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Canterbury Workers Educational Association Incorporated



Professor J. F. Duncan
Chairman, Commission for the Future
on

The Social Aspects of Development in New Zealand

An address given at the Canterbury WEA Centre
September 1978

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WEA Centre, 59 Gloucester Street,
Christchurch

INTRODUCTION by Graham Miller :

It is my pleasure and privilege to chair this meeting tonight. I have been asked to do so partly because of my connection, years ago, with Lincoln Efford, whose memory is perpetuated in this lecture, which is given from time to time from an endowment set up by friends after his death and, in particular, on the initiative of Allen Dingwall. While I cannot claim the connection that some others have had with Lincoln over the years, I can say that my connection was possibly sufficient over the years to justify my being asked to perform this humble duty, and it would be wrong of me not to say more than a word in passing about Mr Efford.

First, I should acknowledge the presence of Mrs Morva Efford here this evening and her contribution, with Lincoln, over the years to many works of goodwill. My own connection with Lincoln was, I suppose, most closely developed in the WEA itself, partly in these buildings but also, I think, our first contact was with a sort of Commission for the Future, which was participation in resistance to war, and in the hope that the future would be spared World War II, III or IV - whatever the number might be.

Thinking back over Lincoln and his memory today, the term came to me - now becoming trite - very applicable to Lincoln. I think that he was, in the best sense of the word, a 'Man for all seasons'. I liken him, although he was in many ways different, to the famous R. H. Tawney of England, and although Lincoln was a freethinker and Tawney a Christian, they were in many ways very similar in their outlook and in their concern for the present and for the future, and while it is perhaps stretching it a bit to think that twenty years ago any of us was thinking as far ahead as 2000 AD, wondering indeed whether there would be a 2000 AD, nevertheless I am confident that in all the manifold interests of Lincoln, which were the Howard League for Penal Reform, workers' education over a very wide field, his particular concern in resistance to war - one can go on at some length about all these humanitarian causes - I have no doubt that if he were with us today he would have made this particular thing an issue which he would bring to activity in life in the Workers Educational Association, and I have no doubt that it would be the hope of our guest speaker this evening that the WEA would take a particular interest in this work and act as one of the many propagandist agencies on which I understand the Commission must rely for its activity.

A word of introduction to Professor Duncan, who said that he would prefer to be spoken of not as Professor of Chemistry but as 'simply James', a liberty which I do not normally take with professors of chemistry. But looking him up in "Who's Who" today I was a bit astonished to see how rich was his background in many fields of which I hardly understand the meaning of the words, far less the subjects themselves, but he, I think, is derived from Liverpool. He was educated at Oxford. He spent some time in a bewildering range of different aspects of chemistry, seems to have spent years on isotope research at Harwell in England, then seems to have moved to Australia and I think was at Melbourne, and ultimately

after a tremendous range of activity for a man so lively as he is now, he finished up in New Zealand astonishingly and is now, and has been for some years, Head of Department of Chemistry at Victoria University in Wellington. I am sure that New Zealand is fortunate in having a man as active and, compared with most of us, as youthful as he is in his undertaking of this task of being in charge of the Commission for the Future. I will confess that when I read about the setting up of this Institution I thought, "Well, that is a bold Utopian sort of idea altogether; God bless my soul, we cannot cope with our present, and fancy thinking about 20, 30, 40, 50 years ahead". Since then I have had reason to re-think my own thoughts, partly through J. K. Galbraith's lectures, part of which I see on Friday night, and the other half when I rush home from church on Sunday midday and hope that I have not missed much in between. And I am now convinced that while the title seemed somewhat inappropriate - I heard the last part of the discussion and, to my surprise and delight, Edward Heath expressing concern for the ordinary man and woman and their families in the future - we are indeed in the middle of an "Age of Uncertainty" which many of us may not see the end of. And for these confused reasons I have presented for you, I present to you Professor Duncan and commend his work to you this evening.

PROFESSOR JAMES F. DUNCAN

on

THE SOCIAL ASPECTS OF DEVELOPMENT IN NEW ZEALAND

Well, Mr Chairman, perhaps I had better refer to my professorial epithet first. I am Professor of Inorganic and Theoretical Chemistry, but on occasions like this I have often been introduced as 'Professor of Theatrical Chemistry' and you will see the reasons very shortly. It was, I think, very nice of you indeed to invite me to give the Lincoln Efford Memorial Lecture. It is always a challenge, you know, to try to translate your own ideas into the vernacular of the person whose memorial lecture it is, and that is why I want to talk today about conflict and peace, both externally and within New Zealand, set in the background of technology and economics, and finishing with a little bit on ethics.

Now, before I get too far, I should explain that the 'Commission for the Future' was set up by the 1977 Planning Act, which also set up the Planning Council. The essential distinction between those two bodies is that the Planning Council advises Government on a number of matters, mainly concerned with deployment of resources. The Commission for the Future has two jobs only to do; first of all, the highly professional one of finding out the likely things which are going to provide new opportunities or present difficulties. We have a group of people beaver away at that. Then, having studied the possibilities, we do not advise anyone; instead we *tell the public*, and we make sure that the public understands and debates it. That is why we are also bi-partisan - we have a cabinet minister as a full member (Hugh Templeton) and a member nominated by the Leader of the Opposition (Roger Douglas) - so we are not like any other government-created creature at all. But we also want input from the public. This is public participation - not publicity, not public relations; and that is why, for instance, we have already got about five thousand people around the country working at workshops on goals and values and attitudes; and why I will finish this talk by saying I would like you to provide lots of ideas about, for instance, how to re-deploy labour both to produce goods and in service industries; and I expect some of you people here to become respondents for the Commission for the Future - to get and respond to its publications. Those circulated "Purple pearls" as we call the pamphlets, are now all around the country inviting you to do just that.

As you appreciate, C.F.F. is short for Commission for the Future, which suggested to us certain characters called Mr and Mrs Kiwi Coff. These are two individuals who are very much concerned about the future. When they were returning from work - they were working together down on the docks - they came across a little machine on the railway station. The machine said, "I will tell your weight and your age and your name". They could not believe this at all. So Mr Coff inserted a penny and out of the machine boomed, "You are Mr Kiwi Coff, you weigh 180 pounds and you are 33 years old."

"Astonishing!" said Mr Kiwi Coff. So he said to Mrs Coff, "Well, perhaps you'd better try."

So she put in her penny and it said, "You are Mrs Coff and you are 30 years old and you weigh 120 pounds."

"Good gracious" they said, looking at each other, "I just don't believe it!"

So Mr Kiwi Coff decided he was going to have another go. He put in another penny and the machine said to him, "You are a silly so-and-so, you know, you've just missed your train."

Now that is what the Commission for the Future is about - it is to make sure that the country does not miss its train - to make sure that the public is alerted to possibilities.

So far as the professional work is concerned some of this will be published next year in a big report which the Commission is already writing, called "New Zealand in the Future World." It will relate the world to New Zealand, and some of the things it will contain I am going to talk about tonight. It will be issued in a number of separate booklets.* The introduction will set the scene, and then will follow three resource booklets. One is on foreign affairs, trade and economics, one is on resources and technology, and one on the social change. A short popular booklet will then describe the hard choices; and the final one will be scenarios on how we get there, when we have decided what possible directions are acceptable. Supporting these will be about a dozen monographs describing special aspects for those who want to study the matter further.

Of course, if we just leave it there, that report will be read by a few then pigeon-holed - it will be another interesting document, but forgotten. That is why we propose to take it further and to translate it into visual media; to talk to our respondents (of which we now have about 500) and others; and to use that as input for later booklets, especially those on choices and scenarios. So you can expect next year a major debate arising from the C.F.F. reports.

In order for Mr and Mrs Coff to understand the future more readily they have, from time to time, to refer to some of the experts. Fig 1 is C.F.F. work based on a report for the United Nations on World Economics in the Year 2000. It represents the change in 30 years in two quantities. Vertically is the Gross Domestic Product per capita for the world and horizontally is the change in the difference in Gross Domestic Product for the extremes of the world over the same period (right being in the direction of more unequal distribution of resources, and left in the direction of more equal distribution of resources). At the moment we are at the origin point. Point A is what would result if we continue the way we are

* Since this lecture was given there have been some changes in the structure and plan for "New Zealand in the Future World". The present text is a description of the booklets at the time of finalising this manuscript (March 1979).

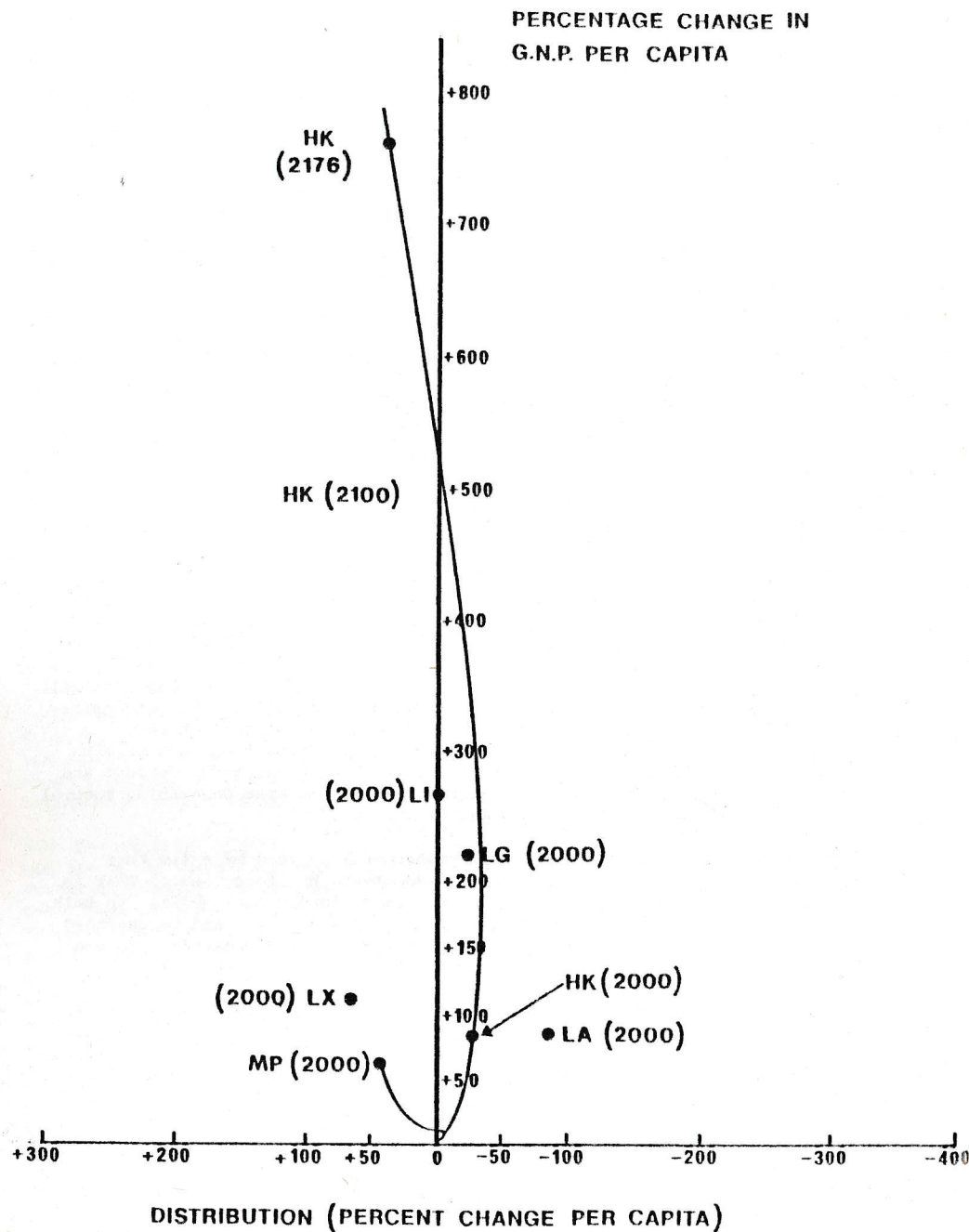


Fig. 1

CAPTION TO FIGURE 1

Movement of world economy

Percentage change in World Average GNP per capita is plotted as a function of the percentage change per capita of the difference between the extremes. The last is more specifically defined as

Percentage change in distribution of GNP per capita

$$= \frac{\text{Difference in extremes (e.g. developed countries-poorest underdeveloped countries)}}{\text{Average GNP}} \times 100$$

The year to which it applies is given in parenthesis for some of the data. The following data have been used. LA, LX and LI are based on "The Future of the World Economy", a United Nations Study, Leontieff et al., O.U.P., 1977.

LA GDP determined endogenously in all regions except middle east. Employment in developed countries equal to projected labour force. Medium population growth (UN). Investment in developed areas which are major resource exporters limited by available internal savings.

LX Medium (UN) population growth. Economic growth in developed countries declines at higher income levels - 4% per capita at \$3000-\$4000; 2.5% per capita at \$5000-\$6000. A 4.9% per annum growth rate for developing countries. Substantial reduction in gap in GNP per capita between developing and developed countries [from 12:1 to 7:1 by year 2000].

LI International Development Strategy targets for GNP increases in developing countries and historical rates extrapolated for developed countries. Gap between developed and developing countries 12:1 by year 2000. Medium (UN) population growth.

MP based on Mesarovic-Pestel modelling at East-West Centre, Hawaii by G.A. Vignaux.

HK Estimated from Fig. 5, p.56, Gross World Product per capita 1776-2176, H. Kahn, "The Next 2000 Years", Morrow, N.Y., 1976.

LG Estimated from Fig. 7, p.40 of 'Limits to Growth', D.H. Meadows and D.L. Meadows, J. Randers, W. Behrens, Pan, London, 1972.

doing - throughout the world the average gross domestic product per capita will increase in 30 years and the resources will be more unequally distributed. In other words, the poor get richer (not poorer) but the rich get much richer. Change is headed into the right hand upper quadrant, which is characterised by dynamic, outgoing trading, cut-throat competition, protectionism and instability - the kind of thing the world has been doing for 400 years.

Other workers have extended their prognostications even further than 30 years (see Fig. 1). Most of these agree that sometime in the next 15 - 30 years the increasing price of resources will begin to play a hand - oil, metals, phosphate and also food. We then move over to the upper left hand quadrant, where because the growth rate of developed countries has slowed down the per capita GNP of underdeveloped countries catch up to some extent, so that resource distribution becomes less unequally divided.

The world instability of the next 15 - 30 years has quite a number of important facets. Take the Russian-American scene. America and Russia are maintaining a precarious state of balance in armaments. Some people think that it will tip in favour of the Russians in due course, and it might. But the USSR also has a number of weaknesses in itself, such as an imbalanced economy, technological deficiencies, uncertain allegiances in Eastern Europe and, in particular, a great need to handle the Chinese situation satisfactorily. Both America and Russia are kept in balance by the nuclear deterrent. The risk of nuclear war is certainly real, but the probability of one is low since neither country would go into nuclear war with a national advantage; it is in the interests of neither to do so.

Then there is China. China is very much concerned with Russia. Basically the argument between China and Russia is one of Chinese independence, which it has been for several thousands of years, and really China is trying to assert its present position in a historical context. But it cannot, at the present time, match either America or Russia as a military state, although it is likely to have the capability of growing into a military power if it wants to by the turn of the century.

Now Japan is coming up fast. Japan is going to be a very rich country; probably there will be only two super-powers remaining in the year 2000, namely Russia and America, but Japan won't be very far away; and Japan would like to lead the Pacific, if not the world, and she has great potential and strength. Certainly, so far as the economic aspects of the Pacific are concerned, she will be in a commanding position to act as a leader of the Pacific.

And, of course, there is also the EEC, which is a power in itself but is riddled with problems of different national identities. That also will not be a super-power.

Now, taking all that into account, it looks as if conflict is inevitable in due course. One hopes that this will not be a major holocaust, but as long as the world insists on moving into the protectionist quadrant, then it seems inevitable that sooner or later conflict will arise. This means that New Zealand has a role to play as a leader in politics in the world, to try to get away from that quadrant, to try to get away from protectionism and cut-throat competition. Bear in mind that vast numbers of people throughout the world will be quite unable to feed themselves, because they will not have the money to pay for the food; bear in mind also that there is a need for New Zealand, if not for the world, to trade in food. It would seem that there is a role for New Zealand to play, to encourage states to transfer some of their GNP to those countries which need it in order to provide more opportunities for food to go into those countries. This would reduce the resentment and imbalance in the world. I cannot over-emphasise that if we want to get into a collaborative world we have to collaborate; otherwise we just go along in the same sort of way. That is one of the reasons why current European future thinking suggests strongly that there is a need to deploy resources to underdeveloped countries to help them to feed themselves and to develop; that the world cannot go on with a protectionist policy in the way we are doing at the

moment; and that sooner or later even the EEC countries will have to lower their trade barriers so as to allow freer trade.

Well, that is the world scene, and one way we could react to it. Notice I have given you a *positive* lead; there is no gloom about this lecture; we *have* a future; we *can* get over our problems, and as we go deeper into New Zealand problems you will see that, although you might regard some of the things I have to say as rather worrisome, they are in fact opportunities.

Now, one of the worries come from technology and, in particular, the computer, the microprocessor, and its association with telecommunications. This is the 'nigger in the woodpile' if you can call it such. Ten years ago a computer which is now a cubic inch in dimensions would have occupied a room about a quarter the size of this room. You can now buy, for something less than \$1000 enough micro-processors - a mini computer - to handle almost any mechanical device you wish; to control your cooking, to direct your vacuum cleaner around the house, to drive your motor car. The distributor in a motor car will shortly be a microprocessor. I was coming down in the plane today and I overlooked the journal of a young boy - he was about 18 - in which he said - and I was a bit disappointed in the wording - that microprocessors had taken the magic out of designing sails for boating because they can now work out precisely what shape you want in order to get the best out of the wind. But, more than that, since most productive industries can now be handled by microprocessors, and this is likely to lead in the next 25 years to something less than half the present man-power being required for present output, this means that we are faced with the problem, and the opportunity, of how to re-deploy people so that they can live useful, contented lives with self-achievement and well-being. To give you an example, when Mrs Coff, doing her shopping, has forgotten what she wanted, she picks up her cordless hand-telephone, which is hooked up by telecommunications to her own home. She dials her husband by radio. She takes it out of her handbag and dials the number. When she has finished her purchasing she goes down to the check-out counter. At the bottom of each item there is perhaps a dozen bars of different thickness which are so coded as to give the batch number, the price, the contents, the shop, the date, anything you want (see Fig. 2). This is pulled over a laser-sensor and clocked up by a computer controlled display. When all the items have been recorded the running total is displayed, which means the checkout clerk does not have to do any arithmetic. You will notice that union leaders in USA predict that 30 to 40 percent of retail clerks will lose their jobs as a result of conversion to the computerised system. That is already happening in America. It is then a very small step to Mrs Coff taking out of her pocket a credit card and handing it to the check-out teller - maybe eventually you won't need the check-out teller. It then gets coded down the telephone line to her bank, the bank's computer looks at her account and decides whether she has got any money or not, and then it deducts from her bank account the cost of the items. You will see later that she does not even have to go to the shopping market - she can do it all at home.

I notice you are a *Workers' Educ ational Association*, and therefore I would say that you had a role to play in working out the future for *workers* in this environment.

There is one other problem which I need to discuss next and that is the energy problem. Several studies, such as that of the Workshop on Alternative Energy Strategies (1), gives the proportion of all energy sources (e.g. coal, oil and nuclear energy) and unsatisfied demand there will be for the world in the year 2000. Now I should warn you that you must be very careful about accepting anything of this nature without checking the basic assumptions. This makes three fundamental assumptions :

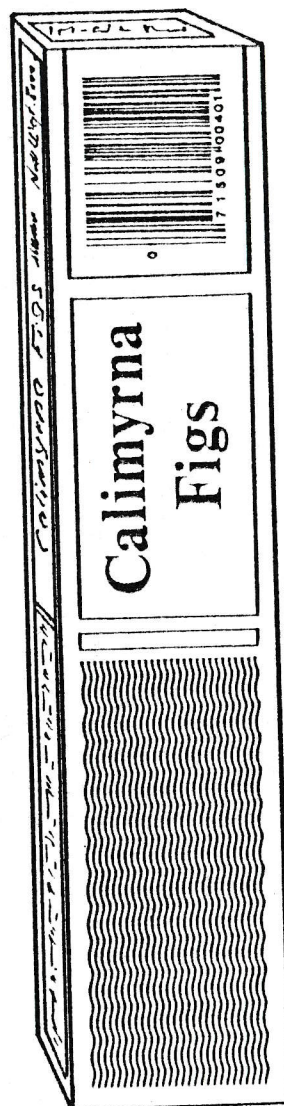


Fig. 2

A package of Calimyrna Figs showing coded data for sensing by a computer-laser system.

- (a) that surface transport will grow at extrapolated rates
- (b) that no other liquid fuel will be available to replace petrol
- (c) that low grade sources of petroleum will not be exploited.

There are indeed plenty of sources of petroleum (e.g. the Canadian shale) which could be exploited if the price were high enough. The situation is not that there is an absolute shortage of oil, but that if the above conditions are fulfilled, the price will rise steeply in 10-15 years because poorer resources will need to be tapped with consequent more costly operations. Now this is a good example of what the CFF is about because, given that a serious problem has been high-lighted, you then gasp a little bit and say, "Well, we had better do something about it." And that, of course, is why government has already started making inroads into the oil bill by exploiting Maui gas for production of LPG and maybe methanol, and gasoline. And if we are successful in this there will be no problem and CFF prognostications will turn out to be incorrect - i.e. a self-correcting prediction.

But one of the questions which New Zealand has to decide (although I think I know the answer) is *does* it wish to maintain its mobility? It is my belief that it does, because we wish free social intercourse. Imagine holding a meeting like this, where you can see that I have two eyes and a nose, and that I am not hiding anything behind my back; imagine holding a meeting like this without the motor-car! Well, you might come, of course, by bicycle, by train or by boat - from Wellington or somewhere. It would have taken you much longer, and probably you would have got wet getting to the railway station. That is why I believe people will want their personal mobility, and if that is the case then we will need liquid fuels.

New Zealand is one of the best-endowed energy countries in the world. We can get energy from the geothermal sources (there is enough there for the whole country if we really need it); we have Maui gas; we have plenty of wood which we can convert into methanol and ethanol for our motor cars; and we can also convert the Maui gas into methanol. All of this quite apart from coal, hydroelectric and other sources, which means that, with any luck, and given the right decisions, we will be free of the oil bill within 25 years. That is why the oil 'crisis' may well not arise, since the price of oil will then fall because there is not so much demand.

One of the reasons for saying that in the way I did is made obvious by considering the oil resources said to be available in different years in the recent past (2) from 1951 to 1974. A few figures are quoted in Table 1 for illustration. You will remember that we have all been told that it will run out in 25 years. In 1951 it was said to run out in 24 years, 34 years in 1974. It was David Kear, of the DSIR, who put it straight in one of my classes at Victoria University. Like all minerals, there is no point in exploring to provide fuel, or minerals, for a greater time than the commercially foreseeable future. Therefore most oil companies simply drill oil for a 25-year future, so that at any particular time you always have 25 years or thereabouts. If you have more than 25 years you stop drilling; if you have less than 25 years you can drill deeper; and that has been going on for years using ever poorer sources for exploitation. It is rather like copper - in Christian times we used to mine 20 percent copper ore, in the Middle Ages we used to mine 10 percent copper ore, about 1800 we used to mine 0.1 percent copper ore, and now we are down to 0.5 percent copper ore; and there is plenty of 0.4, 0.3 and 0.2 percent, if we ever want it. It just becomes more difficult to get and more expensive. So it is not a crisis of oil supply; there is plenty there in the Canadian shale and elsewhere; it is just that it is going to be more costly to get out. Our prognostication from Professor Vignaux's work for CFF at East-West Centre in Hawaii is that the price is likely to rise steeply

in about 15 years' time, but so is the price of food and, of course, anything which depends upon transport.

TABLE 1

WORLD CRUDE OIL RESERVES (3)

Year	Reserves (M Barrels)	Production (M Barrels)	Number of years reserves will last at production rate for that year
1951	104,973	4.539	24
1961	300,987	8.260	38
1971	610,826	18.146	35
1974	626,882	21.124	34

Now, we have been looking at some of the hard choices which New Zealand is going to face. Questions like "Does New Zealand wish to remain a 'Type I' country or become a 'Type III' country?" A Type I country has a high per capita income and a low population density. A Type III country has a low per capita income and a low population. What should our foreign policy alignments be? With America? With Russia? Lots of people are shaking their heads already - both directions. Or should we - and this seems to me to be one of the realistic and acceptable options - adopt a pan-Pacific stance and trade as much as we can with Japan, China, North and South America, Indonesia and Australia? I think that is a viable option but it implies maintaining the American defence alliance. The alternative, which seems to be viable, is a non-aligned posture, like Sweden or Switzerland. That would probably mean trading around the world very extensively but would mean abandoning the American defence alliance. The last option, which seems to me to be *not* viable without a drastic change in lifestyle, is a self-sufficiency option - make everything we want here. I think that would inevitably mean a lowering of standards of living, but it is certainly an option which we might like to think about to see whether any features of it are possible for us to accept.

Economically, where are our markets to be? We have some ideas about that. How do we get our transport for our products overseas? A pertinent question to Christchurch, and it was raised this morning, is "which is preferable - more and more tourism - or exports?" One could of course maintain a considerable amount of our GNP by tourism. The problems of energy diversification and personal mobility I have already mentioned. How do we control information flow? To what extent do we develop new types of telecommunication such as CEEFAX, and remote techniques for education, health care and office work? And what should we do about restructuring government, both regionally and nationally and decentralising power more to institutions operating in the field?

Now, over all these is this matter of chronic unemployment. Due to another application of the microprocessor there will be a great incentive to do business by telephone rather than travel in many cases, which will both create jobs and cause redundancies - i.e. redeployment of the workforce seems inevitable if we are not to have large numbers out of work.

Mrs Coff has just had two children. She is a very good typist and the firm she had previously worked for did not want to lose her services; so they set her up in her own home with a recording device into which her boss, who could well be in another town, can dictate to her. A visual display unit (VDU) shows her what she has typed out. When correct, she presses a button to send it down the telephone line to a typewriter (rather like a Telex) where her boss reads it, corrects it and, if anything is wrong, tells her how to change it. And when it is all finished and correct she then sends it to the recipient down the telephone line in a matter of four or five minutes. She does all of that at home, working part-time while the children are playing even in the same room. Notice that this can be done in the country; indeed, the farmers' wives can do this. The technology is there. Also you can do the same thing with education, teaching people of all ages by tape, from a centrally-controlled educational centre.

Of course, this does not necessarily satisfy all human needs. I think it is important to recognise that humans need three things for self-contentedness and a feeling of well-being. First, a certain level of physical well-being (health, food, shelter etc.). Second, involvement with other people (the social need - and it is the alienation of people which so often leads to conflict). People want to belong, and I would put the number to which one individual has to relate, as somewhere between ten and a hundred people, depending on the individual. That is why there is a need for work, for social reasons, as opposed to economic reasons. Indeed, one has to distinguish between the need for people to get involved with other people and the need for support. Then, third, they need something outside this to work for - the non-self aspect of humanity - which can be anything from the Boy Scouts, the home, the church, the community, cleaning up the environment - what have you - they need a cause. I remember discussing this with one of our leading protesters, during which he said this had nothing at all to do with him. So I said, "Well, I take it you like to be in good health?"

"Yes."

"I take it you like to be involved with other people?"

"Oh yes, I have some good friends, but that has nothing to do with the Establishment."

And I said, "Oh, so what?" And then I said, "I take it you have a cause, since you are a protester?"

"Oh yes."

"So the three things apply to you too."

And, if you think about it, that is the need of most of us.

The one thing we must avoid is boredom, and people will get bored if we go straight into a society where some of the community is earning large wages because they are controlling manufacturing by the microprocessor, and the rest of the community is on the dole with nothing to do. That will inevitably lead to boredom and conflict. If we accept that we want to be a Type I country maintaining everyone who wants to contribute to the community, then what is needed is, first of all, to provide rather more in overseas earnings so that we can pay our way in the world and provide an adequate GNP per capita, not for its own sake but to enable us to maintain social well-being. The new industries which are created for this purpose can be taxed (along with others) so that the central administration can provide funds for new activities to keep people contributing. They can then say, "We will now make, not 30 pupils per teacher but 10 pupils per teacher and we will pay them"

or "we will provide more nurses, or people to clean up the environment, or do domestic or other service work." Of course, as soon as you do that, the person employed goes down the street and buys something which requires overseas funds, and that is why you need more overseas earnings.

Of course, there are other ways of doing it. You could have a very great philanthropic firm, for instance, which decided that it was not just going to act in a simple economic way but was going to provide some kind of a social service to its employees to help them to get productive things going in their spare time - boat-making, hobbies, education, small scale manufacture. I was up in Kaitia recently where there would be several square miles where they said they had had 5,000 gum diggers last century; and it is just scrub. It is in a beautiful part of the country. It could perfectly well be cleaned up and made into something useful and productive; and that is why I expect you, as responsible citizens, to think up new ways of creating money for the country and of deploying people in useful service industries; because only when we get people involved and wanted will social strife cease.

Now I mentioned before that the chip was going to have a great effect in other walks of life. Already in England they have a thing called CEEFAX. This is now appearing on English television. CEEFAX uses some of the lines which are not used for ordinary television. There are about 5,000 items of an advertising kind or of a news kind which can be put into your own home with a device which will convert your television to receive this kind of thing. The device costs something less than \$1000. Here is a catalogue of some of the news items - headlines, home news, foreign news, news in brief, farm news, consumer news, people, news flash, weather map and advertising such details of travel, business, sports events, consumer items. It is now possible, for instance, in your own home, not to go to the supermarket but to get this sort of thing on your own screen, to decide which item you wish to buy and then simply use the telephone line to tell the company concerned to send it to you.

But it is also in the prisons that this technique can be used for educational and other purposes. The only piece of research I know on the telephone and its social implications suggests that the telephone on the whole is a social boon. There appear to be more people using the telephone for social reasons than for business reasons. If this is the case, then the wired city could be of great value to put those people in touch with the rest of the community who are isolated, whether they are elderly, whether they are remote, or whether they are cut off from society by some misdemeanour or crime which has put them in prison. That seems to me to lead to a great opportunity for social readjustment; such a person, for instance, could hook up with the outside world so that, say, the University of Canterbury could talk to them, some of the churches could talk to them; they could participate in club work; they could do all kinds of things and have their minds widened by this kind of encounter. It seems to me that that kind of opportunity would lead to a quite different complexion to our social life. I do not believe anybody has thought about the implications of that yet - especially in relation to the prison situation - but it is all part of the business of using the new opportunities.

If we wish to reduce social conflict, then we have to provide within New Zealand a tolerant understanding social environment; and we have to provide externally an opportunity for New Zealand to participate in the world in an understanding supportive role to assist the underprivileged, the hungry and the oppressed. So far as the defective young are concerned - the people who are bored - there is a whole range of activities in which they could feel involved; and I ask you again to think of what these could be within New Zealand. One thing which is being actively canvassed in America at the moment is a new form of national service for the 18 year olds. It is not called National Service, but it is called Public

Service - in which there are groups of people around the country, under the control of a number of leaders, who go out into the community and do public service as a way of showing the young what life is really like and getting them involved so that they can feel wanted. The technique has some elements in common with Chinese practice and with some New Zealand school work practice programmes. But whatever form such an activity might take the involvement of the young in our New Zealand life at an early age, so that they believe they have a niche and are wanted, has implications and ramifications which are quite enormous.

There is one final thing which I think I have to say and that is concerned with ethics. One can in principle stop conflict whether this is at the international level or the community level by two techniques which, following John Gaultung (3), are the dissociative and the associative. 'The dissociative solution involves putting up good fences that make good neighbours; the dividing of the commons among individual proprietors'; the whole relationship of property to liberty. The associative solution involves social contracts, political organisation, constitution and social structures; and each of these solutions has an important place; but one of the great problems of peace research is to try to identify the existence of public 'goods' and public 'bads', and the necessity for legitimising and defining property. Even property itself is a social contract, that is, an associative solution to a dissociative problem. Complete associative solutions lead to tyranny and imposed peace, simply because otherwise they require agreement, a very scarce commodity. And of course one solution to world peace is to have one power which takes over everything, which is a completely associative situation - the 'big brother' syndrome. That seems unlikely. The alternative dissociative solution, which many prefer to some degree at least is one where the individual, or the individual country, has to think about what is the right and the wrong thing to do in the ethical sense.

I now would like to quote from Rob Yule, who is the ecumenical chaplain at Victoria University - and who, incidentally, is coming down to the Presbyterian Parish of Hornby in Christchurch next year. He had just finished a series of lectures for the Tertiary Christian Studies Group and he was talking about Nietzsche. In 1901 Nietzsche's sister wrote about Nietzsche in these terms, using Nietzsche's concept of Nihilism - that is, 'I don't believe in anything'. 'Nothing ain't ever any use'. 'There is no value in anything'. And this is what Nietzsche said in 1901: 'What I relate is the history of the next two centuries. I describe what is coming, what can no longer come differently - the advent of Nihilism. This history can be related even now.' (History in the future, notice.) 'For necessity itself is at work here. This future speaks even now in a hundred signs. This destiny announces itself everywhere. For some time now our whole European culture has been moving towards a catastrophe with a tortured tension that is growing from decade to decade, restlessly, violently, headlong, like a river that wants to reach the end, that no longer reflects, that is afraid to reflect.' And Rob Yule comments, 'In other words, Nietzsche foresaw the current crisis of Western culture long before it ever wrought the havoc of two world wars and generated the protest of the counter-culture, because he had already embodied it in himself and in his own philosophy.' He understood the Nihilistic implications of his society's loss of faith, particularly faith in God - and eventually he went mad at the thought of it.

Now that is still the current dilemma of the Western world. You can get over that only with hope generated by a positive ethic. I would now like to finish with a few reflections on what that might be, because, bear in mind, and make no mistake about it, that you need an ethic to make valued decisions about what should be and what should not be. I think Ian Breward, of Otago, has come closest, in my thinking, to understanding what this is all about. And he says this, and of course he is talking terms of the Christian ethic: 'Christians believe that the capacity for repentance and amendment to life is a desirable quality in society.' Now this leads to the principle of reversibility. If society makes a mistake then it is more likely to be put right if it is reversible. And so, when we are tearing up the countryside, trying to make decisions about transport and how much to use for

industry and so on, if it is reversible, when we make a mistake we can do something about it. Then he goes on to say: 'To measure choices, decisions which increase human distance from God are destructive', and 'no great decision grows out of short-term gain.' In other words, he is saying not only what the Christian ethic says but also what the Eastern religions say, namely that harmony with one's creator is necessary for humanity, and this also implies harmony with one's fellow man and with nature - one's environment. Harmony with nature is something with which the environmentalists would go along and harmony with one's fellow-beings is something which the social scientists and the people who are trying to avoid conflict and strife would also accept.

And that is one of the reasons why Mr and Mrs Coff believe that their children should be brought up with some positive values, some ethical values; so that, in the words of Thomas Trahane, 'Their enjoyment of the world is *never* right until every morning they wake up in Heaven, look at the skies, the earth and the air as celestial joys ... till the sea flows in their veins.' And of course Wordsworth was a similar kind of person, and so was St Bernard. 'Creatures,' said St Bernard, 'are not to be enjoyed but to be used with detached love, compassion, appreciation and wondering'. 'Trees and stones', he said, 'will teach you more than you can acquire' from - well, I suppose in modern terms it would be - a month of committees, but he didn't say it quite like that.

Now, of course, as Chairman of the Commission for the Future, I have to be terribly careful not to try to sell any particular ethic, not to try to sell any particular party-line. We are bi-partisan; we have to talk to everyone. But I am conscious of the fact that the ethical side is fundamental to our thinking and therefore I say, without any apology, the ethics of the community need to be thought about because only with the right ethic can we have hope for the future, and only with hope for the future can we have a happy society. But, given that, we *can* get over our balance of payments problems, we *can* get over our social strife, we *can* handle the world situation, we *can* handle our lack of productivity - we can do anything of which man is capable. But if you stick with Nihilism, you are sunk.

Mr Graham Miller :

Ladies and gentlemen: I had no idea that theoretical physics or chemistry was so interesting. I'm sure that Professor Duncan will be willing to answer questions; indeed, I would think he would be disappointed if some questions didn't come from the floor after such a delightful and diverse and diverting address, and I therefore throw the meeting open for questions, within moderation in terms of time and, I hope, with relevance to a subject which, I must confess, covered so many different aspects that we are bound to digress somewhat. Questions from the floor, please.

Question: Will this material be available in printed form ?

Answer: I said I never worked from the printed word at all in delivering lectures - partly because I give a lot of talks - but I also think it comes over better - at least I hope it does; but, as a gesture, on this occasion I said 'record it; get someone to type it and then I will edit it.'

Question: Mr Chairman, I notice the speaker made no mention of hydrogen fusion - possibly because of the current use of electricity as the driving force, but possibly, being a chemist, you should have a vested interest, perhaps a vested and moral interest, in some kind of a chemical fuel. A more relevant question, Mr Chairman: in the ethical situation, is not the most mature view at the moment, and enlightened, one which is pluralist, so is it not possible to speak of an ethic rather than, in the broader terms, to speak of acceptable patterns of value and belief ?

Answer: I suppose I could give another lecture on each of those. First of all, technology. The first thing you've got to realise about technology is that there is always an enormous lead time. The reason I did not consider hydrogen fusion is that it has not even been done in the laboratory yet, and it will take 25 years after it has been done in the laboratory before it is useful. So it is not really worth considering at this stage. Of course, it is a form of what the Americans called 'High Technology', which is breaking the second law of thermodynamics. This says that all energy is dissipated, but if you can have an infinite source of energy then you are really in business without that limitation. But New Zealand cannot follow that course. It has not got the technology to do that. It has to go to 'Low Technology', which is to use the energy from the sun as efficiently as it can. So, as far as New Zealand is concerned, you just do not think about thermo-nuclear power until they have done some experiments - they are not there yet. Also, although they say that hydrogen fusion is unpolluting, there will be radio-active consequences because you will get neutrons produced which will make the structural material radioactive, and you will probably have to bury the reactor for 25 years or more. But it will be a shorter time than you have with nuclear fission.

Now, ethics. I hope the church people in the audience would agree that people understand values and ethics on different levels. Certainly my experience has been that as one gets older one takes a different perspective of the situation and one hopes one develops and matures in one's ethical view. Therefore, you are right in the sense that you can never have one ethic with which everybody would agree, because people have different experiences and levels of understanding. But I hope that all people are growing - ethically I mean. The one which I put forward, the harmonisation with one's divine origins, of course, is very close to the Maori ethic and the Japanese one too, and I think it is also very close to the kind of thing which the people in the ohus believe - the environmental protection. Therefore I believe it has got some consensus about it. But nevertheless, trying to put these things into words is *exceedingly* difficult because what I am saying means something to me, but to you it will mean something quite different. And also because your ethical experience is different, so you cannot hope for a consensus in that sense. On the other hand, I would point out that in many of our commonly-held beliefs, which are called humanistic (such as - you don't go bashing your friends and relations about, and you do what you can for the underdog) we *have* a consensus which is based on centuries of Christian ethical background. Indeed we are trying to live on the Christian capital which has been produced over the last few hundred years in a pluralistic society. I am not trying to sell the Christian beliefs but I believe them to have been so fundamental to our historically derived modes of thinking that it is quite vital to the community to think about the matter.

Question: Could you relate the inevitability of conflict in regard to the future to the lack of freedom for the individual, which does not exist for a greater part of mankind ?

Answer: Well, it is all part of the same business, isn't it ? Conflict arises when frustration arises and when people feel that they do not belong. Now, unfortunately history teaches us that sooner or later, at the international level, some fool gets into power and makes the wrong decision. Then there is trouble. One hopes, internationally, that this will not be a nuclear holocaust, but I see it as inevitable that nuclear weapons will be extensively used sooner or later, and that there will be some kind of conflict even if they are not used within the foreseeable future. One of the questions New Zealand has to ask is what does it do when there is such a conflict ? What sort of stance is it going to take ? So far as places like South Africa and other countries as well, to some extent, are concerned, any attempt to prevent the individual having adequate freedom is going to lead to frustration, and sooner or later there is trouble; there is bound to be - history has many examples of that - and the two may be related in the sense that one may allow the other to spark off.

Take a case in point. If you had conflict between the Russians and the Chinese in Africa, it could well lead to further developments which would free the individual. Does that answer your question?

Same questioner: Not really.

Professor Duncan: All right, but bear in mind I am not making predictions there. I am just talking about possibilities.

Question: I'm trying to find out the point of conflict in the future - the conflict between capital and labour; about how capital would handle the conflict through unemployment.

Answer: Well, this will depend. I gave a lecture to a bunch of insurance executives recently and I said, 'Now look, an average insurance company, I suppose, has about 4,000 people. With modern technology you could do that work with 400 people. But what is going to happen? You would avoid the salaries for 4,000 minus 400, which is - 3,600 times \$5,000 p.a. on the average, which would come to about \$18M - enormous. That would be a saving to you. But at the same time you have thrown 3,600 people out of work. Now, they have to be supported somehow. You cannot just let them rot, so the very least that is going to happen is that they have to be supported on the dole. So government is going to have to get that money from somewhere, and it comes from your company. So you are going to take a considerable amount of the money you have saved in taxes to support those people. Government would then say to them, 'Well, we are supporting these people and there is no point in supporting them if they are not doing anything useful. Let them clean up the environment, or practice teaching, or something.' Now, that is one way of going about it.

But what about the other way? Supposing, instead of doing this, you took those 3,600 people and said, 'All right, the money we have saved we will plough into services. We will build a model village out of town for you people and we will provide you, Joe Blow, with a capital investment of \$5,000 or so, to get yourself organised on boat-building; and Mrs Smith can get herself involved in the home-knitting scene, and so on. We will need to take a little back in order to cover the costs and that kind of thing, but basically we can help you.' Some of these activities will lead to productive industries which can be sold overseas so this is really an investment. Which of those two states is the better? Now, that depends on the ethical view of the management, but it seems to me that it is quite vital for both management and unions to understand that there is a problem coming, and that if we go along the conventional way of saying 'look, that industry is not efficient because it has too many people employed,' then we are forgetting the human element and, after all, this is all about human beings,

If you go the first way you will inevitably have conflict. You might have it the second way too, but that is another question.

Does that give you an answer to that question?

Same questioner: Well, I wish the Board of Directors at Aulsebrooks could see your viewpoint.

Professor Duncan: Well, the CFF does not get involved in immediate politics, but if you would like me to give this lecture at Aulsebrooks I am quite happy to do so. But quite seriously, the thing which has disappointed me most about the CFF is that I have not yet got the workers talking in these terms. I want to talk to the unions.

Same questioner: Have you been to them?

Professor Duncan: Yes I have, and I have just sent another letter out, but I have not yet got them talking. I don't think they realise that it is coming yet.

Question: This is one of the questions I was going to ask. How do you get this important matter across quickly enough, not only to the unions but to everybody in the community, because most people judge the present from past ideas; yet everything - type of employment and so on - is changing so rapidly?

Answer: Oh yes. Well, the first thing, of course, is that even lectures like this help. And that is why I never refuse a lecture - I like to hear myself talking anyway!! But we also have the job of commenting on documents and I have just issued a paper to the press last week on 'Planning Perspectives' and on 'Goals and Guidelines'. Now, to give you an example there: 'Planning Perspectives' and 'Goals and Guidelines' say we must be more efficient. Well, I was at a motel in Palmerston North in April, having breakfast with my wife, and suddenly outside I heard 'phist! phist! phist! phist!' I thought this mighty queer so I went outside, and there was a 'bloke' painting the roof with a pressure-gun and this 'phist! phist!' was the pressure-gun. Well, it was about three weeks after 'Planning Perspectives' had come out. I engaged him in conversation and said, 'What did you buy it for?' and he said, 'Oh, it is so much better; I can do the job better; it's a wonderful machine. I can do the job in a third of the time.'

So I said, 'Well, that means you can do three times as much work?'

'Oh yes, sure.'

So he was throwing two people out of work and by being efficient, he was creating unemployment. Then I said, 'How much did it cost?'

'\$2,500'

'Where did it come from?'

'Oh, the best in the world - from Germany.'

So, by the one act of being efficient he had created unemployment and sent up our overseas debt. Now it just means we are not thinking as straight as we should, and the more widely the consequences of this type of thinking are understood, the sooner we will be able to get over the problems which follow.

So that is the second part of the answer.

The third is that we want community participation. We are really indulging in a new form of democracy. We want a response from you, so that your appreciation of the situation can be understood too.

Mr Miller: Response over here, I think.

Question: Isn't the Commission for the Future in somewhat of a dilemma? On the one hand you seem to aim at this beautiful standard of living and technological future, etc., but at the same time, I would like to refer to the world situation which seems totally incompatible, in ethical terms, with the world-wide situation in which I think you have failed to take into consideration the growth of population.

Answer: Well, let us get down to 'grass roots'. First of all, this is only an hour's lecture, you know.

Same questioner: Yes, but you were at one point talking about the standard of living and I just jotted down 'determined by whom?' I thought we had an artificial standard of living in many Western communities and that we have, in fact, got to reduce that standard and become much simpler in our demands.

Answer: Well, that is your opinion.

Questioner: Yes.

Professor Duncan: Well, can I answer that one - it is important, and this is a different section of the community speaking. I know some of the ohus very well indeed, and their view is that the thing to do is to commune with nature more by lowering their standard of living. However, it is ultimately a community choice as to whether that is the way for the country as a whole to go. That is really the self-sufficiency option.

That is the first point. And secondly, it is based upon your view - and I think there is something to be said for it. It is your view that it is easier to obtain self-satisfaction and self-achievement in that sort of environment than in the 'city slicker' environment; but there are people who would not agree with you. And, therefore, that is why I say 'diversity is our best protection for the future' - and this is one of the principles of the Commission. We need all kinds; and you people in the ohus and on the land are ways of taking the surplus manpower and getting them involved. Go to it! You are doing the country a service.

Same questioner: I don't think that is really what I am saying, though. What I am really saying is that what you are proposing is basically unethical because ...

Professor Duncan: Hold it! I'm not proposing anything. I am trying to give you a view of what might be. Well now, what's unethical about what?

Same questioner: Because two-thirds of the world's population are malnourished at the present time, with increasing world population, the situation is going to get worse, not better. I dispute that the poor get richer, as a basic premise.

Professor Duncan: Well, wait a minute. You've made an assertion that my facts are not correct. Now that implies that you must produce other facts which you think are correct.

Same questioner: Yes, I must go away and do that.

Professor Duncan: All right, so one, if that is the view you take and you think the facts are incorrect, the Commission wants to know why. You write to me about it. And two, from the point of view of ethics, it is a community choice as to whether it considers it wants to help other under-developed countries and, of course, there is a view that one should put one's aid, not at the 0.7 per cent of GNP level, which is about what it is at the moment, but the 10 per cent or 20 per cent level, and deliberately lower our standard of living in order to help other countries. That is a view which some people hold. I think it is a legitimate view, but one would have to accept the consequences and one would have to persuade the community that that is the right thing to do in the ethical sense. And I agree with you - it is illogical in the ethical sense, but it has to be considered as an ethical choice.

Same questioner: But you talk of the community, in a sense, as an ethical body. I believe in your three premises; I think they are all good (I am a psychologist) but I think there is more to it. I think that if we lived in a society where people had security, internal security, then a lot of these things that you are speaking about would no longer be necessary. I think that some of the decisions of the community are based on a sick community.

Professor Duncan: Well, just a moment ...

Same questioner: I will write to you. (Laughter from audience and the two speakers.)

Professor Duncan: Well, do you want me to answer that? You will realise there are a lot of assertions there.

Voice from the audience: Continued by correspondence.

Professor Duncan: But, quite seriously, here is a case where somebody wants to talk to the Commission. I am delighted. Come and talk. I am not going to 'bawl you out'. Come and talk and we will do what we can to take it further.

Question: Sir, your lecture seemed to suggest that there was an element of hope in ethics developing into something worthwhile, in social awareness improving society, and this would suggest that - I could call you names, such as being an optimist or something like that - but I think that emotively we are not going to let that sort of thing happen altogether, because we are brought up in a society which is structured on various ways of getting opinions; namely, a hierarchical type of system; and, really, if you look at our election, which is going on now, we are told from the top how we are supposed to think. We are not invited to sort out opinions and ideas for feed-back at all. And it is our education system which I am concerned with - that if emotionally structured on this, we say it is successful because of certain successes it has and for certain elements which we appreciate; but are we going to be so doubtful about it that we will go into it and allow education to allow young people to begin to think out things, to activate their minds in thinking from the beginning? I doubt it.

Answer: It depends on whether the community wants it, doesn't it? Bear in mind the Commission is educating other people as well, including the politicians. We have a very good example of this in the nuclear power debate, where we were asked by the Royal Commission on Nuclear Power Generation to produce a submission on matters of principle, and to apply them, as we did, to both having nuclear power and to not having it; and the conclusion we came to was that you could delay a decision, in principle, about nuclear power for at least ten years. The interesting thing about that was that there was a member of Cabinet and a member of the Opposition who were party to that discussion, and a month before it came out another Cabinet Minister was heard to make that comment; and the Leader of the Opposition, two days before it came out, was heard to say that Labour who, up till then, had been saying they were not going to have it, could now see no reason why we had to make a decision. The Royal Commission also made a similar recommendation. This is where an educative process took place at a different level. Now what you are saying is that the education is stratified. What I am saying is that the Commission is there to break down that stratification, and that if you, the people, have something we can educate the politicians and the upper echelon about, then we want to know about it.

Question: Sir, would the speaker care to express an opinion about the uses of solar energy in the future, as opposed to atomic energy? Will our energy come in the future more from the sun than, say, from atomic power?

Answer: The short answer is 'yes' but it depends what you are talking about. You see, hydro-electric power and wind are two very good examples of the exploitation of solar energy - the sun makes both of them; the sun distills the water. But I don't think that is what you are talking about. What you are probably talking about is photo-voltaic cells. That will come in perhaps 15 - 20 years too. But New Zealand is unlikely to go nuclear for a very long time, if ever, because she is one of the best energy endowed countries in the world - most of it derived from the sun in some way.

Question: Is change something new? Is there a kind of inevitability of a change in the centre of focus of world interest and activity? When I was a youngster in school we learnt about Greece, Rome and Carthage. Later on in my life as a student we were told that Britain became great because it had coal; coal was needed; and then, of course, electricity; and then oil, as it has become the great tender of the world. Tonight Mr Carter, in appreciating the agreement with Israel and Egypt, made the remark that Egypt is one of the greatest nations of the world. Now there's a change of location - from the Mediterranean to the North Sea, Britain, then down to America, and now down to the new area, and in that area is, of course, one of the greatest population increases in the world. Although there is a decrease of population in some parts of the world, in that particular area there is an increase in population. The possibilities are superb for all those who want to take away poverty from the country - make the poor people better off. But isn't there a kind of inevitability, as well, that they will be, simply because the demand centre of the world has changed?

Answer: Well, yes; the world will take on new forms. We have seen the end of the colonial era, for instance, and new forms of development will certainly arise. But it is in that context that New Zealand has to respond to the world. And that is the important thing, you see. Here we are - Australia and New Zealand - way out; stuck out there in the Pacific. How are we going to respond to the rest of the world? How are we going to maintain our markets? How are we going to respond from the point of view of under-developed countries, and so on? What are we going to do to help them, because - and now this is where I relate to the point you make - unless the world tries to collaborate and help the under-dog, strife will arise. Either way this implies a change in the focus of world interest.

Question: That goes back to my question, up to a point. Did you hear Mr Heath in "The Age of Uncertainty" the other night on television? He said that if the average British person was asked what he thought about overseas aid, he would ask why 'we' should help these people; that when 'we' go to the United Nations 'we' get 'kicked in the teeth'. Therefore, how does the average person learn, or be helped to learn, quickly enough, that this is really necessary and urgent? Until recently he has been led more in the opposite direction.

Answer: Well, you see, you have always to be a bit careful about interpreting history. But one of the interpretations of history is that the Western world - and here I am indebted to J. M. Roberts, an Oxford don, who has just written a book called "The Hutchinson History of the World" - the Western world went out in the sixteen and seventeen hundreds and conquered the world in the name of exploration, commerce, science and religion. And they were dead certain then that the Christian view in that world was right. That was one of the justifications. Around the nineteen hundreds or so they started to have a doubt. No longer were they quite so sure that Christianity was the right thing for the rest of the world. Up to about four or five years ago the ethic was 'we'd better help the under-dog and plough in aid' and now the thinking is that we need a collaborative new world-order in economics - a collaborative one - not just aid, because 'just aid' does not work. So your ethic changes. Now, you refer to "The Age of Uncertainty". The world has been uncertain for a very long time but, of course, up to the seventeenth and eighteenth centuries there was no doubt about what the religion was. Uncertainty always provides opportunity and this uncertainty has provided the opportunity for developing a multi-cultural ethic, as was suggested before. That is why I say that nowadays no one group can know the answers even if they ever could. So your contribution is as important as anyone else's.

Question: I would just like to make a comment. On the 27th October, 1962, I think could be traced the end of the Western era. That was the date on which the missiles were put on Cuba and President Kennedy instructed the blockade. At the same time, at exactly the same time, the Chinese were fighting the Indians. The Chinese had advanced to the plateau overlooking India. I remember walking to work - it was a beautiful morning - and I was thinking 'what is going to be the end of this? Because, if the Russians step behind the Chinese, then the world

is at their feet, more or less'. But what happened was that the Russians stepped behind the Indians and the Chinese had to retreat. Now, if you look at it backwards, you can see the significance of the Cuban business. It was a gigantic military manoeuvre, and at the time the Americans had coffins in their basements and all their preparations for a nuclear war which did not arrive. Now I think myself that we live in an age of power politics. Until we get rid of power politics, ruled by force, there is no future for any of us and we have to work towards that end. That is my opinion. I think that is definite. And New Zealand has got to strive, starting right from the bottom and working towards that end, because there is no doubt in my mind that the Russians hold the key to the world as far as power politics is concerned. That one day put them in the Indian Ocean, it put them in Africa and it also won the Vietnam war.

Answer: Well, there are a number of comments to make there. First of all, the world had been in power politics for at least 4,000 years. So that is nothing new. Each individual has to do what he can in the situation. The second thing is that this Russian-Chinese thing can be illustrated by an article which appeared recently in a British Medical Journal by a visitor to China (whose name I have forgotten) who was shown the underground passages which the Chinese had produced in Peking - air-raid shelters which they had produced by each person taking out a couple of pounds of soil at a time, so that they are now in the position whereby they can take the whole population of Peking underground in five minutes; and they have done that in the last five years. Now, what are they doing it for? And it is not just Peking. So it goes on. Of course, you are right, that one needs to stand at the 'grass roots' but that again is an ethical problem.

Same questioner: You're right, but I don't know whether you have read Sir Ewan McKinnon. He prophesied in 1904 that there was going to be a world war and he followed it up with a prophecy about the second world war; and he also prophesied that Russia would be the dominant force in the world at this particular time.

Answer: I can do better than that. Napoleon Bonaparte, in exile, said that if the Russians ever went over Europe they would conquer the world.

Professor Duncan:

Well, could I just summarise by saying that I now invite all of you to do one of several things. One is, if you wish to receive and read the Commission publications, or be a respondent, could I have your name and address.

Secondly, those who feel that they could contribute to the Commission's work are invited to conduct a dialogue with us. As a good scientist I take the view that no one group can produce everything perfect. Something is going to be wrong, and we want to be humble enough to correct it. But of course if you come to us in that stance we will say 'All right, where is the evidence? What is the data?' And we will discuss it on an intellectual level.

Thirdly, if you come across anything which you think might assist the CFF please let us know.

And fourthly, be ready to contribute to the public debate on New Zealand's future during 1979, 1980 and beyond.

So this is now an open invitation to participate in the work of the Commission.

Mr Graham Miller:

Thank you, Professor Duncan. Before I call on Mrs Stevens to propose a vote of thanks, I would like to acknowledge the presence of Mr Allen Dingwall - he came in just as I was beginning to speak - and to thank him again for instituting this memorial to Mr Efford. And I am sure tonight's discussion, the topic and all that has followed, will be its own reward for dedication on that occasion.

Mrs Joy Stevens (President, Canterbury WEA):

It gives me considerable pleasure, Professor Duncan, as President of the WEA to welcome you.

We have been involved with these types of Lincoln Efford Memorial Lectures for some time, and we have enjoyed Professor Duncan's visit. He certainly has given us a lot to think about and I am sure we all appreciate the fact that the Commission has an 'open door' for us to voice our opinions and, as he says (whether they are constructive ones or destructive ones) we have got an 'open door' to conserve our own future. I am sure Professor Duncan has had to by-pass other things to come down to Christchurch and we do thank him for his time. We certainly thank him for his visual slides and his clear layman's explanations of what is going on in the technology field and the social field, and I think we will all say 'thank you' for his company. He has made interesting what I thought might be a 'dry' subject. I did not even wriggle in my seat, and that is saying something. So, on behalf of the WEA and of all those present - and I am delighted to see that there are some young ones who have some constructive thinking to offer Professor Duncan - I say, 'Thank you, Professor Duncan, for coming.'

REFERENCES

1. "Energy: Global Prospects 1985-2000", Report of Workshop on Alternative Energy Strategies (WAES), McGraw-Hill, N.Y., 1977.
2. "Oil and Australia - The Figures Behind the Facts", Australian Institute of Petroleum Ltd, 1975.
3. J. Galtung, quoted by K. E. Boulding, *Inst. Soc. Sci. J.*, 1977, 29, No. 4.

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