

'CAN NEW ZEALAND HAVE A SILICON VALLEY AFTER 'THE BEATTIE REPORT?'

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Speaking personally, by way of introduction to my address this evening,

I am mindful of the fact that my status in the eyes of the general public has taken a few abrupt about turns in recent years.

After graduating from Nottingham University in the United Kingdom with a degree in Reproductive Physiology, I was, for nine years, actively involved in research, happily publishing papers and contributing in some small way to this Nation's economy.

Today, Trevor de Cleene tells us we must stop publishing (until now one of the few ways scientists could individually make progress up the ladder of success) and start contributing not to the Nation but to the Treasury Coffers. Anyway, I digress. As a Scientist, the public perception of my 'worth' was high.

I then took a turn for the worse and entered Parliament for what turned out to be a nine year period. I can assure you that the status of a Parliamentarian, in the eyes of the general public is very, very much lower than that of a scientist.

Happily I can now report that, having entered the realm of Education and currently holding the position of Dean of the Science s Engineering Faculty, I am on my way up 'status wise' again. I also have a small business which is trading profitably and paying taxes, to that must be worth a few 'brownie' points as well.

PARALYSIS BY ANALYSIS

The topic for tonight, framed as it is as a question, has two parts to it. I wish to deal with both parts but in true ex-politician fashion, will start with the second, namely the reference to the Beattie Report. If any topic qualifies over recent years for the title of 'Paralysis By Analysis', it would have to be Science and Technology (or alternatively Research and Development).

In 1983, as Minister of Science and Technology, I was invited to speak at the Australian Technology Conference and at that time I can recall being confident that we were at least equal to the Aussies in certain respects and in some cases ahead.

While the Aussies were just starting to critically examine their performance, in Science & Technology, we had already completed a detailed review of the current position as it related to all Research and Development activities in New Zealand and were preparing a Science and Technology Plan.

In 1984, before the Snap Election the Science and Technology Plan and the Probine Report on Science and Technology had been completed, we had a Cabinet Committee On Science and Technology and the then Minister of

Finance had agreed to include special funding arrangements for Research and Development in the 1984 Budget. Treasury Officials - a few of them still remain there now, but most are running the country from new Corporations and old Departments like Labour and Social were dragged kicking and screaming to a point where they had even agreed to fund a Science Research Committee and to the establishment of a Science and Technology Council.

Everything was ready to go. We had the agreed (albeit reluctantly) Treasury approved funding. We had the Research, and Development incentives in the draft Budget draft. We had consulted with the University Vice-Councillors, the PSA, NEDA, the Manufacturers Federation, Government Scientific Departments, the Research Associations.

Everything was in place - what could possibly go wrong?

I'll tell you what went wrong. The two M's, Mike and Marilyn, decided they wanted to play their own set rules.

As a result, it was impossible for National Party to continue to govern and so the Snap Election was called.

With that decision, all the preparations for a meaningful Science and Technology Policy for this country went down the drain Everything we (collectively) had worked for in the promotion of Science and Technology came to an abrupt halt.

In 1984, the New Labour Government came to power with a strong policy to vigorously promote Science and Technology. For three years we saw three initiatives started, but all have failed to deliver.

The first was the launching in late 1984 of the Technology Advancement Trust with the aim of - and I quote - "Spearheading the promotion of technology for both the public and private sectors."

The promised plans to initiate a vigorous programme called "Go Technology" never eventuated, nor did the Technology Advancement week planned for August each year, or the various promotional activities and demonstration Centres.

Even some, of the earlier loyal supporters of T.A.T. such as the Ministry of Transport have decided not to continue to support them. In other words, TAT fell FLAT!

The second initiative, the Science and Technology for Development conference in May 1985 was equally forgettable. Of the invited guests who numbered just over one hundred, only two were actively practising scientists.

Great words were spoken by a few hand-picked orators but, two years later no visible signs of the so-called 'Science Summit' can be found.

The third initiative was the Ministerial Working Party on Science and Technology. Unlike the first two, an opportunity was given for all sectors of the community to participate in the exercise.

The Working Party took six months to collect, and sift through almost 450 written submissions, interview over 300 individuals, assemble the data in a coherent form and publish their findings.

The Government has taken half as much time again, i.e., 9 months to make one decision and even then it is a half-baked feeble imitation of what was recommended.

Because it has been so long since the report was presented to the Minister of Science and Technology, who regrettably is still with us as minister following the most recent election, I will quickly mention some of the more significant recommendations made by the working party.

1] A Minister for Science and Technology, senior appointment with no other major departmental responsibilities. Mr. Tizard is No. 12, not exactly senior, and is Minister of Defence.

2] A cabinet Committee on Science and Technology be appointed. Since July 1984 no such Cabinet Committee exists and none is planned.

3] Establish a Science and Technology Advisory Board under its own Statute.

Less than one week ago, we saw the announcement of a six-person Science and Technology Advisory Committee with no separate statute and reporting to the Minister who has no power in cabinet anyway.

While I know several of the Members personally, I feel I must say that the composition of the Committee leaves much to be desired.

Only one would I classify as a Scientist and that is Professor Dick Matthews ex Auckland University. The Chairman was once a chemist but as Managing Director of ICI (NZ) Ltd, Mr. Arbuckle would have to admit that he has been away from the Lab bench for too long.

Two other members are Social Scientists. Dame Joan Merge, an anthropologist, and Dr John Mitchell a former psychology lecturer. The other two are from business, Mr. Bernie Knowles from the Wool Board and Mr. Peter Shirtcliffe from the Market Development Board. All with one possible exception, are in their late 50s or early 60s.

The whole world knows that the big payoff areas in Science and Technology over the next decade will be in Electronics, Biotechnology and the Information / Communication Technology area.

The whole world also knows that the performers in these areas are young, bright and well educated innovative people. These types of technology and these types of people are not represented on this new committee.

How much faith can the electronics industry have in a group of older people nearing retirement, who have been barely touched by the Electronics revolution. What do Mr. Arbuckle or Mr. Knowles know about VLSI, or C.I.M. of the DRM System?

With Software Writers getting younger and younger, - you are old at 35 in this business - how much faith will they have in recommendations coming from people twice their age.

The High Technology fields of endeavour are not areas where age imparts wisdom, age only imparts ignorance of the new and changing sciences involved in High Technology.

Before I leave the Beattie Report, I must mention one other recommendation, that of a 150 percent tax deductibility. Before the last general election, I obtained copies of the Science and Technology policies of the two main parties and found them both inadequate in many respects.

While the National Party pledged to establish a Science & Technology Council, a proposal to provide the 150 percent tax deductibility which, I am reliably informed was in the draft policy, failed to materialise in the final version released before the election.

The Labour Party made no policy commitments at all in either the taxation area or in the establishment of a Council, but have, over the past three years set their minds clearly against any 150% tax deductibility, arguing as does Treasury, that no benefits are likely from such a proposal. Their assumption is in itself laughable, when we read of the success of a similar tax regimen established in Australia by the Labour Government there. The dramatic impact the Australian scheme has had on manufacturing was highlighted recently in a speech by Senator Button. Minister for Industry, Technology and Commerce, in which it was revealed that registrations under the tax scheme indicated that companies spent about 1.2 Billion Australian Dollars on Research and Development in 1986/87 and that the private sector R & D as a percentage of GDP had doubled in only four years.

By comparison, the most recent NZ manufacturers Federation survey revealed that in the past three years investment in Research and Development in real terms fell by almost 20 percent in New Zealand.

Senator Button illustrated the success of the 150 percent concessions and the other provisions put in place by referring to some specific companies; the Nucleus Company, making medical equipment, in 1986 world wide sales 152 million Australian Dollars, projected sales in 1990 400 million Australian Dollars.

Betatene, a new biotech company seeking to capture 20 percent of a world market worth 150 million Australian Dollars a year and under the Grants for Industry Research and Development Scheme, 112 businesses employing 3,000 people last year, generated total sales of 150 million Australian Dollars, 50 million of which were exports.

While the vast majority of Governments in the developed world acknowledge the importance of Research and Development incentives to industry, the New Zealand Government, alone it seems, wishes to retain its intellectual virginity by offering nothing.

The inevitable result will be a growing trend for manufacturing and innovative high tech companies to relocate where the incentives are available. Even with

the first words spoken by the newly appointed Chairman of the Science and Technology Committee, that - and I quote - "there were various ways of achieving that (i.e., increased private sector R & D) besides the 150 percent tax deduction", we can see that this new body is going to be subservient to Treasury and the Senior Members of Cabinet.

It should by now, be abundantly clear, that the Electronics Industry, and any other High Technology Industry for that matter, cannot expect any assistance from this Government in their endeavours to remain viable. This does not mean that we cannot be part of the worldwide growth in Science Parks, but it does mean that the task of establishing the Parks will be much more difficult.

Technology Parks have been developed in North America and Canada, in the United Kingdom and Europe, in Japan and, more recently, are beginning to appear in such Asian Countries as Singapore. They are often associated with an Innovation Centre.

The Parks are a focus for technological research and development by both private companies and government, usually in partnership with Universities or Institutes of Technology. Private companies buy or lease land or buildings so as to take advantage of the facilities of the Park and to benefit from the national and international visibility which stems from the collective momentum of the development. Small innovative companies can rent premises within a central building specifically constructed to house support services and to provide nursery sites for developing new high technology businesses.

Often these new businesses owe their existence to a single inventor who seeks the support of the Innovation Centre and its staff.

The United Kingdom already has a large number - Cambridge, Heriot-Watt, Brunel, West of Scotland, are just a few examples.

The Republic of Ireland has actively encouraged high technology with a variety of taxation and other fiscal schemes, while British Columbia and Australia - both in Perth and in Adelaide, are also heavily committed to this concept,

The growth in the Adelaide park has been spectacular. In 1983, when New Zealand started reviewing its Science and Technology programme, Adelaide had only one tenant. In 1987 we are still reviewing our science & Technology programme and Adelaide has 29 tenants.

It is worth pointing out that over 90 percent of the total funding of the Adelaide Park is from either State or Commonwealth Government sources. To date, no offer has been made by the New Zealand Government for financial assistance of this kind.

A recent study in the United States which compared the performance of high and low technology industries over the same period of time showed:

1] Real growth - the real output of high technology industries grew at an average annual rate of 6.7 percent compared with a growth rate of 2.3 percent for low technology industries.

2] Productivity - Output per employee increased at an average annual rate of 4 percent in high technology industries and 2 percent in low technology industries.

3] Prices - The impressive labour productivity performance of high technology industries is reflected in their better price record with an average annual price rise of only half a percent compared with a rise of 3 percent in low technology industries.

4] Employment - The gains in labour productivity in high technology industries were not at the expense of employment which grew at an average annual rate of 2.6 percent compared with only .3 percent in low technology industries.

The study concluded that the strong domestic and international competitiveness of high technology industries was responsible for their rapid employment growth.

Successful technological estates have a balance -1-en two roles in creating local industries and co-incident wealth and employment opportunities. Firstly the estates attract sound businesses to establish in a new environment and secondly, they provide a climate in which new ventures can grow. From the initiatives of local inventors and entrepreneurs.

For the Park to have an impact on the technological development of New Zealand in this decade, it is vital that some viable companies, operating within the covenant of the Park, are encouraged to relocate.

The Park will play a vital role in the development of indigenous new small businesses but this activity alone will not produce that critical minimum level of activity without some more importation. A too-slow initial development could endanger the whole initiative and would certainly not impact fast enough on many of our existing economic and employment problems. The marketing of Technology or Science Parks is well understood. The location must possess a number of features which have become internationally established norms for such developments. The following are considered important elements in attracting existing high technology activity. Although some successful Parks do not have all features, most display the great majority.

1 Healthy educational institutions in easy access, with engineering, applied science, computing and business schools. These institutions graduate manpower, a consulting base and physical in the form of workshops, mainframe computers, library services, etc

2 Access to national and international communication and transportation links, with easy entry into identified markets. It is interesting to hear the importance placed by some companies on the time zone difference between centres, of development and manufacture and their markets.

3 The availability of a range of suitable residential accommodation. The principals and professional staff of the companies expect lifestyles which make many locations unsuitable

4 The availability of high standard primary and secondary school systems. Employees in these companies have high educational for their children.

5 Employment opportunities, within reasonable distance for spouses of company employees. It is becoming increasingly evident that a high percentage of the professional staff themselves professionally qualified and have an expectation of pursuing their own careers

6 Excellent working environment, normally consistent with highest standards achieved on the best university campuses in New Zealand.

7 Easy access to a city with active cultural, social and sporting activity

If you relate these seven points to the proposed North Shore site at Akoranga drive, you will note with some considerable satisfaction that all seven are met.

1 We have the resources of the Auckland Technical Institute and expect to link with the Engineering School at Auckland University on many projects

2 Auckland has its international airport, its business community easy access by motorway and highway to other centres in the North Island.

3 The residential accommodation on the North Shore is in keen demand.

4 The primary and secondary schools are of an extremely high standard,

5 Employment for spouses either in Auckland or on the North Shore at the professional level is available.

6 A parkland setting with a view of the ocean and its downtown city centre is hard to beat, and

7 Five minutes (or at worst ten) from the largest, most cosmopolitan city in New Zealand.

The project is taking shape but, like many similar exercises where new ground is being broken, it takes a long time to build up a sufficiently large group of dedicated people who will drive the project forward.

As is often the case, the availability of suitable, - and I underline suitable - land on which to site the village, is a crucial factor.

The Trust board believes that it is still possible for it, in association with the Broadcasting Corporation of New Zealand, to develop the concept on the land known as Tank Farm and are pursuing that possibility at present.

We hope that by the time Nelcon meets again in 1988, there will be tangible evidence that, despite the many difficulties so far experienced, the village will be a reality.

