encourage material in the media that increases demand for the product, as any marketing expert would advise.

The usual reasoning is that a re-porter, writing about something he or she knows nothing about, is trained to ask the questions that the readers - also knowing nothing about the subject - would ask.

We used to have that attitude in New Zealand broadcasting; however, when I joined the BBC I found we had experts on various subjects on the staff. They were experts in their field and had an aptitude for explaining their mysteries in words ordinary people like me could understand

In the SMH on May 30 last year the staff science writer, Mr. Bob Beale, wrote: "Ask most journalists how they rank various news topics in importance and they will probably put science and technology near the bottom of their list. In general, media perceptions of the level of public interest in science seems to be like those of politicians - there are no votes in it. The few formal surveys done of the question show that many journalists and editors believe people are more interested in murders, football, strikes, floods and so on."

Mr. Beale went on to present evidence that contradicted this view, and he mentioned how the "New York Times" found that when it reorganised in the early 80s it found its Science Times one of its most popular features.

The SMH published the results of a poll, just before I came here, reporting that its readers wanted science news before sport.

In Australia, one of the most popular national radio programmes is the Science Show, presented so ably by Mr. Robin Williams and his team. Also on the Australian Broadcasting Corporation's sound programmes are Science Bookshop and Occam's Razor. If journalists think that science is not journalism, one of the Science Unit's team exposed Dr William McBride's falsification of the results of a re-search programme last year. However the journalist who exposed Dr McBride, Norman Swann, is himself a registered medical practitioner.

In this hi-tech world, it is possible that more specialisation will be needed in journalism, and I do not mean just specialisation in farming and sport.

Might I remind any Radio New Zealand staffers who think they may have a director's baton in their knap-sacks that Miss Beverley Waken first brought her talents to notice through her regular science programme?

In Australia, technology has been taken sufficiently seriously for one of the commercial TV networks to run a weekly programme, "Beyond 2000", which has ousted other programmes in the ratings in its timeslot.

O.K., so why all this fuss about technology and media attention? The first reason, I suggest, is that Parliament needs to see that there may be more benefit to the country in exporting technological products rather than steroids.

We had high hopes in 1967 with the NELCON "Electronics for Export". It was a time when Mr. - later Sir - Jack Marshall was Deputy Prime Minister and was working to get New Zealanders to become aware of the need to find alternative markets and products as the UK joined the EEC. In our naivety we had hoped for good media coverage. We had summaries of the papers prepared, facilities for press and so on. Yet hardly a mention.

Also, at that time solid state had been with us for 20 years and its prospects were growing day by day. We would automate everything, and do away with mindless and sterile repetitive work. Well, neither politicians, trade unions, newspapers or anyone cared a damn.

Politicians were not interested because it would not happen within the three year time span of a Parliament. Union leaders because it would have no effect on the next wage negotiations.

But within a few years, as jobs disappeared to technology, listen to the shocked cries from those put out of work. Those who lost their jobs cannot blame the politicians who failed to legislate in their interests, or the trade union leaders who buried their heads, like ostriches, in wage rounds and strikes. The people who elected such leaders have only themselves to blame, although employers could probably have done more.

I can remember Mr. Jack Shalcross, in the late 60s, trying to warn people of the need for more education, and the changes technology would bring. He criticised the employers and the unions for not paying enough attention to technology.

There was a time when I considered myself a gung ho technician in electronics, when electronics was valves. Then along came transistors. I had originally trained as a journalist, and had spent most of my life in the communications industry, so I made the transition through advertising copywriting and public relations back to journalism. But whenever I hear someone complaining about losing their job to technology, I just ask what sort of radio do they have at home: valve or solid state? As the answer is always solid state, they get no sympathy from me.

Let's look at an important industry to New Zealand: papermaking. Firstly, remember that trees break down carbon dioxide in the atmosphere into its constituent elements of carbon - into wood - and oxygen - into the atmosphere.

Now, liquid fossil fuel - hydrocarbons - is the basis of present transport technology, but New Zealand, otherwise energy rich in gas, coal and hydro and with good biomass potential, lacks oil. So you use hydrocarbons in the form of imported oil to chop down the CO₂ converters and use more to haul the logs to the paper mills. After that you haul the reels of newsprint to newspapers around the country, using more hydrocarbons and creating more CO₂ and atmospheric pollution. After printing the newspaper you laboriously burn up more oil to distribute the newspapers around the cities, towns and countryside. Finally, you have to cart the discarded papers to the rubbish tip, or you burn them and put more CO₂ into the atmosphere.

I suggest that two or three generations later people will look back at this period with incredulity.

However, salvation is at hand. Fibre optics, with its capacity for carrying enormous amounts of information is spreading rapidly and it will not be too long before all telephone wires are replaced with fibre optics. Next chip memory is rising. Flat screen TV is becoming a reality, high definition TV and digital TV are coming closer.

Now, do the people up in Parliament, governing this country, know what the potential of fibre optics is?

Is the newspaper printing union monitoring the development of chip memory and informing its members of this progress and telling them what it means to them? Does the NZJU tell its members about flat screen technology, and how it will affect news presentation? Are the officials of the tree-choppers' union warning the members that, while paper will never go completely out of fashion, its use in newsprint may decline dramatically before too long?

Twenty years ago, the unions were not doing the right thing by their members. Australian unions are vastly different now from what they were a few years ago and I hope New Zealand's ones have changed also. Perhaps they are warning their members of the changing technologies that will affect their present jobs. What about the employers? Are they doing the right thing in educating their staffs? And very importantly, so long as Parliamentarians claim to legislate for the country, do they really know what is happening around them?

I visualise a memory or memories in each home being charged with the news in the small hours of the morning, via the fibreoptics circuit. You would read a display of the news on your TV receiver, or on a flat screen display in a portable version powered by batteries or outlets in buses and trains, or at your desk at work.

First, your forests can stand unchopped, converting this hydrocarbon CO₂ effluent of your transport into wood and life giving oxygen. If anyone suggests that decomposing wood from decayed trees causes un-wanted gas emissions I suggest you get rid of the *pinus radiata* and restore the original trees that made up New Zealand primary forest. Next, newspapers would scrap their presses and dispose of their printing staff and gainfully let the space where once the presses were. News would be more immediate than present printed papers can achieve, being capable of being updated as Teletext is.

Journalists could use colour as another dimension in reporting. If, for example, you wanted to set out the views of different people to something, you could identify each person with a colour and then present their various views coloured according to the person being quoted. So if you were writing about politicians' reactions to something like buying frigates from Australia, you could present Mr. Palmer's observations in dark red. Mr. Jim Anderton, I think, would merit a bright scarlet and Mr. Bolger perhaps a mauve or heliotrope. Mr. Winston Peters might attract an electric blue. That leaves green, yellow and orange for other contributions from the RSA and defence and pacifists. I draw a line at suggesting a suitable colour for Lynne of Tawa, whose views on the frigates have been televised to us in Australia.

Electronic news presentation would get over the cost of colour reproduction in photographs, also. You know that the electronic camera, recording on a floppy disc instead of film stock is already a fact. I realise a main objection is that you cannot wrap fish and chips in clapped out LCDs, but I am sure native ingenuity will overcome that problem. Have I glossed over the short life of LCDs? I am sure you will find an answer. Of course, there is nothing new about the electronic newspaper. It was first suggested back in 1929. It is just that on the one hand the technology is becoming available, and on the other hand the concern for the environment and the need to conserve liquid fossil fuel will help bring this about.

Now Mr. Murdoch has been introducing new printing technology to his newspapers, so the newspaper is not dead yet. My argument is that the sheer

logistics of making papers from trees and spreading the printed material all around the cities and towns will make the electronic newspaper an inevitable proposition. Also, the printed medium has a time problem in keeping up with the electronic media. I suggest the electronic newspaper will cut out the time gap between sending the plates to the press and the appearance of the paper at your home or in the newsagents.

How much longer are you going to have to put up with yearly telephone directories, limited to your local area, out of date as soon as the frames are locked up and sent to the printer? The French have already pioneered the electronic telephone directory. If it has not been very successful, it is because they suffered the penalty of having to be the pioneer. Has New Zealand Telecom been issuing any R & D contracts to the electronics industry, if only to evaluate each year the existing technology in this area and when it would be appropriate to introduce it: using made-in-Aotearoa appliances, of course? You could beat the Australians to this one, and make a buck selling an electronics phone directory to them. Australian Telecom is very worried over the inadequacies and limitations of paper phone directories.

One of the barriers to technological innovation is the reluctance of many people to do something new.

May I question if people have a right to be part of the world if they are not prepared to change and adapt? Of course, there will always be a niche for potters and poets down in the West Coast or other enclaves, and the best of luck to them too, but in the main, if you want technology's refrigerators, cars, medicine, TV, telephones, compact discs and the rest, people must be prepared to accept the challenge of facing the new.

If that sounds arrogant, I am also aware that while technology has improved our way of life in many respects, I am not unaware that it has also been harmful. Harmful to the environment, where it has been mismanaged. Murderous and maiming for people, if you take the car. By the way, has anyone thought of designing a car equivalent of the flight recorder? Very handy for analysing road accidents and producing data for better road and car design or driver training. Design one and you might find other countries keen to buy it, or at least license production. The lawyers will hate you for taking lucrative disputes away from them, but at least no one will be able to tell you that unlike QANTAS aeroplanes, cars do not crash.

I was only nine years old when Labour came to power in 1935, offering a new deal, and care from the cradle to the grave. It was the sort of thing that was a great idea at the time, but we can now look back and remember the remark of a memorable Australian Prime Minister: "Life wasn't meant to be easy". New Zealand has been through hard times, because, to some extent, I think many New Zealanders were not ready for change and tried to have it put off until it became too urgent. That made the transition harder. I do not mean that there is no room for social welfare any more. Just that we all have to work harder than the 40 hour week promised. Also, I suggest we have to work harder at understanding technology, as the price of enjoying microwave cooking,

television and compact discs. By the way, there is a story going around Australia that the Japanese do not speak English any more. You have to speak Japanese. Even if the story is wrong, I suggest the moral might be right.

If I think back 20 years ago, I can remember the unhesitating effort the Japanese put into servicing their products. I suggest that Australians and New Zealanders will have to try harder and learn what service really is. For example, both our countries still cling to the old idea of paying shop assistants weekly wages. The day we get the shop assistants' union to accept the concept of payment by commission, as is the norm in the USA, you will see service and efficiency take a massive step forward in the shops, and also a massive increase in take-home pay for the workers'.

After all, if it's a user-pays economy, it is logical that you have a payment for service reward. It's a whole new world out there. Are you ready to be part of it or are you happy to let it pass you by? This is the voice of Doom speaking - we all have to work harder, whatever or wherever we are.

New Zealand has an excellent record in marketing and exporting, much ahead of Australia's in many areas. But in one respect New Zealand has been too successful. I refer to exporting people. Sir Robert Muldoon's joke about the flow from New Zealand to Australia raising the IQ on both sides of the Tasman might have been witty and good for the New Zealand ego but was, I believe appallingly irresponsible. When "New Electronics" wondered where all the technicians went, I suggest they could look at the QANTAS and Air New Zealand passenger lists.

Mr. Barry Jones accepts that many good Australian scientists make a beeline for Europe or the USA. However, he chortles, what he loses he makes up with Kiwis fleeing New Zealand. I do not want to talk more about this, except to suggest that it could be something you should be looking at.

To summarise, my theme has been that the technology of electronics needs much more publicity. Do not blame the journalists, because I suggest much of the responsibility rests with those of you in the industry to shout your achievements and aspirations more loudly. Also, when talking to the journalists and public, talk about benefits and change - the social impact rather than the insides of the gizmo. That's what people not in the electronics discipline want to hear. May I suggest that I believe the electronics profession has a duty to educate and tell the politicians, unions and employers about what the industry is doing that will change their worlds for them before they wake up and see it on their flat TV screens as a fait accompli.

In the Wellington Branch of the New Zealand Electronics Institute we sometimes talked of calling the attention of the Prime Minister to the achievements of one or two outstanding members of the electronics profession so that their work for New Zealand could be recognised with an appropriate honour. The NZEI Council never seemed to respond to this suggestion. However, I believe that the NZEI should bring the attention of the authorities to the accomplishments for New Zealand industry, people and exports, of some of your more meritorious achievers and have outstanding service in electronics that has been to New Zealand's honour properly recognised. Other fields of endeavour are recognised, so why not electronics?

Well, why should I relate publicity for electronics technology and its products to the memory of Ralph Slade?

Pre-World War II, New Zealand electronics was practically all valve domestic receivers. If you look at the valve Bible of the 30s, the RCA valve manual, there were about 50 valves listed, and every radio practitioner usually knew by heart the pin connections and parameters of most of them. American manufacturers, be they RCA, Sylvania, Kenrad or the Australian AWA Radiotron, made identical valves and used the same type numbers to identify them. I think that Brimar was the only British company that used American type numbers.

On the other hand, English manufacturers each used their own type numbers, even when the valves were electrically identical with some of the American types. Philips was the main European supplier to the New Zealand market. There was little information freely available then. For example, it was only when I went to the UK in 1952 that I learnt that a British valve that sometimes cropped up in New Zealand, curiously named "KT66", was actually a "kinkless tetrode" that is, a beam power tetrode - and the equivalent of the American 6L6, even down to identical pin connections.

After World War II, The British Commonwealth suffered a great shortage of American dollar exchange currency. This was Philips' great opportunity to switch demand from dollar-costing valves to European valves, and Ralph Slade was the man to seize it. Wall charts, valve manuals, and valve literature galore began to invade New Zealand radio service shops and such laboratories as there were. We began to forget about using 6K7s in IF or RF stages and thought in terms of EF35s instead. The Philips system, once you got the hang of it, was easy to follow.

Mr. Slade told me that he was the person responsible for flooding New Zealand radio workshops with this information, which enabled us to move from American valve nomenclature to European - or should I say Philips'?

I have tried to reinforce the point on a national scale that Mr. Slade made so ably to the industry 40 years ago: electronics needs publicity. You no doubt believe that to be good members of the electronics profession you need training and professionalism. Might I suggest that the sort of publicity I believe the profession needs also requires professionalism: please respect professionalism in other fields. Without adequate and professional publicity you will not find it easy to establish overseas markets for your inventions and developments.

Also your technical achievements have already impacted on New Zealand's employment structure, and I suggest technology will have more yet to do. Whether you keep it a deep dark secret until it bursts with devastating impact on your country's population may not rest with you completely, but I suggest the New Zealand Electronics Institute as part of its mission to advance electronics in this country has a role in trying its hardest to educate politicians, trade union officials, management, bankers, exporters, media practitioners and the public in general that there is no such thing as a free lunch, but that technology, while it comes bearing gifts like hifi and TV, CAD/CAM and robots, can also make work less physical, less repetitive, more challenging and more interesting for those who tune their minds to receive the message.

Ladies and gentlemen, we respect the late Ralph Slade not only for his professionalism and expertise in electronics, but also for his entrepreneurialism in furthering the gifts that his profession can bring. I have tried to talk of enterprise, hard work, and a need for the spirit that Ralph Slade showed so much. May I hope that the electronics profession can be inspired by his example to work and advance to greater heights that will benefit New Zealand?

Finally, thank you sincerely for the great honour you have done me in inviting me to present this Slade Lecture. I very much appreciate it.