JUST PASSING THROUGH

1. INTRODUCTION

I was born in Estonia. Leaving there as a teenager ahead of the second Soviet occupation of that country in September 1944, I became a refugee in Germany. Immigrating to Australia in 1949 and becoming a citizen, most of my working life was then spent in the minerals industry until retirement in 1999. Some of my friends, no doubt conscious of the relentless passage of time, have urged me to record my recollections. They have been mostly too gentle to add "before it is too late".

I had been doing this in considerable detail, including my family history going back just over 300 years and the events in Western Mining Corporation during the 25 years I was the Chairman. The complete record is too detailed to be of general interest and I have therefore prepared this selection of topics which, while omitting many episodes and only just touching on others, deals with many of the happenings in my life and includes reflections on a number of issues. It is not for publication, but a private document for a limited circle of family and friends. The initial manuscript was concluded in September 2005. Amended and updated on several occasions, it was finalised in January 2008.

When considering past events, we must remember that the world then was different from today's. Even in my lifetime both the physical conditions of life – travel, communications, living standards generally – and people's attitudes, perceptions and values have gone through a great change. Going further back the changes are greater still. The challenge for a reader with no personal experience of the times and events described is to see these in their proper context against the conditions, knowledge, values and beliefs of the time.

One of the understandings which comes with advancing age is just how short and insignificant our lifespan is. All but a few of us will be forgotten after a generation or two, almost as if we never existed. Asked whether he knew the meaning of life, someone is said to have replied: "Not really – I am just passing through". This seems to be an appropriate caption for these recollections and reminiscences.

Arvi Parbo
Melbourne, January 2008


FINLAND
SWEDEN
NORWAY
Gulf of Bothnia
ÅLAND
Gulf of Finland
Kohtla-Järve
Narva
Tallinn
Tapa
RUSSIA
ESTONIA
Hiiumaa
Haapsalu
Võhma
Kärdla
Pärnu
Saaremaa
Viljandi
Tartu
Kuressaare
Võru
GOTLAND
Gulf of Riga
LATVIA
BALTIC SEA
LITHUANIA
BELARUS
RUSSIA
GERMANY
POLAND

2. CONTENTS

3. THE PARBOS

The reader not familiar with Estonia, its people and their history, is advised to glance through the brief description in Appendix I before proceeding further.

The ancestors

The first known records of the Parbos, on the star shaped second largest Estonian island Hiiumaa off the west coast of the mainland, are in church books at the end of the 17th century. Hiiumaa, although small (989 km^2), is larger than a number of well-known European principalities such as Andorra, Liechtenstein, Monaco and San Marino. The earliest evidence of human habitation on the island is from 7500 years ago, although the first known written document in 1228 calls it *insula deserta* – empty island. The name of Hiiumaa was then *Dageida* ("Day Island"). The Swedish and German name of the island is *Dagö* and the Finnish name, *Hiidenmaa*, means devil's land. The population today is just over 11,000 people.

Under German overlordship from early 13th century, Swedes (and some Finns) settled in parts of Hiiumaa beginning about the middle of the 14th

Century. There is most likely some Swedish blood in the veins of many of the inhabitants of Hiiumaa, possibly also the Parbos. The island came under Swedish rule in 1563 and was occupied in 1710 by Russia for the next two centuries.

My ancestors were peasants in serfdom (see Appendix I) and were not called Parbos; Estonians were not given surnames until 1834. We have tried to find out where the name Parbo came from, but so far unsuccessfully.

Before then they were identified by first names and the farm or the locality where they lived. Lello Ello Kristna and his wife Kirsti lived in Lelu village, not far from the sea on the southern side of the island. Their first son, Nuut, was born in 1695. Their birth dates and Kirsti's death date are not known, but Lello Ello Kristna died in 1730. He was therefore probably born in the 1670s. Kristna and Kirsti had five children, of whom three sons lived until the mid-1700s.

There was a great famine at the end of the 17th century in the countries around the Baltic Sea, particularly Finland and Estonia, caused by cold and wet summers. Some 20% of the population starved to death. It was followed by the beginning of the Great Northern War between Sweden and Russia in 1700 (see Appendix I). A plague during that war again caused many deaths, also in Hiiumaa. Four people died in Lello Ello Kristna's family, but their identity is not recorded.

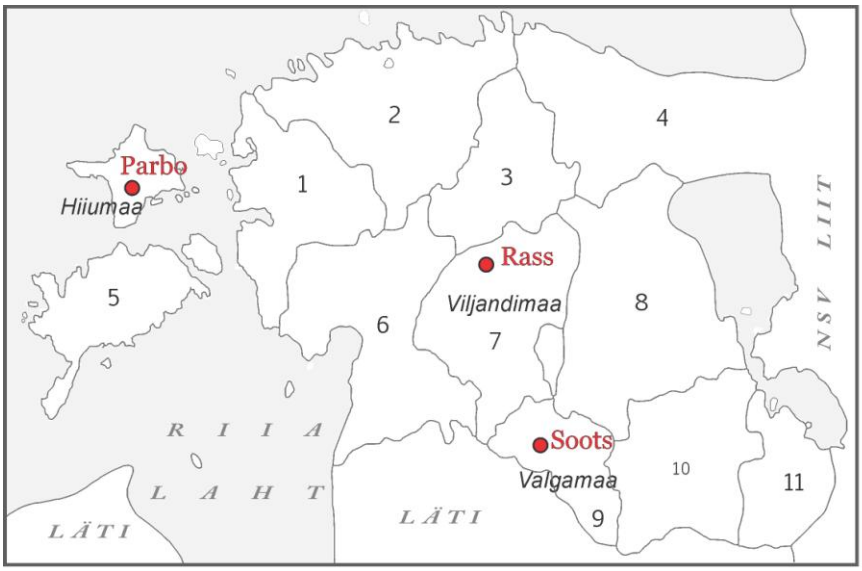
Five more generations of Parbos lived in villages in the same area until serfdom was abolished and the restrictions on the movement of peasants were lifted in the 1860s. My grandfather Ado left Hiiumaa and came to the mainland in the 1870s. After nearly four years of compulsory service in the Russian Army he became the manager of Kolga manor estate east of the capital city, Tallinn and, later, a farmer in his own right.

My father Adolf (later Estonianised to Aado), born in 1889 and my mother Hilda neé Rass, born in 1894, were married during the War of Independence (see Appendix I) in 1918. My father served in a supply unit while my mother, with the aid of grandfather Ado and three Russian prisoners of war, looked after the dairy farm they had bought in Läänemaa in western Estonia, some 90 kilometres from Tallinn.

The first known records of my mother's family are from 1768 in central Estonia, Viljandimaa. Today there is still a Rass village, but people with the name Rass no longer live there. My mother was born and grew up on a farm near Tallinn, in a family of 13 children, eleven boys and two girls. Her only sister died as an infant.

Boyhood on the farm

My three brothers and I (there were no sisters) grew up on our parents' dairy farm in the western part (Läänemaa) of the Republic of Estonia. Endel was born in 1922, I in 1928, Jaanes in 1931 and Oolu in 1932.



MAP OF ESTONIA
(Showing Counties as in 1939)

Family Origins

PARBO
Hiiumaa, parish of Käina

RASS
Viljandimaa, parish of Kabala

SOOTS
Valgamaa, parish of Helme

1 Läänemaa
2 Harjumaa
3 Järvamaa
4 Virumaa
5 Saaremaa
6 Pärnumaa
7 Viljandimaa
8 Tartumaa
9 Valgamaa
10 Võrumaa
11 Petserimaa

Father

Mother

Oolu, Jaanes, Arvi, Endel
1935 or 1936

The 100-hectare farm was larger than many in the area but not as large as some. The main income was from milk and meat. There were a bull, between twenty and thirty cows and heifers, a half a dozen pigs for bacon and pork, a dozen or so sheep, and about two dozen chickens.

The farm also grew rye, wheat, barley, potatoes and flax, as well as hay for the animals for the about six months of the year when they had to be kept indoors. In a substantial orchard next to the house grew cherries, apples, plums, raspberries, red and black currants and gooseberries, and there was a large vegetable garden. My father did much of the work, with some permanent but mostly seasonal hired help. My brothers and I helped from an early age and we soon became skilled in all kinds of farmwork, including handling horses. We were never told to work but were proud to do so; it never occurred to us that we could behave in any other way. I remember Jaanes and I quarrelling over the privilege of ploughing with two horses in harness when I was ten and Jaanes seven years old. In the summer of 1941 our hired help had been called up by the Red Army and I worked day after day alongside my father, placing clover on racks to dry for the horses and cattle to feed on in the winter.

There were six horses and all the ploughing, seeding, harvesting, haymaking and hauling was by horsedrawn implements and machinery, except that an engine driven threshing machine was hired in the autumn. The threshing machine would move from farm to farm and neighbours would assist each other to do the work which, at the end of several days, would conclude with a celebration with mountains of food and plenty of home brewed beer. Horse-drawn carts in the summer and sleds in the winter were also the means of people transport, in addition to bicycles and skis. We never owned a motor car or a truck.

There was no electricity anywhere in the area. Cooking and heating in the house was by wood-fired stoves and for lighting there were kerosene lamps. The animals in the stables and byres during the winter were tended to by the light of kerosene lanterns. There was no running water; it was pumped by hand from an underground watercourse and kept in buckets in the kitchen and next to a metal washbasin. Sauna once a week was an essential part of life, as it is in Finland. There was no refrigerator; in the winter food could be cooled or kept frozen by placing it in the unheated storeroom. Blocks of ice were cut during the winter from the nearby river, stacked on the ground and covered with half a metre of sawdust. This maintained a supply of ice for an icebox throughout the summer. Washing of clothes was by hand on a washboard in a large tub and linen was boiled afterwards.

Virtually all the food was produced on the farm – only items such as salt, sugar, herrings and so on were purchased. Fresh fish was a rare meal, only when we boys managed to catch a pike in one of the drainage ditches during the spring floods, or once a year when father had been to the coast to buy the small Baltic herring for salting in vats. We also salted pork. Bread was baked at home from our own rye or wheat turned into flour in a nearby windmill. The large bread oven also heated the sauna next to it.

The coals from the bread oven were raked to a grate in front of it before the loaves were inserted. In the same room there was also a woodworking bench and on one occasion I was working away at it, oblivious to the carbon monoxide emanating from the coals. Luckily mother came to insert the loaves before I had been unconscious for long and I escaped with just a bad headache.

Estonian Landscape

Mother would pickle cabbage and cucumbers - both favourite Estonian foods - in large wooden vats and preserve all kinds of fruit from our own orchard. Although a very modest drinker, father would brew his own beer and make wine from cherries and the various berries. The wine was fermented in a mammoth glass bottle and the process was monitored by counting the bubbles passing through the glass waterlock inserted in the cork in the neck. It was ready for bottling when the bubbles had slowed down to just a few per second.

There was no telephone on the farm until the late 1930s but we were able to use the telephone in the village shop about a kilometre from us. Together with the radio set, the telephone was ‘taken into safe keeping’ by the

communist government after Hitler attacked the Soviet Union in 1941. The radio was later returned, but we never saw the telephone again.

The nearest pharmacy was ten kilometres and the dentist and doctor twenty kilometres by gravel road, as was the nearest railway station. If we had a toothache in the winter while blizzards raged outside, the remedy until movement became again possible was to take a sip of pure alcohol and hold it on the offending tooth.

A part of the farm was low-lying land, waterlogged when the snow melted in the spring, and my father gradually drained it to obtain useable farmland. Drainage ditches two metres deep leading to a creek were dug by hand and connected to a network of smaller feeder ditches. After removing the trees and shrubs and grubbing out the stumps the initial ploughing, too hard for the horses, was done by a hired Fordson tractor.

None of us had a wrist watch but father had a pocket watch. The main timekeeper was a weight-operated clock on the kitchen wall. Work for the hired hands was by the clock but for the family it started before daylight and ended sometimes well after dark, in the winter because of the need to tend to the animals and in the summer because there was a lot to do in the fields and paddocks.

All animals had to be fed, watered and their stables or byres cleaned while indoors during the long winter. Animal manure was an important fertiliser in addition to superphosphate. It was stacked in the winter and carted to the fields, spread, and ploughed in after the harvest.

The cows had to be milked twice a day whether indoors or outside, an art I mastered at an early age. My mother, the wife of one of the hired hands and I often milked the cows between us. The milk, carefully weighed and tested for fat content to monitor the performance of individual cows, was kept cool in large tinplated cans immersed in water, pumped by hand into concrete baths constructed for the purpose. The water from the underground watercourse was cold on even the hottest days, and blocks of ice were added if necessary. Every second day half a dozen cans were loaded on a horsedrawn wagon or sled and taken to a dairy some seven kilometres away where the fat was separated to make butter. The skimmed milk was returned for the pigs and small heifers. Taking the milk to the dairy was often my job when I was not at school.

In this part of Estonia there were many granite boulders gouged from Finland by the advancing ice during the ice age and left when the ice melted. In the fields these were broken up by blasting and the pieces used to make stone fences. Ploughing would bring many scats of the underlying limestone to the surface and these had to be picked up and removed. This was a job for women and children, the women using the opportunity to exchange gossip. Picking potatoes in the autumn, after a horse drawn implement with a rotor on the back had spread these on the ground, was a similar job.

Not all was work for us, boys, however. Some of our favourite books were Karl May's Wild West stories featuring Winnetou and Old Shatterhand and the woodland part of the farm was ideal for playing Cowboys and Indians. The trees were birch, fir, pine and alder, with a few poplars and even some junipers and bird cherries. Another favourite game was soldiers. With our eldest brother Endel away at school in Tallinn I was always the general, with the two younger brothers officers of lesser rank. The only private in our army was the family dog, who was ordered around a lot! In the winter there was usually an expanse of ice in a low lying area which made a great skating rink.

We also issued our own hand-written newspapers with Endel, who was artistically gifted, sometimes contributing illustrations. Surprisingly, many copies have survived and were given to me when visiting Estonia in the 1970s. These are now among my papers in Australia.

At the time of the Berlin Olympics in 1936 I knew by heart the first six placegetters in all the events. An Estonian who won gold medals in both freestyle and Greco-Roman-style heavyweight wrestling became our hero (as well as the hero of Estonia) and we even staged our own Olympics. Again, in the absence of the eldest brother I was the favourite to win virtually all events, except when I contrived to be disqualified so that the others would not lose all interest..

Education was highly valued. This came from tribal memory because for a long time the only way for Estonians to improve their lot had been through education. My brothers and I attended the local primary school about four kilometres from the farm, riding bicycles, skiing, or just walking to and from. We would be taken by horse and cart or sled only if the weather was really bad. After a heavy snowfall the narrow country road would be impassable until a snowplough came along and skis were then the only means of moving about. On a freshly ploughed road we could walk to school and back even in the winter.

Apart from learning, the schools also instilled in young people a spirit of patriotism and national pride. Virtually all the boys, including me, belonged to an organisation called Young Eagles, modelled on Boy Scouts but with a particularly Estonian flavour. The girls had their counterpart organisation of Home Daughters.

When my elder brother, and later I, reached the secondary school age, we boarded with our uncle Gustav in Tallinn to attend schools there. Endel attended the Tallinn Technical College and graduated with a diploma in mechanical engineering. I attended initially a humanitarian secondary school (called 'gymnasium') founded by the Swedish King Gustav Adolf in 1631, and then transferred to the Technical College to study electrical engineering.

Mail and newspapers for us would arrive in the post office in a farm near the primary school four kilometres away where they would be picked up

by ourselves, on schooldays by us boys. The papers, when they arrived, were usually several days old. The main means of keeping up with the news and of entertainment was a radio operated by a lead-acid battery, which was charged from time to time by a windmill-operated charger in the primary school. No-one had time to listen to the radio during the day, but in the evening we often all gathered around it. My mother, who had acted in an amateur theatre group while young, was particularly fond of radio plays and the choice of programmes after the evening news was her prerogative.

We did not go out or participate in outside entertainment except for attending plays, concerts and public ceremonies at the primary school which also served as the community centre. The main family celebration was at Christmas which in Estonia is held on Christmas Eve. There would always be a fir Christmas tree in a room with straw on the polished wooden floor. When we were still small enough Father Christmas would arrive after dark, always after father had left to attend to urgent tasks somewhere else, and we would have to recite poems and answer questions about our conduct during the year before receiving presents. Father Christmas also carried a bundle of switches for punishing those guilty of misdeeds, but it was never used.

This would be followed by a lengthy meal of roast pork, pickled cabbage, home-made blood sausage, browned potatoes, and gravy. There was white vodka-like spirit called *viin* and home-made beer or wine for the grown-ups. After the meal we would all go to the stables and byres and all the animals would get something as a special Christmas treat. (This was also done just before midnight on New Year's Eve). If the weather was clear, father would harness two horses to a sleigh and we would attend the midnight service in the Lutheran church ten kilometres from us. We were not religious, but this was a social and family event father and mother enjoyed. The special harness would have little bells on it, stars would sparkle in the sky and the snow would glisten in the moonlight while we were snug under sheepskin rugs. Arriving at the church, the horses would have a warm blanket and a nosebag while we attended the service.

The winters were very cold and I do not recall a Christmas without snow. On a winter's night with the temperature down to between minus 20^{o}C and minus 30^{o} C there would be spectacular shows of northern lights in the sky. Sap in the birch trees would freeze and the wood would split with a sound like a rifle shot.

Once a year or so father (and sometimes mother) would visit Tallinn. On return he would invariably bring back a suitcase full of books to add to the already substantial library at home. We were all voracious readers and I have retained a love of books throughout my life. For me there is no better way to spend time than reading.

My father was a somewhat stern man with clearcut values. Integrity and self-reliance were his hallmarks. He worked very hard and did not

tolerate slackness or sloppiness in others. A stickler for punctuality, he transferred this habit to me; to this day I cannot stand being late. He was active in a number of organisations in the district such as the School Board, Volunteer Fire Brigade and National Guard and in local government, including a period as Elder of the local government Council. The tragedy of my father's life, in common with many tens of thousands of others, was that his life's work was completely destroyed at one stroke by the communist takeover in 1940 (see Appendix I).

Mother worked equally hard in her area and helped with the animals, and even with haymaking and potato harvesting. For a keen one-time member of an amateur theatre group who liked meeting people and social events it must have been particularly hard to live in virtual isolation in the country but, if so, she never let it show. I cannot recall her ever complaining about anything, she always looked at the bright side of things.

Years later, father wrote to me in Australia and said he regretted that, despite his best intentions, he was unable to leave us, children, any assets. This was true in terms of property, but he and mother left us a much more valuable legacy: an appreciation of books and education, sound values, and the habits of working hard and standing on our own feet.

People today may conclude that we were underprivileged - an isolated life working long hours on a farm, without electricity or a motor car, refrigerator or washing machine, mostly without a telephone and just a radio for entertainment - but this was normal lifestyle on modest size farms in that country at that time. Environmentalists today would note with approval how little demand this lifestyle made on the Earth's resources. We were neither well off nor poor but managed satisfactorily. Had anybody told us that we were lacking anything we would have been very surprised. I enjoyed my boyhood in the pleasant and peaceful Estonian countryside. Regrettably, this peaceful life came to an early end.

The Arms and Flag of Estonia

4. THE WINDS OF WAR

Molotov-Ribbentrop pact

Estonia had become independent after World War I by fighting and winning the War of Independence against the Soviet Union and the German *Landeswehr*. In the Peace Treaty of Tartu in 1920 the Soviets solemnly pledged to "unreservedly recognise the independence of

Estonia" (see Appendix I). In 1929 Estonia, Latvia, Poland, Romania and the Soviet Union signed a protocol stipulating the immediate entry into force of the Kellogg-Briand Pact (Treaty of Paris, 1928), which renounced war as an instrument of national policy. A Treaty of Non-aggression and Peaceful Settlement of Disputes for ten years was concluded with the Soviet Union in May 1932 and extended in 1934 to the end of 1945. Further, an Estonian-Soviet Conciliation Convention was signed in June 1932. None of these solemn treaties and agreements were honoured by the Soviets.

In August 1939 Germany and the Soviet Union concluded a surprise non-aggression pact which became known after its signatories as the Molotov-Ribbentrop pact. Until then deadly enemies suddenly became friends and allies, which enabled Hitler to attack Poland on 1 September 1939. A few days later Britain and France declared war on Germany and World War II had begun.

The pact contained secret clauses which shared eastern Europe between Hitler and Stalin. Poland was divided between the Soviet Union and Germany and Finland, Estonia and Latvia came into the Soviet "sphere of influence" while Lithuania was in the German sphere. A subsequent amendment gave Lithuania, also, to the Soviets, with the exception of the port of Klaipeda (Memel). It did not take Stalin long to take advantage of this; the Red Army moved into Poland to occupy its allotted territory on 17 September. The Soviet-German Boundary and Friendship Treaty formally dividing Poland was signed at the end of September, followed by a joint Nazi-Soviet victory parade at Brest-Litovsk.

On 1 September the President of Estonia had issued a declaration that

'*the Republic of Estonia will remain strictly neutral in the war which has broken out between foreign countries'*

which was handed to all diplomatic representatives by the Minister of Foreign Affairs. Three weeks later the Soviet Union had concentrated 160,000 troops, 700 guns, 600 military aircraft and 1000 tanks on the eastern border of Estonia. By comparison, the Estonian Army had 16,000 soldiers, 100 guns, 60 obsolete aircraft and 30 tanks. The outcome of a military confrontation was not in doubt. Summoned to Moscow, ostensibly to attend the signing of a new trade agreement, the Minister for Foreign Affairs was given a note demanding the immediate establishment of Soviet military, naval and air bases on the Estonian coast and islands. There was no hope of help from anywhere and the so-called *'Mutual Assistance Pact between Estonia and the USSR'* was signed on 28 September 1939, providing for the stationing of 25,000 Soviet soldiers with guns, tanks and aircraft in military bases in Estonia. (Coincidentally, Germany and the Soviet Union signed their Treaty of Friendship on the same day.) Latvia and Lithuania suffered a similar fate.

Secret Additional Protocol to the Treaty of Non-Aggression Between Germany and the USSR
(23.8.1939).

On the occasion of the signature of the Nonaggression Pact between the German Reich and The Union of Socialist Soviet Republics the undersigned plenipotentiaries of each of the two Parties discussed in strictly confidential conversations the question of the boundary of their respective spheres of influence in Eastern Europe. These conversations led to the following conclusions:

1. *In the event of a territorial and political rearrangement in the areas belonging to the*
   Baltic States (Finland, Estonia, Latvia, Lithuania), the northern boundary of Lithuania
   shall represent the boundary of the spheres of influence of Germany and the U.S.S.R. In this connection the interest of Lithuania in the Vilna area is recognized by each party.
2. *In the event of a territorial and political rearrangement of the areas belonging to the*
   Polish state the spheres of influence of Germany and the U.S.S.R. shall be bounded
   approximately by the line of the rivers Narew, Vistula, and San.
   The question of whether the interests of both parties make desirable the maintenance of
   an independent Polish state and how such a state should be bounded can only be definitely
   determined in the course of further political developments.
   In any event both Governments will resolve this question by means of a friendly agreement.
3. *With regard to Southeastern Europe attention is called by the Soviet side to it's interest*
   in Bessarabia. The German side declares it's complete political disinterestedness in these areas.
4. *This protocol shall be treated by both parties as strictly secret.*

MOSCOW, August 23, 1939.

For the Government	*Plenipotentiary of the*
Of the German Reich:	*Government of the U.S.S.R.:*
v. RIBBENTROP	*V. MOLOTOV*

NEUTRALITY

I declare that the Republic of Estonia
will remain strictly neutral in the war which
has broken out between foreign countries.
For the preservation of this neutrality the
prescriptions of the organization of Neutrality
Act (State Gazette 99, 1938 Number 860)
will be applied in respect of all countries,
as from the first September 1939.

K. Päts,
President of the Republic

K. Eenpalu, K. Selter,
Prime Minister Foreign Minister

This declaration was given to all the diplomatic representatives of Foreign Powers by the Minister of Foreign Affairs on September 2nd. A similar declaration was made by the Latvian Government at the same time.

A month later Hitler invited all Germans living in Estonia to return to the *Reich*, actually to previously Polish territory now annexed by Germany. Most had left by mid-1940 and the rest departed in early 1941. Some Estonians, anticipating what was about to happen, contrived to find German connections and left, also.

On and after 18 October large masses of Soviet military personnel and equipment were moved to Paldiski on the west coast of Estonia and to the islands Saaremaa and Hiiumaa as specified in the Pact, but also to a number of other centres on the mainland not mentioned in the Pact. At the same time the Soviets reiterated that they would not interfere in internal matters.

Having occupied eastern Poland and succeeded in the demand for bases in the Baltic States, Stalin next demanded bases and territory in Finland, also allocated to the 'Soviet sphere' in the Molotov-Ribbentrop Pact. Seeing what was happening in the Baltic States the Finns refused and the Soviet Union invaded in November 1939. To the surprise of the world, the Finnish David stopped the Soviet Goliath in its tracks. Finland had the sympathy of the western world. In December the Soviet Union was expelled from the League of Nations (Stalin was no doubt greatly worried by this) and members of the League were called upon to help Finland. England and France were preparing to send troops, but did not act fast enough. Against overwhelming force and with only sympathy on their side, Finland had to sue for peace in March 1940.

The Finnish Winter War 1939-40 was avidly followed by Estonians listening to Finnish radio. I well recall our family sitting night after night around the radio set at home to hear the news. It was particularly galling that the Soviets used their bases in Estonia to bomb Helsinki and agonising to watch the glow of the fires clearly visible in the northern sky a short time after we heard the bombers going over.

Nikolai Tolstoy (*Stalin's Secret War,* Pan Books Ltd, 1982), observes:

"At the end of the year (1939), Stalin sent warm greetings to Hitler, remarking that the friendship between the peoples of the Soviet Union and Nazi Germany had every reason to be solid and lasting, cemented in blood. This was true enough: the blood was that of thousands of Poles and Jews".

The annexation

It took less than nine months for the Soviets to break their promise not to interfere in internal matters. After congratulating his ally Hitler on his success in France, Stalin must have judged the time ripe for his next move. On 14 June 1940, the day Paris fell to the Germans, Lithuania was accused of breaches of the Mutual Assistance Pact and required to admit additional Soviet troops, who marched in on 16 June. That afternoon the Soviets presented Estonia with an ultimatum to be accepted within eight hours, accusing it of an alliance with Latvia and Lithuania directed against the Soviet Union, not observing the terms of the Mutual Assistance Pact, demanding the establishment of an Estonian Government friendly to the Soviet Union and free passage for further Soviet troops to be stationed in Estonia. The alternative was an oral threat to use force.

The Estonian Government gave way, as did Lithuania and Latvia under similar pressure. Some 100,000 Soviet troops moved in. On 21 June a "spontaneous uprising" in Tallinn, organised by the Soviets and flanked by Soviet armour and Red Army soldiers in trucks, toppled the elected government. The President was coerced to instal a puppet Government dictated by the Soviets.

There are those who criticise the Estonian leaders for yielding without resisting the Soviet occupation. Finland had done so in the winter of 1939-40 and, although crushed militarily within a few months and losing some territory, Finland retained its independence and the sympathy of the western world. It was one of the very few countries in Europe not occupied by either Germany or the Soviet Union during or after the war.

There is no doubt that, in the absence of support from anywhere, military resistance by the Estonians and the other Baltic States could only have lasted a few days. Would this have been worth the bloodshed? The leaders decided "no", fearing that the very physical survival of the nation may be at stake. Had

they decided to resist, there would be people today to criticise that decision. It is easy to pontificate with perfect hindsight half a century after the event, free from the responsibilities, pressures and uncertainties of the time.

The Communist Party had been banned in Estonia since the violent attempt to overthrow the Government in 1924 (see Appendix I). On 21 June 1940 it had only 133 known members. Now in power, it grew: in June 1941 there were 3732 members, still not an impressive number in a population of just over a million.

So-called elections for a new parliament were held on 14 - 15 July. These were the first Soviet-style elections in Estonia: one candidate only in each electorate, nominated by the Communist Party. It is said that the result - that the Communist candidates received over 90 per cent of the votes - was announced by the Soviet newsagency TASS 48 hours before the polls closed. Predictably, this new parliament unanimously decided on 22 July to apply for Estonia to be admitted to the Soviet Union. There is a famous photograph of the voting in the parliament chamber under the watchful eyes of Soviet soldiers and sailors. Again, similar acts were perpetrated in Latvia and Lithuania.

In the Soviet Union at that time there was a parliament (Supreme Soviet). The executive branch of government was a 100 member Council of Ministers, headed by a Presidium. The Chairman of the Council of Ministers was the theoretically the equivalent of the Head of State. This government apparatus was, however, completely under the control of the Communist Party of the Union of the Soviet Socialist Republics (USSR). Its 16 million members (in the 1970s), by invitation only, were headed by a 287 member Central Committee, on top of which there was a 14 member Politburo. The Chairman of the Council of Ministers was a member of the Politburo. The real ruler of the country was the General Secretary of the Communist Party of the USSR who also chaired meetings of the Politburo. The Supreme Soviet and its organs simply carried out the directives of the Politburo. A similar system existed in all the member Soviet Socialist Republics.

On 23 July 1940 the United States Government issued a statement which said, in part:

"During these past few days the devious processes whereunder the political independence of the three small Baltic republics – Estonia, Latvia and Lithuania – were to be deliberately annihilated by one of their more powerful neighbours, have been rapidly drawing to their conclusion.

From the day when the peoples of these republics first gained their independence and democratic form of government the people of the United States have watched their admirable progress in self-government with deep and sympathetic interest.

The policy of this government is universally known. The people of the United States are opposed to predatory activities no matter whether they are

carried on by the use of force or by the threat of force. They are likewise opposed to any form of intervention on the part of one state, however powerful, in the domestic concerns of any other state, however weak".

The annexation took place on 6 August 1940. A dark night descended on Estonia for almost exactly fifty-one years.

Soviet occupation 1940 - 1941

Stalin in on record saying that problems are caused by people; if there are no people, there are no problems. The process of destroying the leadership of independent Estonia began immediately. Political leaders, including eight former Heads of State and forty-nine former Ministers, were arrested and deported to Soviet Russia where all but two of them were shot or died in prison. President Päts and Commander-In-Chief General Laidoner had opportunities to escape abroad but refused to do so, considering it their duty to share the fate of their colleagues and the people. Other politicians, military officers, local leaders, journalists and businessmen began to disappear. All banks, industries, businesses, landholdings and other forms of private enterprise were nationalised. Bank deposits and savings accounts above a certain level were confiscated. The media, now owned by the government, were full of praise for the 'working class government', the 'brotherhood of nations' in the Soviet Union, 'the new freedoms hitherto unknown to the working man'. There was virtually no news of the rest of the world. The Battle of Britain and similar events were not even mentioned.

In schools and workplaces 'Red Corners' appeared, with portraits of Marx, Engels, Lenin and Stalin, communist slogans, and essays by students and workers praising the system. Some of these were by supporters of communism but most were by authors simply told to produce a suitable piece. To refuse had serious consequences. Workers and even soldiers were ordered to 'spontaneous' demonstrations, carrying red placards with slogans.

Our 100-hectare farm was confiscated and we were allowed the use of twenty-four hectares. The remaining land was partly resumed by the State and partly handed in fourteen- hectare lots to people who had previously been hired to work on the farm. They were people we knew well. My father had no animosity against them - he supplied them with seed grain and lent them horses and machinery. The experiment did not last long enough to test the economic viability of the small holdings, which was doubtful. It was almost certainly meant to be a prelude to eventual collectivization.

On 13-14 June 1941 between 10,000 and 11,000 Estonians, including nearly 3000 children under 14 years of age, were arrested in the early hours of the morning, men and women in almost equal numbers. For some reason the Parbo family was not included, although we had been warned that something

was happening and spent several nights hiding in a remote corner of a nearby forest. Those arrested were people from all walks of life, including factory and farm workers. They were given a short time, often less than thirty minutes, to pack their belongings. There were no charges, no evidence, no hearings, no defence, no appeal. Families were told that they would stay together - a promise kept until they arrived at the railway sidings where the ominous cattle trucks were waiting. Men were separated from women and children, most never to meet each other again. In spite of a heavy guard of militiamen and Russian soldiers there were emotional scenes as the trains moved off for the long journey into the unknown in distant parts of the Soviet Union. Similar deportations took place simultaneously in Latvia, Lithuania and Moldavia. Some died during the rail journey before reaching their destinations.

The men (and some women) were sent into prison camps, interrogated, and many sentenced to death for having been leading citizens or members of organisations considered hostile to the Soviet Union. Quite a few died of hunger and cold before they could be executed. Many women and children, sent to Siberian villages where food was very short, also died. Only a few of those deported survived to return to Estonia many years later.

In such circumstances anything that would end the Soviet occupation was welcome. Although Germans had destroyed the ancient independence of Estonia, had been oppressive and hated overlords for many centuries (see Appendix I), and had through the Ribbentrop-Molotov Pact sanctioned the Soviet occupation of the Baltic countries, the news of the German attack on the Soviet Union on 22 June 1941, only a week after the deportations, was received with relief.

In a speech on 3 July 1941 Stalin ordered a policy of “scorched earth” by retreating Soviet troops, destroying everything just as Alexander I had when Napoleon invaded Russia almost 130 years earlier. The carrying out of this policy in Estonia was made the responsibility of special Destruction Batallions, consisting of Russian, Estonian and Latvian communists. They did their job well, in the course of it committing atrocities and murdering civilians. Men who had hid in forests - the "forest brothers" (*metsavennad)* - to avoid call-up or arrest tried to prevent the destruction and atrocities and in some cases were successful. The forest brothers at times took over from the communists even before the German troops arrived and in other instances joined the German units on an informal basis.

By 10 July the front reached Tartu, where it was temporarily halted at the river Emajõgi. It took another fortnight for the Germans to occupy the northern half of the city and move beyond it. Further west, in mid-July there was a pitched battle twenty kilometres from our farm, after which the Red Army retreated in some panic discarding equipment and stores on the roadside. Returning cautiously some days later soldiers on trucks sprayed machinegun

fire on both sides of the road, killing eight men in a field not far from us. The Germans arrived in our area without a shot in the second half of August.

Tallinn was relieved of the Soviet regime on 28 August. The last Soviet resistance on the islands was broken on 6 December 1941.

In a single year under the first Soviet occupation some 9000 people, predominantly from the leadership of the country, had been arrested and were executed, died in jail or disappeared without trace. The Estonian Army of some 16,000 men (two divisions) had been incorporated into the Red Army. After many of its senior officers had been arrested and deported to the Soviet Union, again to be exterminated, the two divisions were sent to the Soviet Union at the end of June 1941. Before retreating in August, in addition to the mass deportations on 13-14 June, the Soviets carried out more deportations from northern Estonia and called up men for military service. My elder brother was among those mobilised and on board a ship to Leningrad which, however, was forced to turn back. He survived, while many perished when their ships were sunk by the German Navy or in minefields. Both the deportees and the draftees who reached the Soviet Union were taken to labour camps where an estimated one third of them perished from cold and hunger during the winter of 1941-42.

Some 60,000 people were thus forcibly removed, in addition to which about 33,000 people – mainly communists, various functionaries and their families, but also Jewish people who had good reason to fear the Germans - left voluntarily. In all, therefore, Estonia lost nearly 10 per cent of its population in 1940-41. This would be equivalent to about two million Australians leaving the country today.

German occupation 1941 - 1944

The only contact we on the farm had with the German forces was when a supply unit rested there for a couple of weeks in September 1941. While the German military was famous for its mechanised "blitzkrieg" tactics, it depended to a surprising extent on horse-drawn supply wagons, such as used by the unit quartered with us. Their big horses made quite a hole in our hay reserves and in the following winter our own horses and cattle had to be fed partly with straw.

Trains were not yet operating in September when I had to enrol at the Gustav Adolf Gymnasium in Tallinn, so my mother and I rode on bicycles for the ninety kilometres there and back again to do so. Fighting had only just finished and at the roadside there were fresh graves of German soldiers, with shot-through helmets on birch tree crosses.

During the next several years in Tallinn there were numerous bombing raids at night by the Soviet Air Force, but without causing much damage until March 1944 when a series of concentrated raids destroyed parts of the city and

killed more than 500 people. My father happened to be there for a visit that night, was wounded and spent some time in hospital.

After Estonia had been cleared of Soviet troops in 1941, numerous young men wanted to continue fighting the communists, many to avenge their murdered or deported families. These volunteers, as well as the draftees called up by the Germans in 1943-44, were formed into company and battalion size Estonian units, later combined into a division, which fought only on the eastern front. When the Soviets again threatened to occupy Estonia in early 1944, the Estonian units fought desperately against the Red Army and helped in July and August 1944 to stop its advance on the Estonian border at Narva and the second line of defence at Sinimäed. The Soviets then concentrated overwhelming forces on the southern front at Tartu and overran the mainland late in September.

Finland had entered the war again with the aim of regaining the territory lost in 1940. Although pressed by the Germans, they did not cross the 1939 Soviet border. Some young Estonians who wanted to fight the communists, but not in the German Army, escaped to Finland beginning in 1940 and were formed into an Estonian regiment in the Finnish Army. They were fighting on the German side of the front line, but under the Finnish flag. Finland was again forced to ask for an armistice in early September 1944. Just before Estonia was overrun again by the Red Army later in September, virtually all these volunteers came back to Estonia and many died in the final battles on the southern front.

In 1942 the Estonian regular army men and draftees who had been taken to the Soviet Union in 1941 and survived the Soviet labour camps were formed into an Estonian Corps in the Red Army and fought on several occasions against the Germans. Some were communists but most were not; joining the army was simply a way to avoid dying from disease and hunger in the labour camps. In September 1944 they were among the Soviet troops invading Estonia and there were battles between Estonians on both sides.

The outcome of the unequal struggle in 1944 was not in doubt and yet many young Estonians - including those safely in Finland, who came back to Estonia - chose to fight to the bitter end. Their sacrifice enabled tens of thousands of their countrymen and women to escape westward, to Sweden and to Germany, to bear witness to the illegality of the Soviet annexation of their country and to hold the desire of Estonians to regain their freedom before the western world. A similar exodus took place from Latvia and Lithuania. This was unquestionably an important factor in the three Baltic countries regaining their independence nearly fifty years later.

The treatment of the local population by the German occupation authorities in Estonia was not as bad as that by the communists. “Red Corners” were not replaced with Nazi propaganda and no-one had to spout nonsensical slogans or attend “spontaneous” political meetings as in Soviet times. The blue-

black-white Estonian flag could again be flown, although the flag symbolic of government in Pikk Hermann tower in Tallinn was the German swastika banner. The Germans, however, were also not in the slightest interested in Estonian independence. The country was regarded as a part of the occupied eastern territories. All decisions came from Berlin through the Ostland civilian administration in Riga consisting of Germans. An Estonian local administration installed by the Germans had no decision-making powers of consequence. A large proportion of farm produce was taken for the German army. Businesses, buildings and other property nationalised by the Soviets were regarded by the Germans as their legitimate booty and not returned to the former owners, although people like my father got their farms back. (He wanted to let the ex-hired hands keep their fourteen-hectare holdings, but was not allowed to do so). Secret arrests of people re-appeared, though on a much smaller scale than during the year of Soviet rule. The people succinctly summed it up by the saying "a robber saved us from a robber".

During the three years of German occupation 7798 Estonian citizens and residents are recorded as having been executed, of whom 69.4 per cent were Estonians, 15.2 per cent Russians (including some partisans) and 11.9 per cent Jewish. About 4000 people are estimated to have died in Soviet bombing of Estonian towns and at sea while escaping to Sweden and Germany in 1944.

Jews in Estonia

Ethnic minorities with at least 3000 members enjoyed in the Republic of Estonia cultural autonomy which entitled them to run their own schools, with State support. Jews were one of the smallest, representing 0.4 per cent of the population (4434 people in 1934) and apparently such privileges had never been extended to them in any other country. In February 1927 the Zionist organisations in Estonia arranged for the name of the Republic of Estonia to be entered in the Jewish Golden Book in Jerusalem *"As a sign of gratitude for the first historical deed in the History of Israel through the gift of national and cultural autonomy to the Jewish Minority in Estonia".*

After the Soviet occupation of Estonia in 1940 the cultural autonomy and activities of the 32 Jewish organisations were terminated. Teaching of Hebrew and Judaism and Yiddish culture were banned. In June 1941 ten per cent of the Jewish population, 414 Jews, were included in the more than 10,000 people deported to Siberia.

During the German occupation (1941-1944) the Nazis murdered the nearly 1000 Jews who had failed to flee ahead of the Germans. They also brought many Jews from elsewhere in Europe to be exterminated in two special camps.

In the again independent Estonia in 2002 there were about 3000 Jews, with a synagogue and a Jewish Cultural Society. Hebrew, Judaism and Yiddish culture were taught at the Institute of Humanities.

The Estonian dilemma

Estonians finished up fighting on both sides in World War II.

There was an Estonian Communist Party which gained a considerable membership after the Soviet occupation in 1940, both ideological communists and, later, those who had to belong to the party to hold down a senior position. (The latter were called radishes – red on the outside, white inside. Including all the radishes, the membership reached 60,000 during the second occupation, still a small proportion of the total population.) Some Estonians, mainly Russian-Estonians, fighting in the Estonian Corps in the Red Army were dedicated communists, but most were not and had joined it simply to avoid dying from disease and hunger in the labour camps, as many already had.

Initially, a number of Estonians had volunteered to fight communism in German uniform. Later, many more were conscripted. Those in the Finnish Army were all volunteers. None of the Estonians on the German and Finnish side were fighting for Germany or Nazism. In contrast to many European countries, even Great Britain, there was never a "fashist" or "Nazi" party in Estonia. When the nearest to it, the League of Veterans movement, was endeavouring to seize power in 1935 its leaders were arrested and sentenced to jail terms (see Appendix I). The movement ceased to exist.

Neither the Soviets nor the Germans were interested in Estonian independence. Documents now available indicate that, had Germany won the war, Estonia would have once again become a German colony. The Estonian dilemma was that, whichever side won, they would lose.

The vast majority of Estonians believed that a return of the Soviet occupation in 1944 had to be resisted. Meekly accepting the forced annexation into the Soviet Union the second time would have forfeited the basis for seeking to re-gain independence in the future.

The declaration of independence in 1918 had occurred in the short interval between the Russians withdrawing and the German occupation. The support of the British Navy in the War of Independence was remembered and the Atlantic Charter included the principle of restoration of sovereign rights to peoples deprived of these against their will. Soviet Union had signed the Charter. The United States and Great Britain had not recognised the Soviet annexation of the Baltic States. Naive as it may seem in retrospect, there was the hope that, providing the Estonians could hold off the Red Army for even a short time after the Germans left, the western Allies would exert pressure on the Soviets for restoring Estonian independence. Admiral Pitka, a popular

leader in the War of Independence, was organising an armed force and an unsuccessful attempt to restore independence was, in fact, made between the German withdrawal from Tallinn and its re-occupation by the Soviets in September 1944. An Estonian Government was formed, a declaration issued, and the blue-black-white flag was flown from Pikk Hermann, but it was machinegunned down by the entering Red Army and most members of the Government were arrested within days.

We now know that the freedom of the Baltic States counted for little in the grand scheme of things. Stalin faced the western Allies down on much more important issues. World War II had started about Poland and Poles fought with great valour in the British Army and the Royal Air Force. Yet at Teheran in 1943 Stalin managed to manoeuvre both Churchill and Roosevelt into accepting the dividing line through Poland agreed in 1939 by Molotov and Ribbentrop as the western boundary of the Soviet Union. Shamefully, this was kept secret and the Poles had no inkling of it until late in 1944, being meanwhile repeatedly assured by both Churchill and Roosevelt that "your country will emerge undiminished". When the Polish government-in exile in London protested, Churchill told them they had no voice in the matter. So much for the Atlantic Charter.

Other nations have faced similar dilemmas. Latvia and Lithuania were in the same situation as Estonia. Poland faced a likely German attack after Hitler renounced their non-aggression pact in 1939. Talks on a Western-Soviet alliance which may have protected against this fell through because the Soviets demanded the right to enter Polish and Baltic territory for military purposes regardless of whether these countries agreed or not. Even in the face of the imminent German threat, the Poles would not allow Soviet forces on their territory. The Polish dilemma was further underlined by the joint Nazi-Soviet victory parade over Poland held at Brest-Litovsk later in the same year.

The western Allies had been against the Bolsheviks after World War I. In World War II they fought on the same side as the Soviet Union because Hitler was, in the first instance, a greater danger to them. The arch anti-communist Churchill believed he had no choice but to support Stalin and is reported to have said that if the devil himself was to oppose Hitler, he (Churchill) would at the very least make a favourable reference to him in the House of Commons. England and France had condemned the Soviets for attacking Finland in 1939-40 and intended to send troops to help the Finns; England now declared war on Finland.

In Estonia, Stalin's deeds were fresh in memory and he was the greater immediate danger, although there was also nothing good to expect from the Germans. When World War II ended in Europe in May 1945, the Estonians and the other Baltic nations had no reason to celebrate. Instead of becoming free again, they were facing another forty-six years of Soviet occupation.

People and nations whose choices are black or white are fortunate indeed.

It has been estimated that, on both sides, up to 60,000 Estonians (about 6 per cent of the population) died as soldiers either in the fighting or from wounds or illnesses, in Soviet labour battalions, as 'forest brothers' or for other reasons in World War II and its aftermath. For Australia today this would be equivalent to 1.2 million war dead. Adding to this at least 20,000 civilians who died during the Soviet and German occupations between 1940 and 1944 and while fleeing the country in September 1944, Estonia's loss of the order of 8 per cent of the population during World War II compares with 0.3 per cent in USA, 0.6% per cent in Australia, 0.8 per cent in Great Britain, 2.5 per cent in Finland and 3.6 per cent in Japan. Greater losses were suffered by Germany (10.8 per cent), the Soviet Union (13.7 per cent) and Poland (16.1 per cent.)

Leaving home

The German front in Estonia broke in September 1944. Some 80,000 Estonians left the country ahead of the Red Army rather than live under the communist system. Leaving meant abandoning homes, assets and careers and often other family members, so this was not an easy decision. Nevertheless, 80,000 people decided that it was better than the alternative. Remembering the experience of 1940-41, many literally feared for their lives. What made leaving easier was the expectation that the western Allies would find a way to cause Estonian independence to be restored and many, if not all, of those leaving did not expect to be away for long.

There were ships to northern German ports, mainly Gotenhafen. Some of these were sunk by Soviet submarines with severe loss of life but others arrived safely. Finland was out and the only alternative destination was Sweden. The Germans tried to prevent people escaping to Sweden but a considerable number nevertheless managed to reach there in small and sometimes unseaworthy boats, with loss of life in storms on the way. For those who did not have access to ships or boats the only option was by land through Latvia, Lithuania and Poland to Germany.

I was away from my family at the time. In the chaos and confusion there was no opportunity to make contact, I had to make up my mind quickly and finished up in Germany. The family also decided to leave and made their way to the west coast of Estonia in the hope of getting on a boat. Worrying about the animals and making arrangements for these to be looked after they had, however, left it too late. By the time they reached the coast in a horse drawn cart there were no boats and on the way back they already met the Red Army camping by the roadside. They returned home and, for a while, continued to

live on the farm. I was the only member of the family to leave Estonia and for some years we had no contact with each other.

Second Soviet occupation

Thousands of the men who had been fighting against the Red Army disappeared into the woods and, once again, became "forest brothers". The numbers grew when the Soviets carried out mobilisations into the Red Army and at the time of further mass deportations in March 1949. It has been estimated that at various times there were up to 30,000 people hiding in the forests, of whom about 10,000 were active guerrillas. Although not nationally organised, some groups, equipped initially with arms and ammunition left behind by the Germans and later with captured Soviet armaments, were capable of fighting substantial battles. The rationale of this armed resistance was again the hope that the western Allies meant what they said in the Atlantic Charter and that Estonia's independence would be restored. When it became evident that this would not happen, the guerrilla movement gradually weakened. Two years after Stalin died in 1953 an amnesty virtually ended the movement and the final hope for action by western allies died when they allowed the Hungarian uprising to be crushed in 1956, although the last known forest brother committed suicide while being arrested as late as 1978.

By early 1945 the population of Estonia had been down to about 800,000 people. From 1944 to 1954 some 30,000 people accused of supporting the German occupation or of being anti-Soviet were arrested and sent to prison or hard labour camps. In March 1949 there was the second mass deportation of 20,722 mainly rural people to Siberia, aimed at encouraging the farmers to "voluntarily" join collective farms and reducing support and food supplies to forest brothers. This was 2.5 per cent of the population or equivalent to some 500,000 people in Australia today. Immigration from the rest of the Soviet Union, mainly Russia, added 170,000 non-Estonians by 1950.

In the early 1950s there was a purge of the Estonian communist leaders who were accused by Moscow of "bourgeois nationalism" and replaced with Russian-born Estonians, some of whom did not even speak Estonian. In Stalin's time it was dangerous to be a prominent communist as well as to be an opponent of communism. Some of those deposed were arrested and sent to prison or forced labour camps and some were shot. Remarkably, there is evidence that in all the purges in the Soviet Union over the years, quite a few of the victims remained loyal to the communist system even when a gun was pressed to the back of their necks.

By 1951 more than 95 per cent of the farms in Estonia had been forced into collectives. There was an influx of people from other parts of the Soviet Union, with Russian speakers forming 25 per cent of the population by 1959.

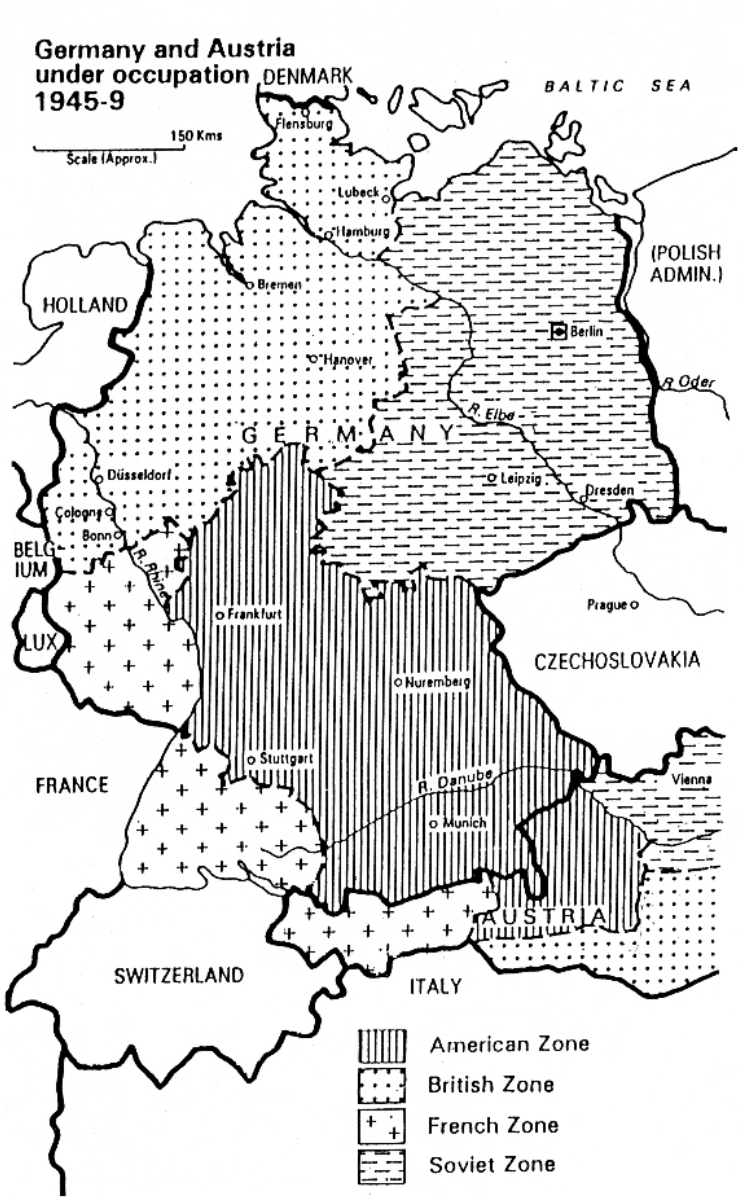
In some parts of Estonia it was not possible to cope without a knowledge of Russian.

Conditions improved a little after Stalin's death in 1953. (Incredibly, in Russia, people cried in the streets on hearing the news. I doubt whether many in Estonia did, unless they were tears of joy). In the Khrushchev period commencing in 1956 the survivors of the deportations of 1941 and 1949 (including my parents and brothers – see later) began to be gradually allowed to return to Estonia and contacts with the outside world, although still hazardous, began to be possible. Under Brezhnev after 1964 and after the suppression of the 'Prague Spring' in 1968 the screws were tightened again. An era of Russification – including further immigration from Russia, which began in all the Baltic countries in the 1970s - resulted in a strong undercover dissident movement. Baltic organisations in the free world appealed to the United Nations. By the 1980s ethnic Estonians formed less than 65 per cent of the population. This led to an open dissident movement, together with widespread distribution of underground publications. Gorbachev's coming to power in 1985 started a period of greater freedom, described later.

5. DISPLACED PERSON IN GERMANY

Germany after the war

After the war in Europe ended in May 1945 Germany was divided into four Occupation Zones: USA in the south, France in the south-west, Britain in the north-west, and the Soviet Union in the north-east. (The wags said that the Americans had received the nice scenery, the French the vineyards, the British the ruins and the Soviets the granary). Berlin, inside the Soviet Zone, was also divided into four sectors. While the occupying powers could act independently in their own Zones, the four powers combined in a Control Commission which was to make any decisions which affected all Germany.



The Soviets were un-cooperative from the start. The American and British troops travelling by autobahn to Berlin to man their occupation sectors were harassed all the way. On arrival the Americans had to sleep in tents pitched in rain and mud and the British found the Spandau barracks vacated by Soviet troops indescribably filthy, with rotten potatoes and human excreta covering the floors. According to one officer "Just to open a cupboard door was an experience".

The Potsdam Conference in August 1945 decided that Germany east of the Oder and Neisse rivers would become a part of Poland to compensate for eastern Poland being given to the Soviet Union, in effect moving the country 240 kilometres to the west. The so-called Western Territories represented nearly one third of the new Poland. German population from that area (Silesia), about four million people, would be deported to the west 'in an orderly and humane manner'. (This became a reason why I migrated to Australia, as described later). Ethnic Germans were also driven out from other parts of

eastern Europe and the total exodus amounted to 10 - 12 million people. In the course of 'humanely' evicting these it is estimated that about two million, many of them women and children, perished.

The initial restrictions on Germans were extraordinary; one wonders what kind of person could have dreamt these up. They had no rights. *Habeas corpus* was suspended, they could be arrested without giving any reason and shot without court order. A non-fraternisation order forbid Allied soldiers to speak to Germans about anything other than official matters, shake hands, visit German homes and even speak to children. Germans were not allowed to travel more than six kilometres from their homes, send letters or receive foreign newspapers or books. They had to observe a curfew and could not use a telephone. Bank accounts were frozen. Germans could be searched at any time and their effects and apartments or houses, together with all contents, requisitioned at an hour's notice. No more than five people could be together at any time. Men between 14 and 65 and women from 15 to 50 could be forced into labour gangs.

These rules were impractical and many were simply ignored by most of the allied soldiers. As early as August 1945 General Eisenhower declared that "normal human contact" was permitted. In particular, the order of non-fraternisation with German women, the breach of which rated a US $65 fine, was virtually never observed, even by officers who argued that this was not fraternisation but sororisation. The non-fraternisation policy was discontinued on 1 October. Many top brass thereafter lived openly with 'second wives' - German mistresses.

Germany in 1945 was in a sorry state, its cities reduced to rubble, the industry in tatters, the currency worthless, the people demoralised, and the official economy barely functioning. Most large cities were up to 90 per cent in ruins where people lived in cellars or makeshift humpies in the rubble. The main inducement to have a job was to become entitled to additional ration coupons.

At the end of 1945 the Allied authorities were seriously concerned about the possibility of a famine and civil unrest which may have to be suppressed by military force. The intended food rations in the western Zones were 1550 calories a day but the actual was around 1000 calories, compared with 800 calories a day in Hitler's Belsen concentration camp. City people trekked in large numbers to the countryside to barter their possessions for food. Cats and dogs became scarce, horse meat was a delicacy. Walking past the empty shop windows where these had survived, it was hard to imagine that before the war these had displayed not only food but goods of all kinds. There was not enough coal for heating and trees in cities were cut down for firewood. In the American zone schoolchildren were required to bring a piece of wood to the school every day. The already precarious situation was made worse by

250,000 ethnic Germans a month expelled from eastern Europe starting to arrive in November 1945.

In contrast with the official economy, illegal barter trade in goods and services was flourishing. In every town and city there were known 'black market' areas where people stood in the streets offering what they had to barter and seeking what they wanted in return. A number of exchanges may have been necessary to achieve the desired result. One had to be a real entrepreneur to operate on the black market and there were some who made (illegal) fortunes.

The main currency in use was American cigarettes. Allied soldiers, with access to plentiful and cheap cigarettes, lived like millionaires. You could buy anything for enough cigarettes and they had considerable merit as a currency. There were three units - cartons, packets, and single cigarettes - equivalent to pounds, shillings and pence. Better than that, there was in-built anti-inflation protection: if the money supply increased (more cigarettes became available) and the currency depreciated (the value of a cigarette decreased), more would be smoked. The inflation would literally disappear in smoke.

The winter of 1946-47 in Europe was the longest and coldest of the century. In England, the River Thames froze at Windsor. This was accompanied by a shortage of coal; power stations had to be shut down and electricity to industry was reduced greatly or even cut off. In February 1947 British industrial production was virtually halted for three weeks; unemployment increased six times. The situation in Germany continued to be grave.

In June 1947 US Secretary of State George Marshall announced what became known as the Marshall Plan, providing finance for European reconstruction. Among other things, this enabled to import food and critical raw materials and gradually improved the situation in Germany.

DP in Lübeck

In the three Zones of the Western powers there were immediately after the war eleven million foreigners, including just over 30,000 Estonians. These were looked after initially by the Supreme Headquarters of Allied Expeditionary Forces (SHAEF) and, from 1 August 1945, by the United Nations Relief and Rehabilitation Administration (UNRRA). Foreign refugees were named Displaced Persons (DP's) and collected into camps from which they were to be repatriated or, if this was not possible, settled somewhere else. I became an inmate of a DP camp in Lübeck in the British zone. Our accommodation and sustenance were provided by UNRRA. Food was not plentiful, but compared to the misery of the Germans in the cities the DPs were well looked after.

In Lübeck there were quite a few young Estonians, such as myself, whose secondary education had been interrupted. There were also qualified teachers and one of the early actions was the establishment of an Estonian Secondary School. I enrolled in 1945 and graduated in April 1946.

Mining student in Clausthal

I then had to decide what to do with my life. Observing how people had had to abandon the benefits of a lifetime of work to escape the communist regime, it was clearly important to acquire an asset I could always take with me, whatever happened. A good professional education was such an asset.

In Hamburg there had been established a Baltic University, with both professors and students from the three Baltic States, and I applied to enrol. Being only 18 years old, I decided to say on the application form that I was 20 to help ensure admission. Ever since I was officially born in 1926, not 1928.

I spent a term there studying philology but soon came to the conclusion that, while it was interesting, this was not a lifetime occupation for me. An interest in engineering (I had been studying electrical engineering at Tallinn Technical College before leaving Estonia) as well as in minerals and rocks led to the decision to study mining engineering. I therefore enrolled in the Clausthal Mining Academy in the Harz mountains, one of the eminent mining schools in Germany, established in 1775. Among others many of the early American mining engineers, metallurgists and geologists had obtained their training in Clausthal, before such schools were founded in America.

From 16th century onwards the Harz had been a famous silver-lead mining district until virtually all the mines had closed by the 1930s. The historical glories are recorded in a mining museum in the twin city of Zellerfeld. The Mining Academy was now the main industry. In this highly forested area all the buildings were made of wood, including the Academy and the church which was said to be the largest wooden church in Germany.

The demarcation line between the British and Soviet zones of occupation passed through the Harz about 15 kilometres to the east of Clausthal. The highest point, the Brocken (1142 metres), famous from German folklore and Goethe's *Faust* as the place where the witches lived, was about 20 kilometres away in the Soviet zone, easily visible from Clausthal. (On Walpurgis Night, 30. April to 1. May, the witches allegedly hold a large celebration on the Brocken to mark the arrival of spring.) Instead of witches, it now had telecommunications and spy antennas on the top. Goethe had visited the Harz to study geology and mining and wandered throughout the mountains, often on horseback or on foot.

The rainfall in Clausthal-Zellerfeld was 1600 millimetres a year and the water was collected in more than 60 ponds and lakes which in previous times had been used to run waterwheels to power the mines. The elevation, the

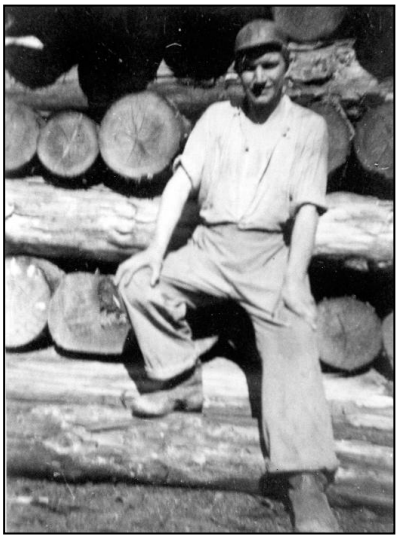
extensive surrounding conifer forests and the absence of industrial emissions had been reasons to establish there before the war a substantial sanatorium for people with lung ailments. It was located out of town next to a large pond, well used in the summer for bathing by patients and others. This particular pond was quite deep and, never a strong swimmer, on one occasion I came close to drowning in it.

The train trip from Hamburg to Clausthal was rather different from such travel today. While there was a timetable, in 1946 this was rarely observed. Intending passengers would go to the station prepared to wait for as long as necessary, sometimes for a day or more, until the train arrived. People camped and prepared their meals in the waiting room and slept on the floor. During the war I often had to travel in cattle or goods wagons, but these had now been replaced by third class passenger carriages. There were always more passengers than seats and those late to scramble on board would sit on their suitcases or just stand in passageways and on the end platforms. Sometimes some would travel on carriage roofs but I somehow avoided that. The good news was that no-one ever checked your ticket because it was impossible for conductors to move through the packed carriages.

The Academy had been closed during the war because most of the teachers and students had been called up. It was being re-opened towards the end of 1946 when I enrolled.

I had a room with a German family in Zellerfeld some two kilometres from the Academy, one kilometre down hill and another up hill. There was no public transport and a bicycle was impractical on the steep and, in the winter, icy streets, so I walked both ways. There was no difficulty in keeping fit!

The winter of 1946 was particularly cold and there was no fuel for heating. To warm ourselves, my friends and I frequently played basketball in the Academy's sports hall. While the standard of the game was questionable, it was certainly fast! Teachers and students alike attended lectures in heavy overcoats, fur hats, and gloves. It was remarkable that, instead of detracting from the quality of teaching or the determination to learn, these hardships had the opposite effect. I always remember this when I hear complaints today about inadequate facilities, sub-standard conditions, and so on.



The worst of today's facilities would have been a great improvement on what we had in Clausthal in 1946. But it was not comforts which mattered to us; more than anything else we wanted to learn because a good professional education was the passport to the future. It is this will to succeed and not soft carpets, subdued lighting, and piped music that determines the result.

Students at the Academy were required to spend their vacations in practical work in the mines or processing plants, as are students at Australian mining schools today. I worked my first shift underground in March 1948 in a lead-zinc mine called *Bergwerkswohlfahrt* about five kilometres from where I lived in Zellerfeld (see photo).

Again, there was no public transport and everyone working on the mine walked or rode bicycles to and from work.

The mine had been in operation for some hundreds of years in this ancient mining district.

One of the mines which closed down not long ago in this area, at Rammelsberg near Goslar, had been worked continuously for more than a thousand years. The upper levels of the Rammelsberg mine have been preserved as a museum, showing progressive developments in mining techniques and equipment over the centuries.

Because the mine I worked in was so old, the current workings were a long way from the main shaft. We descended in a cage down this shaft, travelled in an underground train for some 45 minutes, went down an internal shaft, and walked another quarter of an hour or so to the working place. At the end of the shift all this happened in reverse.

I was allocated as an offsider to a development miner driving a tunnel. We worked by the light of carbide lamps, after having purchased our own

carbide as was the standard procedure. The water to go with the carbide to generate the acetylene gas was free! These lamps gave good light, but suffered from two defects.

Firstly, a shock of air, such as from firing a shot nearby, could extinguish the flame. We therefore had to be very sure of always having a box of waterproof matches in our pockets. Normally only an annoyance when the light went out in this way, it became dangerous if it happened when lighting up at the end of the shift twenty or thirty fuses which was done with the flame of the carbide lamp. One of us would do the lighting up while the other would stand by with a matchbox in the hand.

The other problem was when climbing ladders. The lamp had a swivel hook by which it would hang from between the thumb and forefinger so that the other fingers could be used to grip the ladder rungs. It took experience and skill to stop the lamp from swivelling and the flame burning the arm - and I can confirm from experience that the acetylene flame is very hot indeed!

Going to Sweden?

While visiting Lübeck towards the end of the summer vacation in 1947 I met some Estonians I knew who had decided to leave Germany and go to Sweden. To do so through official channels was a lengthy and wearisome process, but the Swedes had accepted many refugees who just landed on their shores. The Estonians had been working for the American Army in southern Germany and had acquired a considerable quantity of American cigarettes which could be used for buying a motor boat. To do so legally it had to be registered in the name of someone with a German passport which none of them had. It so happened that, while studying in Clausthal, I had taken out a German *Fremdenpass*, and this was adequate. I agreed to help them, provided I could go with them.

We bought a suitable boat in Kiel and sailed it down the coast to Neustadt in Holstein where one of the group had a friend in the DP camp there and where we hoped to be able to buy enough petrol to get to Sweden. While sitting down for a meal with the friend in Neustadt after arrival, the room was suddenly invaded by camp police and we were all arrested on suspicion of being black market smugglers.

I had been eating smoked fish and during the night in the camp lock-up started to suffer from severe stomach pains, apparently from food poisoning. After pounding on the cell door for quite some time I managed to convince the jailers that I was serious and had my stomach pumped out in the hospital. The problem for the authorities then was what to do with me?

They hit upon a brilliant idea. I was taken to the local lunatic asylum where my health could be monitored and I would also be under guard.

My entrance to a ward of about ten inmates was an event for them. They made it their business to come and make themselves known to me. One believed he was Napoleon, walked around with his hand inserted in the jacket in the approved manner and did not deign to have much to do with the rest. Others told me in strict confidence fabulous stories of their past adventures, a fraction of which may have been true. They were all fine fellows, not much crazier than some people I have met on the outside before or since then or, indeed, those who had arrested us.

It would have been fairly simple to just disappear from the asylum but I could not do so because the boat was in my name. Thus, after a day or two, I meekly returned to the jail and my friends and I were escorted in handcuffs through the streets of Neustadt to the British Control Commission court. Small kids would point their fingers at us and their mothers would protectively pull them away from these obviously dangerous desperadoes. The British judge was completely disinterested in our story and remanded us for a further two weeks 'on suspicion', this time in the German town jail.

The German policemen were as mystified as we were as to what we were supposed to have done wrong, but this was still a time in Germany when the occupation authorities were unquestioned gods. Two weeks later we were released without charges, provided we signed statements that we had been well treated and had no complaints. We knew better than to argue about it.

Meanwhile my next term in Clausthal was about to start and I decided to return to the Mining Academy. Some weeks later my friends secretly stole out of Neustadt in the boat and set course for Sweden. Autumn had started and the weather was foul. Not long out the engine stopped – the black market petrol had been contaminated with water. The boat with its seasick crew drifted towards the coast of the nearby Soviet Zone and was arrested by the Soviet coast guard. Eventually three of the group managed to make a hair-rising escape from the train which was to take them to the Soviet Union, reached West Berlin, and returned to freedom. They eventually got to Sweden and later two migrated to Canada and one to Australia. The others continued to the Soviet Union and many years later I met one who had survived the Gulag in Vorkuta, was able to return to Estonia, married a lovely Estonian girl and, in all the circumstances, had made a good life for himself.

Coal miner

My next practical experience period was in an underground coal mine *(Zeche Bergmannsglück)* in Gelsenkirchen in the famous Ruhr district. This was after the money reform in Germany.

After banks closed for the weekend on Friday, 18 June 1948, the old currency in Germany - the Reichsmark – was declared valueless in the three western Zones and replaced on Sunday 20 June by a new currency - the

Deutschmark. Everybody was allowed to change 40 old marks for 40 new marks so that on the Monday morning everybody in western Germany had exactly the same amount of money. All price controls, which previously applied to virtually everything, were abolished at the same time. Businesses were allowed to change 60 old marks per employee into new as working capital and subsequently bank accounts were converted at 6.5 new marks for 100 old marks.

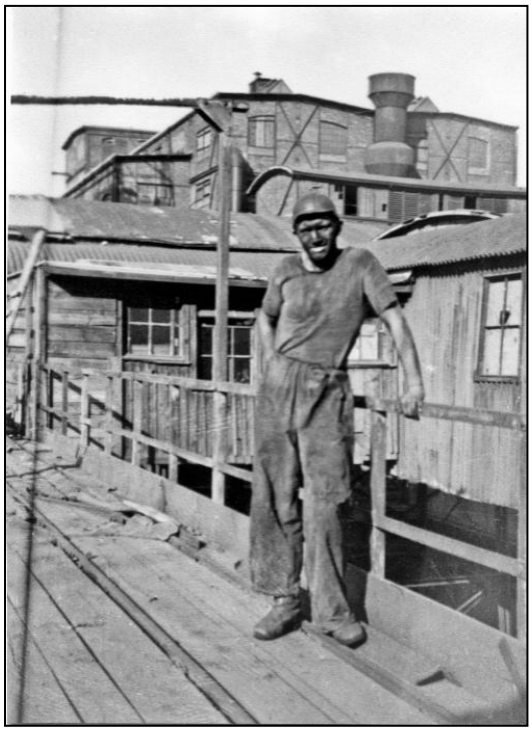
The Military Governors in the three Zones jointly made the announcement. That the reform was coming was well known, only the date was secret. The printing and distribution of the new currency was a major undertaking, arranged in the US well ahead of the time. The banknotes were transported to the required locations in Germany in 23,000 cases labelled “Bird Dog”, weighing 90 pounds each, 1035 tons in total. Speculation about the contents is said to have ranged from dog food to, because of the strict security, atomic bomb parts.

Immediately after the reform the German Minister for the Economy, Professor Erhard abolitioned all rationing and price and wage controls. He knew that the military authorities were not in favour of this and therefore did it without consulting them. The American military governor, General Clay, is said to have summonsed Professor Erhard and told him that all his advisers were against what Erhard was doing. "General", Erhard is said to have replied, "it may help you to know that all my advisers are against it, too."

The two measures together restored the market place to its normal functions. The effect had to be seen to be believed. Two French economists later summed it up thus:

"The black market suddenly disappeared. Shop windows were full of goods; factory chimneys were smoking; and the streets swarmed with lorries. Everywhere the noise of new buildings going up replaced the deathly silence of the ruins. If the state of recovery was a surprise, its swiftness was even more so. In all sectors of economic life it began as the clocks struck on the day of currency reform. Only an eye-witness can give an account of the sudden effect which currency reform had on the size of stocks and the wealth of goods on display. Shops filled up with goods from one day to the next; the factories began to work. On the eve of currency reform the Germans were aimlessly wandering about their towns in search of a few additional items of food. A day later they thought of nothing but producing them. One day apathy was mirrored on their faces while on the next a whole nation looked hopefully into the future."

It was in this electrifying atmosphere that I arrived in the Ruhr to work on *Zeche Bergmannsglück* near Gelsenkirchen (see photo). Ration cards were no longer the attraction but coal miners being among the highest paid workers was an important incentive besides gaining experience!



Black coal occurs in distinct seams, with a rock floor called the footwall and a rock ceiling called the hanging wall. Initially laid down horizontally, many of the seams have become tilted or distorted by subsequent rock movements. I worked in narrow seams less than a metre high where we had to break and shovel the coal literally on our bellies; in seams dipping at 45^{o} where one had to work hanging on to the wooden posts supporting the roof and catch incoming supplies, including additional props (called stulls) for roof support, as they went past on a scraper conveyor, and in a two metres high horizontal "longwall" seam.

The scraper conveyor consisted of two heavy chains with iron crosspieces fastened between them every metre or so, sliding on a sheet metal base. The longwall working face was several hundred metres long. On the day shift a number of miners were allocated a part of the face, perhaps 10 to 15 metres each. Their job was to break the coal with pneumatic picks and let it fall or shovel it onto the scraper conveyor along the coal face which removed the coal from the working face. The afternoon shift was for moving the conveyor forward against the new coal face. The night shift was for removing ("robbing") the collapsible steel props supporting the roof now some distance from the face, allowing the roof behind them to cave, and re-erecting the props to support the roof over the conveyor.

The important criterion for day shift, which was piecework and best paid, was that one had to complete mining one's section of the coal face because otherwise the conveyor could not be moved forward and the whole cycle would be interrupted. Failure meant unceremonial relegation to another, less critical and lower paid job. On the night shift there was also a clearly established task: rob the allocated number of props and re-erect these. When this was done, there was nothing else to do.

We soon developed a routine for the night shift. Everyone worked at top speed until the work was done, usually in the first half of the shift. We would then turn our electric cap-lamps off and go to sleep, but soon found that the

sleep was disturbed by large rats who lived in the collapsed hanging wall following the longwall face and fed on remnants of miners' lunches. After finding the rats nibbling on our ears and noses while asleep we drew lots and he who drew the short straw had to stay awake for the whole shift, to keep the rats at bay.

In the particular mine I worked there were still pit horses in parts of the mine. They would be taken to the surface only on odd occasions because this had to be done in a special harness suspended from the hoist rope and they were not necessarily happy going down the shaft again afterwards, but meanwhile they were extremely well cared for and looked after by their handlers. German coal miners had a very soft spot for the horses.

The workings were hot and the coal was gassy. The gas and the fine coal dust were very dangerous because the right mixture with air would be highly explosive. No open lights were permitted and, of course, no smoking. Most of us, smokers and non-smokers, developed the habit of taking snuff - not so much for the nicotine pleasure, but because the resulting sneeze would clear the nasal passages of the fine coal dust which seeped everywhere. Throughout the drives and workings there would be wooden boards resting loosely on pins in the wall, with fine rock dust heaped on them. An explosion would upset the boards and dilute the coal/gas mixture with rock dust, hopefully to a non-explosive condition, and thus arrest its propagation.

The hot workings meant that we all worked with the minimum of clothing, often just the hard hat and the boots, and would emerge at the end of the shift with a fine ebony coloured skin from head to toe. Most of it would wash off in the shower with a good application of soap, but one could not apply soap around the eyes. The only way to clean there was to rub the skin around the eyes against the arm muscle contracted into a hard ball, which was painful and took time. Most of us could not be bothered doing this every day and thus the Ruhr was, during the week, full of men walking around with black rings around their eyes which would disappear only on Sundays. Another way one could recognise a coal miner was that there would be a black spot left after spitting against a white wall.

The mine workings were once again quite some distance from the main shaft. After a ride of 15 minutes or so in an underground train we would face the choice of walking for another 15 or 20 minutes or riding on the conveyor belts which delivered the coal to the train loading stations. The belts would travel at speeds of 300 metres per minute or more and would not stop for anybody; one had to be agile enough to get on - flat on your belly, because there was no headroom to kneel or stand - and off again before reaching the head pulley.

Many years later I visited a coal mine in the Ruhr - not the one I worked in which was mined out but another one nearby - and noticed people still following this dangerous practice. My guides and I actually had a ride on a

belt, but this time they stopped it to get on and off - no doubt in recognition of the venerable age and much diminished agility of their visitor! I did notice, however, that there was a board angled at 45^{o} fixed above the belt before we would have reached the head pulley, so that we would have been swept off the belt if the worst happened.

While working in that coal mine, I came to the conclusion that I should leave Europe. Many of the shift bosses had been senior engineers or managers of large coal mines in Silesia in eastern Germany which became after the war a part of Poland, to compensate it for territory yielded to the Soviet Union in eastern Poland. The German population was evicted and one of the results was that there was a large surplus of highly qualified and experienced mining people in Germany. There were no prospects of an expansion of the industry. The outlook for a green graduate, and a foreigner to boot, was not promising.

6. MIGRANT TO AUSTRALIA

Back in Clausthal, I applied for immigration to Australia where I knew there was a mining industry and the waiting time was short. Names like Broken Hill and Kalgoorlie were famous and well known throughout the mining world. If something went wrong with Australia the back-up was to go to Brazil and, just in case, I spent some time learning Portuguese.

Australia was at that time short of people willing to work in jobs considered unattractive by Australians: in logging, wheat lumping, construction of water supply schemes in country areas, as nurses and hospital orderlies, and so on. The arrangement was that the Australian government arranged the transport, and in return the migrants had to work for two years in any job allocated by the government. There was a demand for people who were young, strong, healthy and, my friends and I joked, not too bright so that they would be willing to do work Australians did not want to do. I managed to satisfy the authorities on all counts, except for one temporary problem.

In transit camps

While undergoing a medical examination in the Fallingbostel transit camp in Northern Germany early in 1949 it was found that I suffered from double hernia, no doubt acquired while shovelling coal in the coal mine. This had to be repaired before I could be accepted and it therefore took nearly a year before I landed at Station Pier in Melbourne.

While convalescing from the operation I kept myself occupied with various jobs in the transit

camp, which had previously been a substantial artillery barracks: stoking central heating in British officers' houses, being in charge of a barracks block in the camp, as a camp policeman (see photo), and taking French lessons from an elderly Estonian lady. The only place I have subsequently been able to make my French understood (only just) is in Northern Italy, undoubtedly the fault of the student and not the teacher.

An important event while in that camp was that I met a young Estonian girl, Saima Soots, and her mother, also on their way to Australia. We did not know it then, but four years later Saima and I were married in Adelaide. We both attended lectures on Australia. The only thing I remember is being told that on hot days the leaves on trees would turn their edges towards the sun. Saima and her mother left for Australia while I was still waiting for my clearance after the hernia operation.

Following a short stay in another camp at Seedorf in Germany a special train took us through Austria, the Brenner pass in the Alps, and along the spine of Italy to a final camp at Bagnoli, near Naples.

Berlin air lift

This major confrontation between the recent wartime allies took place while I was still in the transit camps. It was a sobering awakening of people in the western world to the real nature of Soviet ambitions. DPs from areas occupied by the Soviet Union followed it with great interest because it may have been the hoped-for beginning of the end of the Soviet regime in their countries. In the event, this took more than another 40 years.

After the Molotov-Ribbentrop Pact in 1939 the Soviet Union had shared in the spoils of Hitler's successes. When Hitler attacked the Soviet Union in 1941 the latter became Britain's and, later, America's ally. Churchill, although supporting the Soviet Union in his own interest with war equipment and materials, remained realistic about Stalin but President Roosevelt exhibited unbelievable naivety in his dealings with 'Uncle Joe'.

After Roosevelt died, President Truman's more down to earth attitude and the experiences in dealing with the Soviets in occupied Germany quickly brought about a drastic change. On 9 February 1946, before Churchill's speech at Fulton, Missouri when he coined the expressions 'iron curtain' and 'cold war', Stalin declared to Party functionaries assembled at the Bolshoi Theatre that the enemy now was capitalism. The western Allies' efforts in 1947 to combine their zones, turn much of the administration over to Germans, and the initiation of Marshall Aid to help finance the reconstruction of Europe were strongly resisted by the Soviet Union. Marshall Aid was also offered to the Soviets and countries in Eastern Europe, but Stalin rejected it. The Soviets walked out of the Control Commission in March 1948 and started to harass the Allies' movements on the autobahn to Berlin.

The last straw was the money reform in June 1948, an important step towards getting the German economy on its feet again in preparation for the western Allies' declared aim of forming by 1949 a West German State with limited sovereignty. By the evening of the day the reform was announced Soviet authorities had stopped all civil road and rail movements between the western Zones and Berlin. Electric power supply from the Soviet sector to the Western sectors in Berlin was drastically reduced. Two days later the Soviets blocked the movement of an American military train to Berlin.

The western Allies responded by supplying the city by air. In the next 13 months 550,000 flights transported to Berlin more than 500,000 tons of food, 1,500,000 tons of black coal and other essential goods and materials, moving 175,000 people and thousands of tons of export goods in the opposite direction. The record movement in one day was 13,000 tons, with an aircraft landing or taking off every 30 seconds on one of the three airfields in use.

The blockade ended on 12 May 1949 but the air bridge continued to operate until September. The West German *Bundesrepublik*, comprising what had been the American, British and French Zones, was established on 23 May. The North American Treaty Organisation (NATO) commenced activities on 24 August. The Soviets responded by forming the German Democratic Republic on 5 October 1949.

The Berlin blockade was over. World War III had been avoided but the cold war was in full swing.

Voyage to Australia

Nearly 1300 migrants to Australia boarded M/S *Nelly* in Naples harbour towards a late afternoon in October 1949, although the ship did not cast off until early next morning. This did not stop many people from becoming seasick the moment they set foot on deck.

I was one of those who did not suffer and who maintained a healthy appetite during the whole voyage. Food was plentiful, usually prepared for a larger number than appeared in the dining room. For the first time in five years there was more to eat than I could handle!

Men and women were segregated; boys under six stayed with their mothers and sisters, over that age with the men. In the washrooms there was fresh water in the handbasins but showers were salt water, using salt water soap. The accommodation for the men on board consisted of triple welded bunks in large cavernous spaces, originally cargo holds. None of us minded; we were used to less than luxurious accommodation in the refugee camps. The excitement of the strange sights and of the future in that strange distant land, Australia, were much more important.

The weather was perfect during the whole voyage. We passed through the Strait of Messina between the toe of mainland Italy and Sicily on the first

day and sailed on a mirror-smooth Mediterranean to Port Said, where we anchored in the Suez Canal. There was no opportunity to go on shore, but the ship was surrounded by boats of Egyptian entrepreneurs who offered for sale anything one could think of. The money was put in baskets lowered down the ship's side and the goods hoisted up in return. They did not do much business because those on board did not have much money. From Port Said we proceeded non-stop through the Canal, the Red Sea and the Indian Ocean, crossing the equator with due ceremony on 31 October. The next land we saw was the entrance to Port Phillip Bay, arriving on 13 November 1949 at Station Pier in Melbourne, and in Australia. The journey from Naples had taken 26 days.

On the voyage we spent a good deal of the time learning English. I had first started to learn this language at Gustav Adolf Gymnasium in Tallinn in 1939. During the subsequent Russian and German occupations the foreign languages at school were, of course, Russian and German. The next opportunity to study English was in the Estonian Secondary School in Lübeck in 1945/46.

While in Germany I was an avid reader of American army pocket books which had been issued to American soldiers in a format to fit a back trouser pocket. The content of these ranged from classics to novels to scientific and practical topics, and there were many available because, after reading, the GIs just threw them away. I also watched English language films as often as possible. In Clausthal I attended lectures in Technical English. One of my friends and I even practiced by corresponding in English! Reading these letters now the language is somewhat stilted and there were some mistakes, but on the whole we did very well.

Thus, on the voyage to Australia I found myself one of the better (but still halting) English speakers and acted as a teacher to the beginners, of which there were many. We also had on board Australian immigration and customs officers who processed the necessary documentation, so that there would be no delay when we reached Melbourne. I even acted as interpreter for them. In later years it was often reported in the media that I could not speak a word of English on arrival in Australia. It made a good story but, like many good stories, was not true.

M/S Nelly

The ship which first brought me to Australia had a colourful history.

It was built by Sun Shipbuilding and Drydock Co. in Chester, England. Laid down as a standard design C 3 cargo ship, she was launched on 11 January 1940 as the *Mormacmail*. On 6 March 1941 she was taken over by the US Navy and converted into an auxiliary aircraft carrier at the Newport News shipyard.

Commissioned as USS *Long Island* on 2 June 1941, she could carry 21 aircraft and was armed with one 5-inch gun and two 3-inch guns. She served in the Pacific throughout the rest of the war, with her aircraft capacity increased.

At Guadalcanal on 20 August 1942 she flew off 19 Wildcat fighters and 12 Dauntless dive bombers while 210 miles (336 kilometres) from the island. These were the first combat planes to land on Henderson Field.

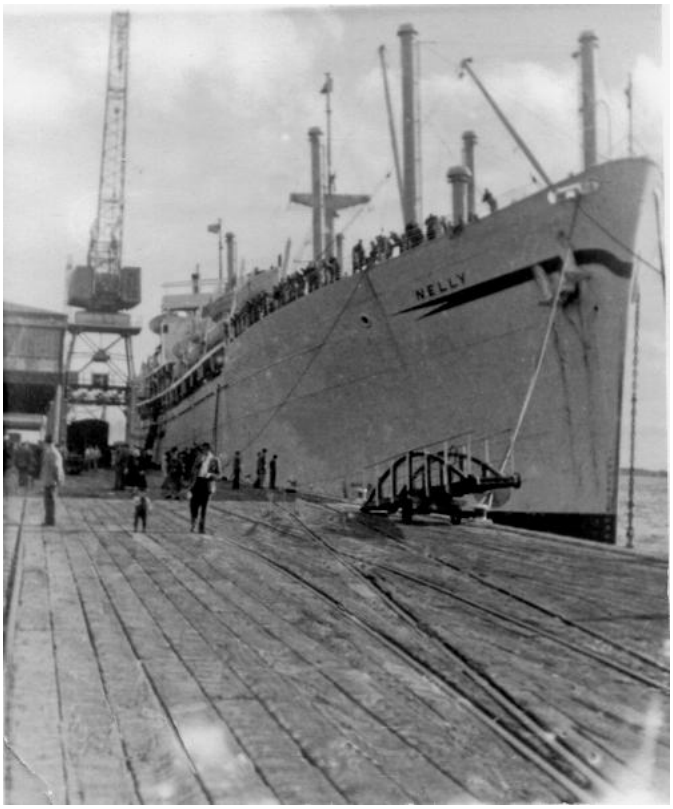
On 26 March 1946 *Long Island* was decommissioned and remained idle for two years. On 12.March 1948 she was bought at auction by Caribbean Land & Shipping Corp., a Swiss based company. Renamed *Nelly* and registered in Panama, she was refurbished for the migrant trade, with rather basic accommodation for 1300 passengers.

Nelly made her first voyage from Naples to Australia in June 1949, arriving in Melbourne on 17 July. I must have been on her second voyage; on her third voyage to Australia she arrived in Sydney on 15 January 1950. She made regular trips to Australia from various European ports over a four-year period, with occasional migrant voyages to Canada.

In 1953 she was extensively refitted in Bremerhaven as a tourist ship and renamed the *Seven Seas*. Under this name she travelled to Australia and across the Atlantic under the West German flag until 1963. At the end of 1963 she was chartered by Chapman College to undertake study cruises for their University of the Seven Seas, interspersed with tourist service on the Atlantic and to Australia.

In September 1966 Seven *Seas* was sold for duty as a floating hostel for workers at a shipyard in Rotterdam. In April 1977 she was sold to shipwreckers.

M/S *Nelly* was 11,086 gross tons, 150 metres long and 21.2 metres wide. She had a speed of 16 knots.



M/S NELLY at Station Pier in Melbourne 13 November 1949

Being a migrant

I was often asked whether being a migrant – a *'New Australian'*, as we used to be somewhat quaintly called - was a disadvantage to me.

We are told that migrants today have tremendous problems. There are numerous institutions and government departments to grapple with these, but somehow the problems seem to grow instead of getting less. The future of the institutions and departments is thus assured. Luckily for me, these bodies did not exist when I came to Australia. There was nobody in 1949 to tell me I had problems. Happily ignorant about these, I just settled down and got on with my life.

Australians in those days were not used to people from non-English speaking countries, but the people I worked with and met elsewhere were invariably helpful while down to earth and calling a spade a spade, which suited me. In all my time in Australia I have never felt at a disadvantage because I was not born here.

7. EARLY DAYS IN AUSTRALIA

Bonegilla

On 14 November 1949 a train pulled up on Station Pier opposite the ship and took us to the arrivals camp at Bonegilla, near Albury-Wodonga. The trip through a typically dry sun-lit Australian countryside was another new experience - the eucalypts, the gently rolling countryside, the occasional glimpse of strange birds and animals, the stands of (to us) exotic fruit in the stations.

Bonegilla had been an army camp and my accommodation was in a Nissen hut. In the dining hall we were introduced for the first time to cold mutton, which was not exactly wildly popular.

The purpose of Bonegilla was to send the arrivals as quickly as possible to their allocated jobs. On learning that I had been a mining student, I was told that they had just the job for me - in a quarry at Marino, on the southern fringe of Adelaide in South Australia. They did not waste time in Bonegilla - I started my job with Quarry Industries Limited at Linwood Quarries at Marino on 21 November 1949.

Jackhammer operator

I was accommodated in a migrant camp at Smithfield, 32 kilometres north of Adelaide, travelling in the mornings by train to Adelaide railway station. A number of workers were waiting there to be taken in the back of a tip truck to the quarry at Marino. The total distance from Smithfield to the quarry was about 55 kilometres and after work all this happened in reverse. The time taken in travelling was considerable and by January 1950 I had moved into a rented room, shared with another Estonian, in the Adelaide suburb of Mile End.

My job in the quarry was jackhammer operator. The blasting of the quarry face resulted in numerous rocks too large to be handled to the crushing plant; these had to be broken down by secondary blasting. I drilled holes in such rocks with a hand-held jackhammer and another employee, known as the powder monkey, then charged the holes with gelignite and did the blasting. I was proud to discover that my pay of £7-18-0 a week was two shillings more than for any other worker in that quarry except the powder monkey, who was paid two shillings more again.

The work was taxing, especially because it was summer and the temperatures in the quarry frequently exceeded 30 degrees C, but I was quite happy. It was not as hard as the work in the coal mine in Germany and, in any case, I knew it was only temporary.

The only break during the day was lunch; eaten in a galvanised iron shed called “crib room” near the entrance to the quarry. My confidence in being able to speak English was severely dented listening to the Australians chatting

in that crib room. Their slang was interlaced with some words I did understand, and the content of the discussion mostly eluded me. They also seemed to speak dreadfully fast! It took some time until I learned the meaning of the slang expressions and my ear became attuned, but in due course one day it just seemed to click.

Geo. Gitsham & Sons

I was anxious to resume my studies of mining engineering at Adelaide University. There were evening classes I could attend, but not while I worked in the quarry a long way from the University. Being under an obligation to work for two years wherever directed by the government, I therefore started to negotiate with the Commonwealth Employment Service for a change of employment. They were initially not at all interested and told me that I had come to Australia to work, not to attend the University, but the Adelaide bureaucrats were no match to someone used to surviving by his wits in Europe during and after the war. At the end of April 1950 I was transferred to a job in a factory only a short bike ride from the University.

Geo.Gitsham & Sons built motor bodies - truck trays, tip trucks, trailers, and so on. These were made of steel, or wood, or a mixture of both. The workforce on 15 June 1950 was forty-one and there were perhaps another ten staff and office girls. My first job was a wood machinist, preparing parts and material mainly for truck trays.

After some months on the shop floor, Gitshams lost their engineering draftsman. Such people were in very short supply in Australia at the time. Knowing that I had studied engineering in Germany, they asked me whether I could draw. I said I would try anything, and thus became an engineering draftsman. My initial efforts were hardly professional, but with practice I subsequently became reasonably competent.

Gitshams was a private family company, established by the father of the two sons who were now running the business. Jack looked after the operations and engineering and King was in charge of the accounting and administration. They both took part in marketing. My immediate boss was Jack.

8. MINING STUDENT IN ADELAIDE

Already on 7 January 1950 I called on the Academic Secretary of the University, Mr. V A Edgeloe, and ascertained that my Maturity Certificate from the Estonian Secondary School in Lübeck was acceptable for enrolment at the University of Adelaide. It was, however, not practicable for me to commence studies until a year later.

Mining in Australia

The first mineral found in Australia was coal near Newcastle in New South Wales in 1797 and the first metallic mineral found was lead sulphide, galena, at Glen Osmond, now a suburb of Adelaide. The first major mineral discovery in Australia was copper in South Australia in 1841, which led to a mining boom in the second half of that century. Experienced miners and metallurgists came from Cornwall, smelters were established using coal from New South Wales, and for some time South Australia supplied 10 per cent of the world's copper. On the verge of bankruptcy before the copper developments, South Australia became the most prosperous of the Australian colonies.

This prosperity was soon exceeded when gold was found in New South Wales, followed by rich discoveries in Victoria. Australia was the world's largest gold producer between 1855 and 1863, accounting for nearly a half of world production. More discoveries were made in Queensland, Northern Territory and Western Australia during the remainder of the century. Gold attracted immigrants from all over the world, brought enormous wealth and social and economic development, and was instrumental in building Australia into a nation. Beginning in 1870 there were also major discoveries of tin and copper in Tasmania and silver-lead-zinc at Broken Hill in New South Wales.

In contrast to these great discoveries and developments, the only major mineral discovery in Australia in the first half of the 1900s was lead-zinc at Mt. Isa in Queensland in 1923 and the adjacent copper lode in the early 1940s. The devaluation of the Australian pound in the 1930s revived gold mining, particularly in Western Australia, which was of great help during the Great Depression, but there were no major new gold discoveries. The minerals industry continued to be important to Australia and had the support of the public and governments, but the first half of the last century was a period of consolidation rather than growth.

Part time student

In January 1951 I enrolled as a part time student of mining engineering. Before being admitted I had to pass a written and oral examination in English, which I managed to do. I was able to continue working full time and attend lectures in the evenings, because in view of my Clausthal studies I was credited with most of the subjects for the first year (and some in the second year) and there were evening lectures in the subjects I had to take.

During 1952 Gitshams allowed me to work part time (20 hours a week) during the terms and full time during vacations. I was thus able to attend

lectures which were still less than the full programme because of credits given for my Clausthal work. This was very good of them because they knew that my studies would mean me eventually leaving them.

The Department of Mining, Metallurgical and Chemical Engineering, in which I was enrolled, was headed by Professor E C R Spooner, a chemical engineer. Spooner was a flamboyant character, always sporting a bow tie and with an equally flamboyant personality. The Mining Engineering course was headed by Reader J P (John) Morgan, who was a very practical down to earth mining engineer. Because the industry was in a quiet mode and mining students throughout the five years of the course could be counted on the fingers of two hands (there was only one other student in my year), he was able to take a very personal interest in every one of us, and did. Nearly 30 years later I recalled the early days at his retirement dinner in Sydney:

"… I first met Professor Morgan almost exactly thirty years ago when I was applying to be admitted to the mining engineering course in Adelaide. I was told by the front office that the Reader in Mining wanted to see me before the application was processed further. I remember this interview extremely well for two reasons, firstly, because I was impressed by the most senior man in the School of Mining Engineering taking an interest in someone who hadn't even started the course, and secondly, because John spent quite some time explaining to me that the life of a mining engineer is not exactly a bed of roses and testing whether I was really quite certain that I wanted to be one or whether I might want to select a softer option. After an hour and a half, when he was convinced that I had really made up my mind, I had nothing but words of encouragement and assistance from him during the next five years.

What I, and I am sure my fellow students, particularly appreciated was the personal interest which John Morgan took in every one of us, not only in discussing our strengths and weaknesses, in arranging vacation work, and generally keeping a fatherly eye on us, but also in ensuring that in addition to book learning we acquired an understanding of what we would face when we graduated and went out to our first job, and what the world out there was like."

Commonwealth Mature Age Scholarship

By the end of 1952 I had run out of my Clausthal credits and the big question was how to finance full time study in 1953. Gitshams offered to let me work two afternoons a week which was useful, but did not cover the cost. I had applied for a Commonwealth Mature Age Scholarship which were designed for people considerably older than the normal students and was jubilant to be advised in January 1953 that I had been successful. The scholarship covered all tuition fees and paid a stipend of £4/10/0 ($9) a week

throughout the year in any week when earnings from other sources did not exceed this. Minute as this amount seems today, it solved all my money worries.

Getting married

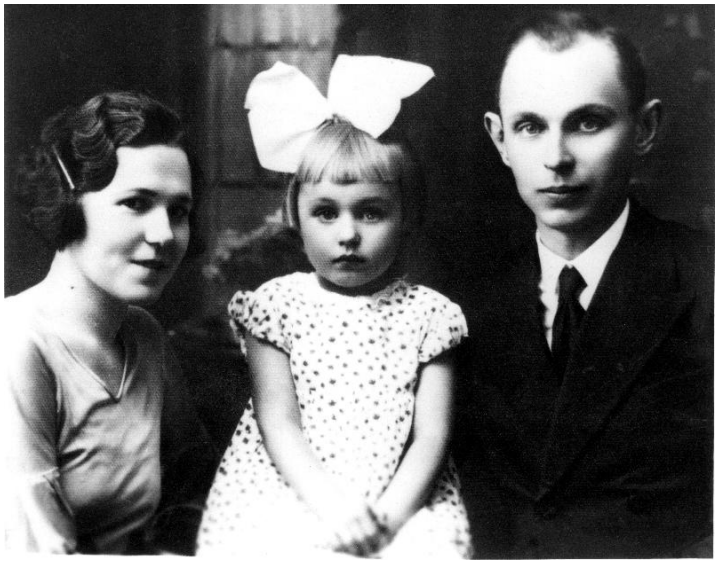
I had acquired a tennis racquet and a pair of tennis shoes and a group of us (including Saima Soots, the Estonian girl I had first met in Fallingbostel) started playing tennis on Sunday mornings on the University courts then in front of the Barr Smith library. I had also become Saima's partner in an Estonian folk dancing group. We performed on several public occasions, but our dancing days came to an end after we were married early in 1953 and our daughter Ellen was born later in the year.

Saima's family on the father's side came from Viljandimaa (now Valgamaa). Her grand-uncle, Major-General Jaan Soots, who had been Chief of Staff to the Commander-In-Chief General Laidoner in the War of Independence, was arrested after the communist takeover in 1940, deported to the Soviet Union and died in jail. Her father, a member of the Estonian Navy, was arrested in 1941, also deported to the Soviet Union and died in jail. His family did not know anything about his fate until after Estonia became independent again in 1991 and the Communist Party archives were opened to the public. Saima, then 14, and her mother managed to escape ahead of the Red Army to Germany in 1944, travelling at times on the roof of train carriages, and migrated to Australia before me in 1949.

Just married 4 April 1953

There was a church ceremony in the German church in Wakefield Street which was also used by the Estonians, and a wedding feast in the house where Saima and her mother lived. We did not have a honeymoon – she moved in with me in the room where I lived in Hutt Street on the eastern fringe of the city and it was back to the University for me on the Monday morning!

We were both naturalised by the mayor of Kensington and Norwood on 7 November 1955.



Saima's Family
Johanna Soots; Saima; Heinrich Soots
April 4, 1934

Underground in Broken Hill

In January 1954 I flew to Broken Hill for practical underground experience in the North Mine of North Broken Hill Limited. This was my first flight ever, in a DC 3. I wish I had at that time started to keep a log of my air travels, which have since then taken me many times to all parts of Australia and nearly two hundred times overseas to virtually every corner of the globe.

The initial job was as a miner's offsider in a stope on the 26 level (2600 feet or nearly 800 metres below the surface) off the No.2 shaft where bar rigged machines for drilling blastholes were still in use.

"Stopes" in miners' language are the working places where the ore is broken. "Bar rigs" were heavy compressed air operated rock drills clamped to a crossbar which was in turn clamped to two vertical round steel bars, jammed between a timber base laid down on the broken rock and the solid roof (in miners' language 'the backs') by a screw mechanism on the bars. To set these rigs up and move them was hard work for two men. Soon thereafter "airlegs", much lighter drills mounted on a light moveable telescopic leg extended by compressed air came into use. One man could easily handle these.

This was also before tungsten carbide tipped drill steels came into use. The drilling was done with hardened steel which blunted quickly in hard rock and meant handling and sharpening large quantities of drill rods up to three metres long every shift. One of my duties was to lug the rods to and from the shaft.

It was the custom in Broken Hill that workers coming off afternoon shift around midnight were entitled to go and have a drink in the pubs, which opened specially for them after having closed at 6 p.m. These were not quiet drinks but accompanied by lively discussion of the events of the day. There was also a philosophical content. During one of these sessions, leaning on the bar next to me, the miner I worked with astutely observed: *"Have you noticed that when these fellows are underground all they talk about is beer and women? When they get to the pub after work, all they talk about is work!"*

Later I attended to a sand pass underground. Finely ground dry residues from the treatment process which had the appearance of sand (the Broken Hill term was 'skimps') arrived at an underground station by gravity through a vertical shaft and were there mixed with water in a mixing box to form a slurry (known as 'hydraulic fill') which was conveyed through pipes into worked out stopes. When the slurry settled in the stopes the water drained off and the sand after a while consolidated into a near-solid material. This was a lonely job because I was on my own in a distant excavation underground for the whole shift, although there was a telephone.

Later again I had a spell as a miner's helper in very bad ground on the Junction North mine. Only very experienced miners were allocated to work here. They carefully listened to the sounds made by the fractured rock and the support timbers which, in their parlance, were 'talking' to them. When the sounds stopped it was a warning that the stresses were building up and danger loomed. It needed fine judgement to decide whether the problem could be solved by installing more support or whether the workplace should be vacated for a day or two in case there was a collapse.

All in all it was wonderful experience and well paid because, in addition to normal earnings, in Broken Hill the workers were paid a 'lead bonus' related to the price of lead which was high.

I spent another summer vacation working in Broken Hill from January to March 1955, this time on New Broken Hill Consolidated. It is from this time that I date the half-deafness in my left ear. For several weeks I was working on a plat being excavated for a new level off a shaft being sunk. The ventilation was provided by large compressed air fans emitting a loud high pitch noise similar to a jet engine just a few metres from us. No-one wore ear plugs or ear muffs; had these been available it would have been considered sissy to do so. I remember being stone deaf for several days, until my ears got used to the noise. There was, however permanent damage to the nerves in the left ear.

Honours degree

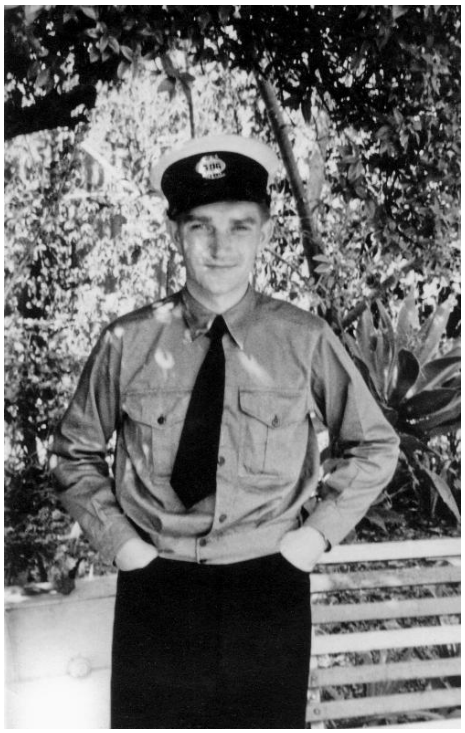
At the beginning of my final year in January 1955 I obtained permission to do an honours degree. The additional requirement was to write a thesis, for which I was given the task of assessing the 'present economic position of the

graphite deposits at Uley and Koppio, Eyre Peninsula, South Australia'. The Uley deposit had been worked intermittently since 1917. Correctly, I came to the conclusion that these deposits were uneconomic.

I typed the thesis myself on a light portable typewriter, making several carbon copies. When I made a mistake - which was not infrequent - I had to correct all copies by hand. Writing this present text on a computer, with the ability to correct and change anything with the greatest of ease and a laser printer ready to produce as many copies as required, reminds me how things have changed.

When the thesis had been submitted and assessed, I was informed that I had been awarded a First Class Honours degree. The graduation ceremony took place in Bonython Hall on 28 March 1956.

Graduation day 28 March 1956



Tram conductor

Tram conductor

Most of the honours work had been done concurrently with my final year and I therefore did not need all the additional time allocated after the normal year's work finished in November 1955. Having time on my hands and being able to use additional income, I got a job as a tram and bus conductor in Adelaide.

The work was in shifts, day and afternoon, as well as "broken" shifts where one worked during the morning and afternoon peak periods when additional trams and buses were scheduled to cope with the additional passengers, with time off in between.

After a few shifts as a learner, working with an experienced conductor, I was on my own. It was varied and interesting work; I could be, and was, assigned to any of the dozens of different routes on either trams or buses. The assignment was posted a day or so beforehand on a notice board. Apart from issuing tickets, signalling the driver when it was safe to leave a stop, answering the queries of the passengers such as little old ladies who wanted to go "to the house with the white fence just beyond the church", and coping with the inevitable inebriated or otherwise quarrelsome fellows after the pubs closed in the evening, at the end of the day I had to count the cash in my bag and reconcile it with the tickets issued. Any shortfalls had to be made up by the conductor.

The pay was reasonable and I enjoyed the job, which I held until graduation at the end of March 1956.

9. ON WESTERN AUSTRALIAN GOLDFIELDS

Joining Western Mining Corporation

When I was approaching the end of my studies, the Reader in Mining Engineering - John Morgan - suggested that I should start thinking about a job. Because I would be 30, much older than the normal graduate, he thought that I should avoid the large companies with formal induction and training schemes for fresh graduates, taking some years before being given real responsibilities. By that time I would be older still, perhaps too old to reach a senior position in the industry by the time I had worked my way through the system. A small and enterprising company where a graduate would have a real job from the start and which, if successful, would grow rapidly and create senior job opportunities for those on the spot, was a better prospect. He suggested Western Mining Corporation, operating a number of gold mines in Western Australia. One reason for thinking of this particular company was that John Morgan was favourably impressed with the man in charge in Western Australia, Mr. F.F. Espie Sen., and Mr. L.C. Brodie-Hall, the General Superintendent of Great Western Consolidated N.L., one of the gold mines in the group. This discussion took place before I went to work at New Broken Hill Consolidated in the summer vacation of 1955.

John Morgan wrote to Mr. Espie and it was arranged that I should present myself for an interview when Mr. Espie, who lived in Kalgoorlie, came through Adelaide on one of his visits to the Head Office of Western Mining in Melbourne. It so happened that on the day his plane was late and he was just in time for an important meeting. John Morgan and I met him on the corner of King William Street and North Terrace and the interview took place while we were walking along North Terrace to his next appointment.

"I hear you want to work for Western Mining," said Mr. Espie, to which I answered "Yes". "Done", said Mr. Espie, and this was how I was employed by Western Mining.

I subsequently found that this was typical of WMC at that time. The company was short on formal processes and procedures and long on getting things done with the minimum of fuss. I was reminded that this was also typical of Australia generally at that time when I, much later, heard the story about Sir Thomas Playford, who had then been Premier of South Australia. He retired in 1965 after 26 years of getting things done with the minimum of fuss. Sometime later he is said to have met his former secretary, Miss Dunn, in the street. After enquiring whether she was well, he said that he had an apology to make. "I was lying in bed the other night thinking that, when I was Premier, I must have treated my staff very badly - and particularly you", he told her. She was astonished. "What on earth made you think that?" she asked. "Well", Playford responded, "in the old days in the Treasury there were you and me and George Pearce and one-armed Wally Muggleton on the door. But when I picked up the Adelaide Advertiser recently I saw that they now have 214 people to do your job, Miss Dunn".

What must have helped my case with Mr. Espie was a paragraph in John Morgan's letter to him before our meeting, which I saw in Western Mining's archives many years later:

"Parbo is a New Australian who has, as a result of my personal advice and urging, completely Australianised himself so that now you would have difficulty in picking him anything else than a "home grown product". He is the right type for Australian industry. I am sure that you will not regret employing him".

While later working as a student in Broken Hill, I was one morning instructed to meet the Mines Superintendent, Mr. F.F (Frank) Espie Jr, at the changehouse. Vacation students had to submit reports to the company on various aspects of the work they had been doing and my reports had impressed him favourably. He invited me to join his company (New Broken Hill Consolidated) after I graduated.

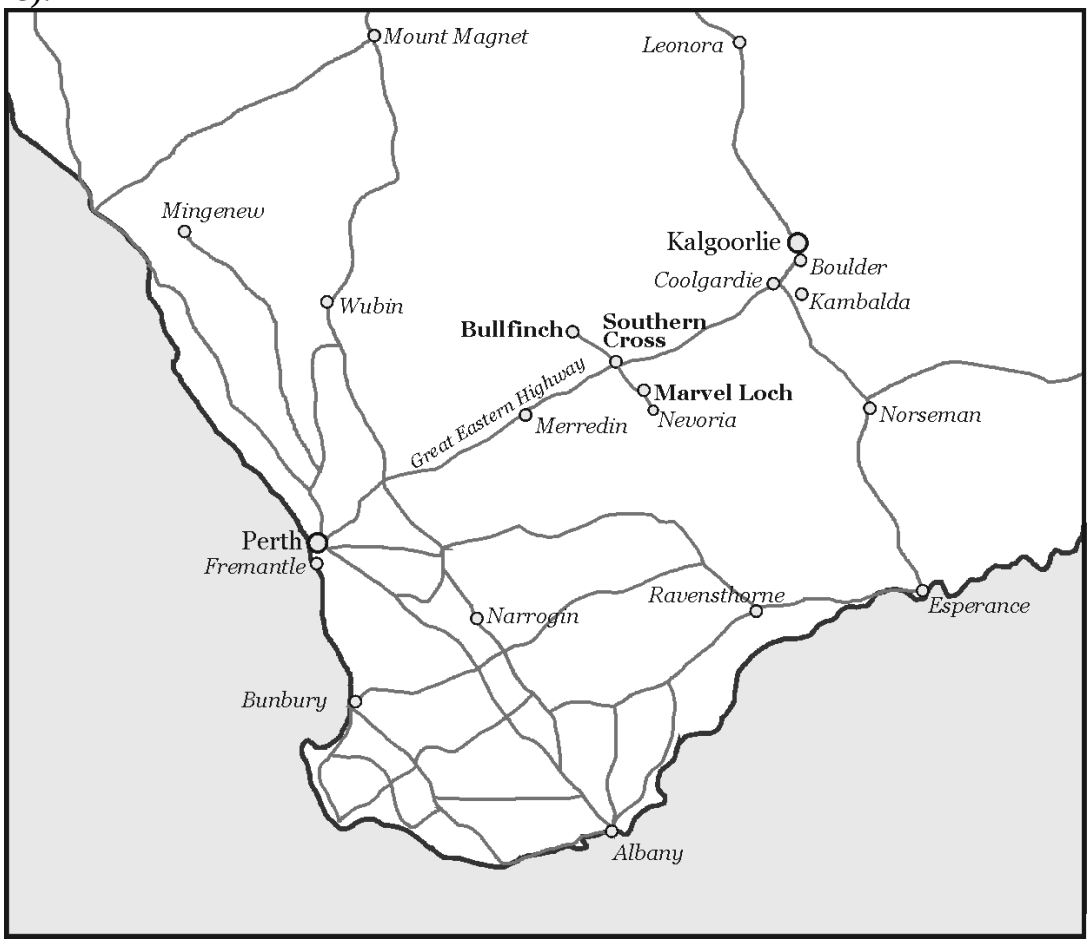
I explained that I had already committed myself to his father. Frank Jr. tried to talk me into changing my mind, but I felt that a commitment had to be honoured and so I joined Western Mining. Subsequently Frank Jr. and I, when he was Chairman of Bougainville Copper and Deputy Chairman of CRA and I Chairman and Managing Director of Western Mining Corporation, on occasions recalled this episode and laughed about it.

Western Mining Corporation had been established by an Australian entrepreneur based in London, W S Robinson, in 1933, particularly for gold exploration and mining in Western Australia. A long time Chairman of the

Company, Sir Lindesay Clark, has recorded his recollections of Western Mining from 1933 to 1974 in *Built on Gold* (Hill of Content, 1983.)

Because of the deteriorating economics of gold mining (the world price of gold was fixed and the costs kept increasing) in 1953 the Board decided to diversify into minerals other than gold. However, when I joined the Company in 1956, attempts to explore for oil and uranium had been unsuccessful and there were still just four operating gold mines in the Group, three in Western Australia: Central Norseman Gold Corporation NL at Norseman (owned 50.5 per cent), Gold Mines of Kalgoorlie (Aust) Limited in Kalgoorlie (27 per cent) and Great Western Consolidated NL at Bullfinch (14 per cent) and one in Victoria: Central Victoria Dredging Company NL at Newstead (50 per cent). The assets of the Company were £2,726,726 and the profit in 1955-56 was £291,536.

There were also four "prospecting and other" companies: Gold Mines of Australia Limited (62 per cent owned), Victoria Gold Dredging Company NL (44 per cent), Kalgoorlie Southern Gold Mines NL (22 per cent) and Champagne Syndicate NL (100 per cent), again with interests in gold. (The NL stood for "No Liability" which was a type of company frequently used at that time for risky ventures - such as gold mining! It meant that the liability of shareholders was limited to the capital actually subscribed by them at any time).



My first job

My first job in the Western Mining Group was with Great Western Consolidated NL in Western Australia. The main office and mine were at Bullfinch, 35 km north-west of Southern Cross and the company operated a number of gold mines south from there in the Yilgarn Goldfield over a distance of some 80 km. Western Mining Corporation were General Managers and Consultants to Great Western (and to all other companies in the Group) and owned 14 per cent of that Company.

There exists an excellent history of Great Western's activities and of the Yilgarn Goldfield, *Bullfinch and the Yilgarn Goldfield* by Gilbert M Ralph (Hesperian Press, 2007).

Unlike coal, metalliferous mineralisation generally does not occur in seams and does not have sharp boundaries but is unevenly dispersed, although gold sometimes occurs in quartz veins in the surrounding rock. The limits of ore reserves and mining are determined by the metal content becoming too low to be economic (the so-called 'assay walls'). The gold content of the ore mined today is usually so finely divided and so low (just a few grams per tonne, one gram per tonne being one part in a million) that free gold is rarely seen in a mine, other than in exceptionally rich locations. The ore, that looks like ordinary rock, is crushed and then ground to a fine powder in rotating mills. This powder is then leached in a cyanide solution which dissolves the gold, silver and any other precious or base metals. The slurry is filtered and the metals precipitated from the solution. The solid residue (called 'tailings'), virtually barren because more than 95 per cent of the gold is extracted, is re-pulped and pumped as a slurry to a 'tailings dam'. The water is decanted as the slurry settles, or evaporates over time.. The precipitate is smelted in a small furnace in a 'gold room' and the resulting mix of precious and base metals is cast into 'ingots' or 'bars' of 'bullion'. The whole process, known as 'oredressing', takes place in what is known as a 'treatment plant' or a 'mill', in American parlance 'concentrator'. The ingots of bullion are later treated further in a government-owned or private 'mint' where the gold, silver and other precious metals are separated and 'refined' - cleaned from any base metals present .

The purity of gold is measured in carats, or by fineness. Pure gold is 24 carats or has a fineness of 1000. In this form it is too soft to be used in jewellery. The usual jewellery gold is 18 carats (or 750 fine) or less, the remainder being a white metal (silver, nickel) to produce 'white gold', or copper – 'red gold', or a mixture.

Gold is a heavy metal, one metric tonne of gold representing a cube with a side of just 37.27 cm. The ingots produced in a gold room usually weigh 400 troy ounces (12.5 kilograms) and are the shape of a rather large brick with sloping sides. The standard challenge to visitors to a gold room is that anyone who can pick such an ingot up with one hand can keep it. Many have tried – it is today worth about $400,000 – but, as far as I know, the slippery sloping sides ensure that no-one has succeeded.

In his speech at the official opening of the Great Western treatment plant on 8 December 1952 the Chairman, Mr. Lindesay Clark, explained that operating a multiplicity of mines in the district was expected to assist in maintaining continuous production regardless of fluctuations in production in any one of the mines from time to time. The main operations - the Copperhead mine, consisting of underground workings and two open cuts (known as Northern Series and Southern Series), were at Bullfinch, as were the treatment plant, the power house and the main servicing facilities. The smaller mines progressively opened up in the district were Corinthian (about half-way to Southern Cross, 18 km from Bullfinch), Pilot (24 km from Bullfinch), Frasers, Three Boys and Golden Pig (at Southern Cross, 35 km from Bullfinch), and Nevoria (about 80 km from Bullfinch, 10 km south of the township of Marvel Loch).

The profitability of the operations suffered from the grade (gold content) of the ore treated being well below initial estimates.

Before the metric system was introduced precious metals were measured in the troy system of weights, different from the normal avoirdupois system, with 20 pennyweights (dwt) making one troy ounce (equivalent to 31.10 grams or 1.097 avoirdupois ounce). In a further complication, the gold content could have been given per short ton (2000 lbs) or per long ton (2240 lbs). It is now measured in grams per metric tonne (2204 lbs).

The gold actually recovered at Great Western was 3.4 dwt per long ton against 4.3 dwt. estimated, or in today's measures 5.3 grams against 6.7 grams. (If these seem rather high grades to today's gold miners who can make money at 1 or 2 grams per ton, the price of gold in real terms is very much higher today and mining and milling technology and productivity have improved greatly since the 1950s.) Profitability was also seriously affected by

Australia's very high cost inflation while the project was being constructed. The inflation was triggered by the 25 per cent devaluation of the Australian currency in 1949 and fuelled by the Korean war in the early 1950's, reaching an annual rate of more than 20 per cent. One of the consequences of this was that the actual capital cost of the project was greatly in excess of the initial estimate. The operating costs had increased similarly while the price of gold remained fixed at US$35 per ounce, determined when representatives of forty-four countries met at Bretton Woods in New Hampshire in 1944 to agree on a new world economic order. The price remained fixed until 1972.

Leaving my family in Adelaide, I travelled by train from Adelaide to Southern Cross where I was met by a Great Western employee in the middle of the night, the only passenger getting off, and taken to temporary lodgings in the single staff quarters in Bullfinch. Next morning, on 4 April 1956, I reported for duty to the General Superintendent, L.C. Brodie-Hall. He was underground but had left a message that I would be employed as an underground surveyor in the first instance and I was looked after by the Chief Surveyor, E.O. (Buzz) Myers.

Brodie

I did not know it then, but I was very fortunate to have as my first boss in the Australian mining industry Laurence Charles Brodie-Hall (later Sir Laurence), known to almost everyone as "Brodie". He became my mentor and a good friend for the next 50 years. His colourful life is recorded in his published memoirs entitled, fittingly enough, *Brodie* (Access Press, 1994), which I recommend for reading. I was privileged to write the Foreword and can do no better that quote from it:

"Working for Brodie was exciting because he was full of new ideas which needed to be followed up. He was years ahead of the management thinking of the time in taking a very personal interest in the people he was responsible for and in his ability to bring out the best in them. His leadership melded into a happy and thriving community an isolated group of people, living in harsh conditions in today's terms and completely dependent on a financially struggling mine. I, for one, learnt much from him.

Working for, and with, Brodie in various capacities over the following twenty-nine years after I first met him in 1956 has been one of the most memorable experiences of my time in the industry.

……

The story of his life is as fascinating as it is inspirational. There cannot be many people anywhere in the world who have faced and overcome so many hurdles to end up at the highest levels in their profession, so

obviously enjoying every minute of it, and so clearly giving back to the community as much or more than they received from it."

With Brodie in Kalgoorlie in 1966

Fifteen years later Brodie had a strong claim to succeed Bill Morgan as Managing Director of WMC, but unselfishly agreed to my appointment instead. Having been my boss our roles now became reversed, but neither of us took any notice of that. We remained colleagues working for the same purpose. He became the Executive Director - Western Australia and Chairman of the gold companies in the Western Mining Group. For some decades Brodie was the personification of the mining industry in Western Australia, particularly the gold mining industry. Our friendship continued after we both retired although, he living in Perth and I in Melbourne, we did not meet as often as we both would have liked. In his last few years I telephoned him once a week and we reminisced about the old times.

Brodie died on 1 October 2006 at the age of 96. I was one of the speakers at his memorial service in St. George's Cathedral in Perth, attended by an overflow crowd of hundreds of people.

Underground surveyor

I was to team up with another surveyor, Peter Powell, in measuring for pay purposes the amount of ore broken by stope miners and the footage driven by development miners.

‘Stopes’ are in mining parlance the working places where the ore is extracted. The miners were paid by the number of cubic fathoms (a cube, each side of which is six feet of ore) broken and we would calculate this from the difference between the surveyed stope outlines at the end of the fortnightly pay periods. The mining method was “shrink stoping” which involves miners standing on the broken ore as the opening is excavated upwards. Because the broken ore swells and occupies more space than solid rock, about a half of it is drawn while the work is in progress, leaving a convenient working space on top. This means that the walls are progressively buried and the stope outlines for pay calculations have to be plotted daily. The other half of the broken ore is drawn after stoping is finished.

This required walking every day through every active stope and development heading, starting on the highest level in operation (then 800 ft. [240 metres] below the surface) and ending on the lowest (1600 ft. [480 metres] below the surface), taking a complicated zig-zag and sometimes up-and-down path to visit all the working places in between. It was a responsible and sometimes tricky job because our measurements decided what the miners were paid and some of them were not above trying to make us err on the generous side. On the other hand, if we did not measure accurately, the miners would be underpaid.

Peter and I worked together while I got the hang of it and learned the layout of the mine workings, and we then took turns doing it a pay period (two weeks) at a time. In any spare time we would carry out other survey work required such as directing or surveying development openings, lining up diamond drill holes to intersect particular targets, and on one occasion - a rare treat - participating in plumbing the depth extension of the Copperhead Main Shaft. This was a team effort requiring great accuracy and involving the Chief Surveyor and a number of others. All the survey calculations were done using seven figure logarithmic tables and the plans were drawn by hand, the more important ones with Indian ink on linen. (Today most young people may not know what logarithms are, let alone how to use them. To buy logarithmic tables one would have to go to some specialty bookshop, or perhaps an antiquariat).

Life in Bullfinch

When we arrived there in 1956 Bullfinch had some 320 houses, virtually all Company-owned, and about 1500 inhabitants. The earlier gravel road from Southern Cross had been sealed, there were shops on both sides of the main street (Doolette Street), a post office, daily mail delivery, a police station, a fire station, and an ambulance centre. A doctor from Southern Cross visited two half days a week and there was a nursing sister on duty at the mine.

There was a train service and an unsurfaced airstrip but I don't recall people travelling by train or air from Bullfinch; travel was by car to Southern Cross and train from there, or more often direct by car to Perth or Kalgoorlie.

There were single men's quarters and a mess hall, a hotel, a town hall, a country club, golf club, rifle club, football field, and children's playgrounds, all either built or subsidised by the Company. There were also a youth club, girl guides, boy scouts, and in 1957 a primary school with 222 pupils.

Outside the town area on the mine lease, a few hundred feet from the mine office and the surface facilities on what was known as "Nob Hill", were houses for the five most senior mine officials: the General Superintendent, Chief Accountant, Mill Manager, Chief Engineer, and Underground Manager. This was standard practice in the Goldfields and Australian mining towns generally, dating back to the time when motor cars were rare and it was desirable for the senior people to live close to the mine in case of emergencies. It, of course, also separated them from their subordinates, which was thought to be a good thing. For the latter reason, houses for the rest of the staff and for wages employees were in different parts of the town. As far as Western Mining was concerned, this practice changed at the time of the building of Kambalda in 1966 (see later). From that time onwards senior officials and staff were no longer housed in separate areas from the rest.

In due course a Company-owned house became available to us and my family joined me from Adelaide. It was a small two-bedroom wood frame house at 13 Second Avenue, covered with asbestos cement sheeting and with a corrugated galvanised iron roof. Unlike some of the houses in Bullfinch which had been moved from some other now defunct mining town (some several times), our house was newly built. It had not been painted, the practice in Bullfinch being that the company supplied the paint but the tenants did the painting if they wished to do so and the previous tenant had not got around to it. We spent some time choosing the colours and painting the inside; none of the Bullfinch houses were painted on the outside. Most of the rooms finished up in conventional hues except the ceiling of the main bedroom, which Saima for some reason painted a deep glossy red!

Having lived in rented furnished accommodation in Adelaide, we did not own any furniture and ordered the essential items from Perth, with the exception of a cot for Ellen which I decided to make myself. The construction took place on the covered veranda at the back of the house.

We finished up with a fine cot but, embarrassingly for an engineer, I had forgotten to measure the width of the door. When the time came, there was no way I could get the cot through the doorway into Ellen's bedroom and finally had to take out the divider in the window to get it in that way, replacing it later.

Incidentally, while the kitchen chairs we bought while in Bullfinch wore out and were replaced some 30 years later, the Laminex covered table is still in use 52 years later and looks as if it may last forever. I think it will see us out!

The house had a bathroom, but the toilet was a dry pan in a separate outhouse in the back yard. It was quite some distance away because it was sited alongside a back lane used for the removal of the pans from the outhouses of the back-to-back houses on both sides. Occasionally the cart came along while someone was sitting on the seat, quietly contemplating nature. It was quite a shock to have the pan suddenly pulled away from under you through a flap in the back wall and replaced by another!

One of the characteristics of the Western Australian outback is the flies and, at certain times of the year, the blowflies. Flyscreens were absolutely essential in Bullfinch. Until our house was completely fitted out with these, Saima had to sweep up shovelfuls of dead blowflies every time she sprayed the kitchen.

The water for Bullfinch came from the Perth-Kalgoorlie pipeline. The main pipeline, the branch line to Bullfinch, and the connection to our house were all on the surface and in the summer the water was almost boiling by the time it reached us.

Some of the houses had evaporative air coolers but there was none in our house. We put up with the heat with the aid of fans in the summer and used electric radiators in the winters, which were quite cold.

Our daughter Ellen, then two and a half years old, could not speak English when she arrived in Bullfinch. Saima and her mother had always spoken Estonian with her. In Second Avenue she spent a number of days standing just inside the wire fence separating us from our next door neighbour and listening to their children at play. One day she climbed through the fence and joined them, having somehow absorbed sufficient English to communicate! Not all the words she had acquired were, however, usable in polite society. Ellen remains absolutely fluent in spoken Estonian but, never having formally studied the language, says she is less confident in the written language.

The Bullfinch golf course was right at the end of our street and golf was a very popular pastime, so naturally I tried to learn to play but soon found that I had no ability for it. Brodie-Hall, who was a medium player, and Fred Moore, the Company's storeman and one of our neighbours across the back lane who was a scratch golfer, both unsuccessfully tried to introduce me to the mysteries of the game. Even with the special country maximum handicap of 36 I usually won the wooden spoon (on one occasion a specially made "throssel stick" - a kind of golf club with a big hole through the head) at the end of the day!

The fairways, as is usual in the dry outback of Western Australia, were bare hard dirt, with an occasional stone here and there to make the

game really interesting when the ball hit it. On the hard surface the ball rolled a long way, provided it was not deflected into the bush. The "greens" were coarse sand, slightly oiled for cohesion. The players all carried a “scraper” – a thin wooden board - for smoothing footprints and other disturbances from the sand surface before trying to putt the ball.

Bullfinch had a pub but it also boasted a Country Club, built at the instigation and with the help of the Company. It had a library and a games room (billiards, table tennis, darts etc.). Profits were used to add to community facilities: it had constructed a seven rink bowling green and, with assistance from the Company, five tennis courts. A half-Olympic size swimming pool was opened in 1957 when we were there. It was a big event in the hot dusty outback town.

Saima and I had started playing contract bridge while in Adelaide and Buzz Myers and his wife Joy were keen bridge players. They lived on the opposite side of Second Avenue, two houses further towards the golf course. We alternated bridge evenings in each others’ houses. When the game was at our place, Buzz invariably got in his Holden, reversed into the street, drove the two hundred feet or so and parked in our driveway. At the end of the evening – usually close to midnight – he would do this in reverse.

The summers in this part of Western Australia were hot and dry. The winters, particularly nights, could be surprisingly cold and water would freeze in the small diameter pipes laid on the surface. In the summer the sun would heat the water in the exposed pipes to almost boiling point and one would have to run the water in the bath some hours before the intended use to let it cool down. The February mean temperature at Southern Cross was 33.3 degrees C and the July mean 16.3 degrees. In the summer of 1956-57 there were 100 days without rain.

In the dry summer we would often experience dust storms, some of which could turn day almost into night. The fine red dust would seep everywhere and cover everything with a thick film. Rain in the winter would create a surface layer of slippery mud which would quickly bog vehicles straying off the roads.

At other times there would be willy-willies, miniature vertical rotating whirlwinds from a half a metre to some tens of metres in diameter, which would lift anything loose within their reach hundreds of metres high. Usually it would be just dust and perhaps some dry leaves and saltbush, but sometimes it could be a shed from the chookyard, together with the chooks! The willy-willies could also move along horizontally at a fair speed.

Buzz’s Holden started to use more oil than petrol and he decided to overhaul the engine. The dismantling took place on the back verandah of the house and, not being a motor mechanic, he carefully laid all the parts in the correct order on paper cake cups (patty pans) on the verandah. When the

engine was all in pieces a willy-willy swirled past, picked up the paper cups and thoroughly reorganised the sequence of the parts!

There were also beauties of nature. Given a reasonable amount of rain, the bush in the springtime – in September – would be covered by an unbelievable carpet of wildflowers which would stretch for many kilometres. This is a feature of a large area of Western Australia. Tourists come from far away to view the wildflowers and city dwellers take their families to see it. The flowers are protected; it is an offence to pick them.

Life in a small Australian outback town in the 1950's and 1960's would be considered full of hardships today, half a century later. There were no comforts such as air conditioning, communications were slow and expensive, there was no television or computers. The people had to entertain themselves, and did so. In some ways, however, the lifestyle was superior to today's, and in some respects unbelievably honest and secure.

I do not remember bothering to lock house or car doors and the people were almost without exception friendly and helpful. If a woman became ill, was having a baby, or a family was for some other reason in need of help, the neighbours would invariably come to lend a hand without being asked. No car would ever pass someone walking down a road without stopping to offer a lift. No-one would dream of overpegging a gold miner's lease just because he forgot to renew it; it was just not done. Anyone attempting to do so would have been a pariah in the community.

Lecturer at School of Mines

In Bullfinch there was a Branch of the Kalgoorlie School of Mines where certain subjects could be taken in the evenings. Lecturers were mine staff and I became a lecturer in mathematics. The textbook included a number of problems at the end of every chapter from which I would select some for homework. Some of these I would not know how to solve.

One of my students was brilliant at mathematics and at the beginning of the next lesson I would call on him to show the class his solutions on the blackboard. I would not, of course, let on that sometimes I was also learning from him!

Another lecturer in the next classroom was another Adelaide graduate, P C (Peter) Dunn. We finished our lectures at the same time and on the way home called in at the nearby Country Club for just one beer. He would buy one week and I the next. This was in breach of the time-honoured Australian custom of 'shouting' but, much to the puzzlement of our fellow drinkers, all we wanted was just one beer!

When we moved to Marvel Loch (see later), I would travel by car from there once a week to continue with the teaching. The only way to travel reasonably comfortably on the corrugated gravel road was to get up to a high

speed and maintain it, so that the tyres would hit only the tops of the corrugations. I found out later that my driving was considered unorthodox by my students and that they would lay bets on whether I would arrive or not. Much to the annoyance of the doubters, I always got there.

The other very real driving hazard was hitting kangaroos at night. It only happened to me once, with not much damage to the car but terminal result for the 'roo. Brodie, a fast driver in a big Ford Customline, argued that driving fast was safer because less time was spent on the road and therefore the likelihood of hitting a kangaroo was lower.

Technical assistant

After a period as a surveyor I was transferred to become Technical Assistant to the General Superintendent, together with Peter Dunn. Peter and I shared an office and did various projects as directed by Brodie-Hall.

Life was never dull in that job, the main problem for us being that Brodie kept producing enough ideas to keep twenty assistants busy. We finally developed a screening procedure: any ideas mentioned once would be written down, but no action taken. If they were mentioned again they would be transferred to a short list and after a third mention we would start working on them. This kept our task manageable and made everybody happy.

One of my projects was to find a way to reduce the consumption of compressed air, used underground for operating rock drills, loaders and ventilating fans. A part of the solution was to investigate leaks in the pipelines which transmitted the air to the working places. The best time to do this was at night when there were no miners at work and on several occasions I walked on my own through the whole mine after midnight, when the afternoon shift had knocked off. In retrospect this was a foolish thing to do because if there had been an accident no-one would have found me until the morning. There should have been someone else with me.

While walking down a curved drive my cap lamp light would sometimes reflect off the surface of the water on the floor, giving the eerie impression that there was another nocturnal prowler about to appear around the corner. It gave me quite a fright until I realised what caused it!

One of my big projects was to compare alternative methods of future vertical development at the Copperhead mine, where the ore making structures pitched at about 45 degrees, away from the Main Shaft. The workings had reached a depth where development of new levels from the existing vertical shaft required access crosscuts (tunnels) of sharply increasing lengths in barren rock. This was compared with developing at depth through an internal inclined shaft following the orebody down, which was shown to be the better method. Some of my calculations were questioned by Melbourne office and there were supplementary reports, but

the basic conclusion remained unchanged. It was decided to sink a 45 degree inclined shaft for about 1000 vertical feet, with an underground winder on the 16 level, to open up the ore below the 18 level.

The ore occurred in a folded horizon and I located the inclined shaft some 200 feet off the nose of the fold. The Chief Geologist of Western Mining thought this was unnecessarily far and, on his urging, the shaft was sunk just a few feet off the fold. An unexpected consequence of this was that the rock so close to the fold nose was highly fractured and stressed and the shaft opening kept closing in spite of heavy supports. Every so often the welders had to go down the shaft and cut a few inches off the top of the skip so that it would clear the cap timber!

Great Western had to close in 1963 because the operation had become completely uneconomic. The difficulties with the Copperhead inclined shaft did not help. Regrettably, I could not say "I told you so" because I had not foreseen the ground problem, either. My reason to place the shaft further away had been to avoid any possible localised changes in the attitude of the orebody.

In charge of Corinthian

One of my responsibilities while Technical Assistant was to act as the supervisor of the satellite Corinthian mine. This had been worked previously as an open cut, below which there was some underground development. It was located about half-way between Southern Cross and Bullfinch, a short distance to the west of the road. The turnoff to the mine was at a prominent lateritic rock, known appropriately as Half-Way Rock. In the early days of Bullfinch, before a hotel was established, this had been also the location of a sly-grog, or "shypoo" shop.

Great Western constructed a small 1 in 3 inclined shaft from the surface in the southern end of the open cut, opened up the next level, and stoped the ore above it. The work was done by a contract mining party with a shift boss, who was a working member of the party, in charge. My role was to ensure that they had the necessary equipment and supplies, to lay out and monitor the stoping and development programme, to measure the work and calculate the miners' pay, and to generally keep track of the whole operation.

The mine was kept dry by a pump in the bottom of an old vertical shaft sunk in earlier days and there was no water storage apart from the small shaft sump and the development openings. If the pump stopped for any reason, it was in danger of being submerged in a few hours.

The pump was old and unsophisticated and the only way to satisfy oneself that it was working was to go out and see. When there was no-one working at the mine, it was a part of my job to drive out from time to time in the supply truck driven by a young Italian migrant, Frank Ricci, and check the pump. Frank was a miner who had lost an eye in a blasting accident, had

bought a truck, and hired it and himself out to the company for whatever transport was needed.

If the pump had stopped, Frank and I would climb down the ladders in the shaft and see if we could get it started again. If the problem was beyond us, we would drive back to Bullfinch and fetch a fitter. Frank, incidentally, introduced me to the mysteries of driving in his 3 ton Ford truck. It had no synchromesh, so my skills were acquired the hard way, having to double declutch to change gear. It was a tribute to the Ford gearbox and a happy outcome that the truck and I both survived!

To obtain a driver's licence I had to apply to the local policeman. There was no driving test, but I had to answer questions about road rules and memorise and recite all the one-way streets in Perth! By the time many years later when I finally drove a car in Perth I had forgotten them all.

Manager Nevoria mine

The old Nevoria gold mine, some 80 kilometres south of Bullfinch, was re-opened by Great Western in 1958. Soon after that I was appointed the Underground Manager. The ore produced was trucked daily by a contractor to the mill in Bullfinch, but otherwise we were on our own. During my time there, while extracting the ore on the upper levels, we also deepened the main shaft and developed another level off it.

Two years in this job taught me more about dealing with people and the vital skill of getting things done than I could have learned at any management school in ten years. I was on duty seven days a week, twenty four hours a day, and there was no-one else to whom to pass the buck. There were no committees or consultants and, because the staff consisted of just myself and one shiftboss, we held our staff meetings usually over a beer after work.

There was a handyman type, Alex Robinson, a bushman who could turn his hand to most any everyday equipment problems on the mine and kept the rock drills going, but more complicated electrical or mechanical matters had to be attended to by an electrician from Southern Cross or a fitter from Bullfinch. Communications were by a rather rickety telephone line, which was not infrequently out of order, and via the daily supply truck from Bullfinch which would bring stores and take any equipment in need of repairs back to the workshops in Bullfinch. In a real emergency, we could ask the contractors carting the ore to the Bullfinch mill for assistance with transporting equipment or materials.

At times the rickety telephone line was a blessing, because it was seldom that the line was clear enough to receive unwelcome messages from the Bullfinch office.

The daily supply truck from Bullfinch called first at Great Western's Frasers mine in Southern Cross on its way out to Nevoria. The Manager at

Frasers, Lou MacNamara, used to cast his eye over the goods on the truck and, if he saw something I had ordered but he could use, have it unloaded at Frasers. After several such experiences I invited the Irish truck driver, Paddy, to have a few beers with me at the Marvel Loch Hotel and convinced him to come to Nevoria first, stopping at Frasers on his way back. This enabled me to turn the tables on Lou and, without either of us saying a word, thereafter we both kept our hands off each other's orders!

Almost all the personnel working at Nevoria lived ten kilometres north in Marvel Loch, which had not been named after a loch in Scotland but after a racehorse. (The horse, of course, could have been named after a loch). There were single quarters for about a dozen men and a mess. Some young Italian fellows lived in their own lodgings, a galvanised iron shed called "The College" alongside the road to the mine, and one miner preferred to camp on his own in the bush close to the mine. The married men were mostly locals, some of them also running farms. One of the latter, P C (Pat) Kenny, was a miner who subsequently became the second shift boss when Nevoria started working two shifts.

A well known local family was the three Carnicelli brothers. The oldest, Eric, was a miner and also operated his own prospectors' show in his spare time. His son, Lou, was Ellen's age and one of her playmates. The next, Noel, was a diamond driller, and the youngest, Peter, a bogger (underground compressed air driven loader for broken rock) driver. They were all good workers and citizens.

My one shift boss, Jim Cubit, was a very experienced miner. Jim lived on the mine in a room next to the office and was, in effect, the caretaker as well. Next to the office building there was an old leaning bough shed which he used as a garage. In it, besides his car, Jim kept a pet cockatoo. His main interest was growing cabbages. Otherwise a man of few words, he could hold forth for hours on end about cabbages. He was built like a barrel and, in his younger days, had not enjoyed a Saturday night without a fight. When at Nevoria he had slowed down, but his favourite method of settling a difference of opinion with a miner was to invite him to meet outside the lease peg when the shift was over. I know of only one miner who took him up and finished up much the worse for wear. Jim was indiscriminate in his use of the 'h' sound, and his description of the event was: "I heyed 'im off and then I 'its 'im"!

Jim Cubit and I had an excellent relationship. He, an experienced practical miner, complemented a young engineer like myself very well indeed. This was no doubt intended by Brodie-Hall. Sadly, Jim died of cancer soon after I left Nevoria.

The people working on the mine were generally a good lot, as is usual in out of the way locations. The Australian Workers' Union representative was one of the platmen, Jimmy Preston. There was never any trouble. The union

official from Kalgoorlie, who visited about once every six months, entered one or two minor complaints in the inspection book for the sake of good form and these were easily met. The Western Australian goldfields generally had very few industrial disputes. The last major strike in Kalgoorlie had occurred in 1935 when the issue was whether the working week should be reduced from 48 hours to 44 hours. It was eventually settled by agreeing on an 88 hour fortnight!

One of my best bogger drivers was an ex-alcoholic who worked well for long periods while off the grog, but then went on a bender and disappeared for a week or two without warning. After this had happened several times I warned him that I could not tolerate the resulting interruptions to production and that I would have to fire him if it happened again. Sure enough it did, and I did fire him. The somewhat surprising result was that a day or so later the fellow turned up at my house with a bottle of brandy, apologised for having left me no choice but to fire him, offered me a drink, and shook hands to show there were no hard feelings. I was very sorry to hear some time later that he had been found drowned somewhere on the coast.

The mine made a lot of water and our pumps were about fourth hand, needing strong faith and a lot of coaxing to keep them working. (We hardly ever bought new equipment at Great Western). While there was a sump, it had very limited capacity. The mechanics lived 80 kilometres away and, just like babies are always born at an ungodly hour, the pumps usually broke down at two in the morning, so out of necessity I became pretty good at fixing pumps.

With no fitter on site, Alex and I developed the ability to charm the pumps into keeping going except when there was a major problem. Again, driving out to the mine and checking the pumps was a regular task on weekends while there was no-one working. The situation could be assessed by noting whether or not there was water coming out of the outlet pipe on the surface and, if so, how much.

The water was very salty and also acid because the ore contained the easily oxidised iron sulphide, pyrrhotite. In those days of virtually no environmental consciousness it was simply allowed to drain to the lower ground to the south, where there soon resulted a considerable area of dead trees and vegetation. As it happened, it did not matter because the underground mine in my time and the strike extension for a considerable distance to the south were all mined by open cutting in the 1980's and 90's. (Incidentally, one of the open cuts was named 'Parbo'!)

On one occasion the problems with the pumps were very welcome indeed. The local schoolteacher, John Cox, had organised a revue in the local hall and had somehow (probably when I was excessively exuberant from good scotch) talked me into singing and dancing 'Underneath the Arches'. As I am completely unmusical and not a great dancer or performer of any kind this was

a worrisome prospect, but I was saved at literally the last minute by a call to the mine because the pump had broken down.

My successors apparently did not regard attending to the pumps with the same seriousness because the Nevoria mine became flooded and closed in 1962, adding to the financial problems which led to the closure of Great Western in May 1963.

The road from Southern Cross to Marvel Loch and on to the mine was gravel, as were all roads in the area. They became very slippery with rain, although they also dried out quickly. Driving in the wet required considerable local know-how not to finish up in the ditch. In dry periods there would be clouds of dust and passing slow-moving vehicles became a kind of Russian roulette, particularly passing the long road trains carting ore to Bullfinch. Nevertheless, I can't recall any accidents arising from this hazard.

Life in Marvel Loch

My family and I lived in a mud brick house on the outskirts of Marvel Loch which boasted a pub, a post office/general store, a single teacher school, perhaps a dozen houses, and the mine's single men's quarters. Mud brick houses are eminently suitable for the dry climate, cool in the summer and warm in the winter. The total population, including the farmers in the surrounding district and the miners, was about 150 people.

While in Bullfinch we had a cat and, on moving, we decided to leave it there for our neighbours. The cat decided otherwise and turned up one day at our house in Marvel Loch, after having somehow found us after walking 70 kilometres!

Life in a small and isolated place like Marvel Loch was surprisingly interesting, even if one had to drive to Southern Cross (35 km away) for an ice-cream. (We did this on a number of occasions). Saima and I became very friendly with the schoolteacher, John Cox, and his wife Nancy. Among the activities we were involved in with them was the publication of a local roneoed (copied on a rotary duplicator using stencils) news-sheet called the *'Never-Never'.* John, Nancy, and I looked after the text (some contributed by willing or unwilling "correspondents") and advertisements and Saima, who is artistic, drew occasional illustrations.

We played badminton, took part in all kinds of local activities and consumed a lot of scotch and beer. On one occasion I was even conscripted to the cricket team to make up the numbers and distinguished myself by being bowled for a duck. Life was never dull and there was no spare time.

Ellen started her schooling in the one-teacher school in Marvel Loch. Our sons Peeter and Martin were born in the Southern Cross hospital while we lived in Marvel Loch. They both chose to make their appearances just after heavy rainstorms which flooded the gravel road to Southern Cross and

made it all but impassable. In Martin's case the road was particularly bad and we had a four wheel drive escort, just in case. It was a slow and slippery journey, but we made it. The rain had also interrupted the telephone line, so I had no information about Martin's birth for some days.

Transfer to Melbourne

Western Mining had a practice of seconding promising young staff members (usually technical people) from operations to Melbourne Head Office for a period. There was only one permanent technical person in Melbourne who no longer did much technical work and the secondments gave the Company's senior executives access to technical assistance. It also enabled senior people in Head Office to assess the potential of the seconded staff members for possible later senior appointments. I was informed in January 1960 that I was to be the next person to go to Melbourne.

In 1957 the Company had obtained exploration rights for the aluminium ore bauxite in the Darling Range east and south-east of Perth. Western Aluminium N.L. had been formed to carry out the prospecting and by early 1960 drilling had indicated the presence of a major bauxite occurrence. I spent several weeks in Perth and Kalamunda, where Western Aluminium had an office and a laboratory, familiarising myself with the project which was likely to involve me in Melbourne.

By the end of February I was ready to leave and was given an informal farewell one Sunday morning at Jimmy Preston's house in Marvel Loch. Jimmy, in addition to being the union representative, was a kind of father confessor to many in Marvel Loch. His house in the middle of one side of the main street was a favourite informal gathering place. Among other things, he cut people's (including my) hair in his spare time. The official reason for the function (and for the Company to buy a keg of beer) was to celebrate achieving a record low accident rate at Nevoria. Unknown to me, the occasion was also to be used to present Saima with a handsome stainless steel tray inscribed *'From the people of Marvel Loch'* (we still have it) and me with a suitcase with an engraved plaque.

After a delay doing a job for Brodie-Hall in Kalgoorlie who had succeeded Mr. Espie as Western Mining's General Superintendent in Western Australia, my family and I eventually arrived in Melbourne at the end of May 1960.

10. INTERLUDE IN MELBOURNE

I started my new job in the Head Office of Western Mining on the 6th floor of Collins House at 360 Collins St. as Technical Assistant to the General Manager, Mr. W M (Bill) Morgan, on 25 May 1960. There were perhaps

twenty to thirty people in this office. G Lindesay Clark (later Sir Lindesay) was Chairman and Managing Director and A K (Ken) Forbes was Finance Manager. The Company Secretary was F R (Fred) Morgan (no relation to Bill Morgan).

Mr. Clark retired as Managing Director in 1962 and was succeeded by Bill Morgan, leaving the position of General Manager vacant.

Initially we lived in two houses in Melbourne's western suburbs, rented for us by the Company. When it was decided in mid-1961 that, instead of a short term secondment, I would be in Melbourne office indefinitely, we became responsible for our own accommodation. We bought a block of land within our means at Glen Waverley, then on the eastern fringe of Melbourne, and built a house on it, moving in at the end of 1961. From all these locations I travelled to and from work by train to and from Flinders Street station.

Resurgence of mining in Australia

Beginning about 1950, post-war reconstruction in Europe, greatly assisted by the Marshall Plan, coincided with the industrialisation of Japan. This needed large quantities of minerals; for example, world steel production between 1950 and 1975 increased from less than 200 million to 700 million tonnes a year. Metal prices, which had been static or falling in the first half of the century, increased in real terms.

Neither Europe nor Japan had substantial mineral resources and depended on imports. Massive minerals discoveries and developments in Australia in the 1960s – iron ore, bauxite, alumina and aluminium, coking and steaming coal, mineral sands, nickel, oil and gas and so on – came at exactly the right time to supply a substantial part of this high demand. This was not as fortuitous as it sounds because the existence of a market encouraged the developments. Many of the deposits occurred on or near the surface. Mineral developments continued to have strong public and government support and the complicated approval processes which now cause lengthy delays had not yet been introduced. Japanese steel mills committed to long term contracts for iron ore and coking coal which backed the financing of these projects. Large new industries were developed amazingly quickly. With the exception of oil, production from the new operations was almost entirely for export and Australia became firmly established as a major supplier of minerals, energy, and refined metals to the world, ranking as the first or second largest exporter of many of these.

Western Mining was very much a part of it. While continuing as a gold miner, it took the lead in proving the bauxite in the Darling Range outside Perth in Western Australia and establishing Alcoa of Australia which became by far the largest producer of alumina in the world. It discovered

iron ore at Koolanooka Hills north of Perth and became the first commercial exporter of Western Australian iron ore to Japan, leading in the massive developments in the Pilbara. It made the first discovery of nickel in Australia at Kambalda, just south of Kalgoorlie, which rapidly became the basis of an integrated industry producing refined nickel metal and the Company became the third largest nickel producer in the world. Later, in the mid-1970s, WMC discovered and subsequently brought into production the massive copper-uranium-gold orebody at Olympic Dam in South Australia. In addition to these major successes there were numerous other, smaller, developments over the years. There were also a number of failures, but the successes greatly outweighed these and the Company grew into a world scale diversified minerals producer.

Technical assistant

Collins House in the first half of the 1900s housed many of the then famous Australian mining companies – Zinc Corporation, North Broken Hill, Broken Hill South, Electrolytic Zinc etc., as well as Western Mining Corporation. Some of these gradually moved to other locations but Western Mining, North and South remained. (The original building was demolished in 1974 and replaced by a modern office tower known as Collins Wales House).

Business conditions in the early 1960s were very different from todays. Long distance telephone calls were expensive and not used without a very good reason. Telex machines were replacing telegrams for business communications. Confidential information in both telegrams and telex messages was sent in Bentley's code, or sometimes in private code words or numbers agreed beforehand. Typists still typed up to nine carbon copies of documents and had to laboriously correct all copies if mistakes occurred. Electric typewriters were becoming available, but were still unusual. The roneo duplicator was used when many copies were required, although copying machines with heat sensitive paper (duly equipped with a fire extinguisher) were becoming available. Portable tape dictaphones, Xerox copiers using plain paper and mainframe computers for office use were starting to be introduced. Mechanical calculators were commonplace and electronic calculators, although rare, were on the way in. There were, of course, no fax machines, no direct dialling interstate or overseas, mobile phones, personal computers, e-mail, or internet.

Black and white television had been introduced into Australia in 1956. In the 1960s it was still novel enough for shops to have television sets showing programmes in their windows, with groups of people on the footpath watching them. I clearly remember seeing Neil Armstrong take man's first steps on the moon in 1969 on one of the shop window television sets in Little Collins Street. International air travel had been revolutionised

by the jet aircraft introduced in the late 1950's. Within Australia propeller driven aircraft (DC3's on shorter routes and DC6's on longer journeys) were still the norm, but turboprops – Viscounts and Electras – were starting to be used.

As Technical Assistant to Bill Morgan, I was given many different jobs to do. One of my regular duties was to ensure that up to date operating and technical reports were available to directors at Board meetings. I also drafted the operations sections for the Annual Reports and assisted with the preparation of the Chairman's Addresses for the Annual General Meetings (AGMs).

Before the discovery of nickel at Kambalda in 1966 the Western Mining AGMs were attended by a few tens of shareholders. For a time they had been held in Mr. Clark's office (also used for Board meetings) accommodating about 30 people, then from 1960 onwards in the newly established Boardroom which increased the seating capacity to perhaps 50. Later the meetings were moved to a rented hall where a hundred or more could be seated. In keeping with the small numbers attending, the meetings were friendly, almost family, affairs. There were hardly any reporters present. The attendance register was compiled by a staff member who listed those he knew as they came in and asked the others for their names. There is the story of one distinguished looking gentleman, on being asked his name, responding: "I am W S Robinson, and I happen to be the President of the Company"!

Regardless of the family atmosphere, Mr. Clark put a lot of effort into drafting his addresses. He was a great admirer of Arthur Quiller-Couch's *The Art of Writing* which neither I, nor others I know who had been instructed by him to regard it as an example of perfection, could follow. We paid lip service to it and simply toughed it out when he took to our efforts with a heavy blue pencil. I think that, in my case, he was more patient than usual because English was not my native language.

Mr. Clark's insistence on going to great pains in the preparation of the Chairman's speech became a practice I later followed myself, although not in the Quiller-Couch style. I extended the attempts at clarity, simplicity of language, and the elimination of unnecessary words to letters, reports, and other writings. Excessive verbiage may be of artistic value in literature but it is counterproductive in communicating because it distracts the reader and can leave the message imprecise. To some people simplicity means lack of sophistication but to me it means a clear mind. I also came to believe that speeches should be ideally limited to 20 minutes, perhaps 30 minutes on special occasions and that, on all except very formal occasions, in addition to brevity and sincerity a touch of humour was useful in maintaining the interest of the audience.

Birth of Alcoa of Australia

Much of the activity in Melbourne office at that time was related to the Darling Range aluminium project. The story of this project has its beginnings in the mid-1950s when aluminium ore bauxite was discovered in Australia at Weipa on Cape York Peninsula in Far North Queensland. Subsequently another major deposit was found at Gove in Northern Territory, on the opposite side of the Gulf of Carpentaria.

Bauxite occurs as laterite (gravel-like weathering product of rocks) on or near the surface. After grinding into a powder it is leached in a 'refinery' with caustic soda which dissolves the aluminium oxide ('alumina') in the bauxite and leaves an iron oxide rich "red mud" residue for disposal. The alumina is then precipitated from the solution as a white powder, dried, and subjected to an electrolytic process in a 'smelter' to produce aluminium metal. Smelting requires large amounts of electric power, the availability and cost of which are therefore important. (It is confusing to people outside the industry that an aluminium refinery produces an intermediate product (alumina, or aluminium oxide) and a smelter makes aluminium metal. In other metals a smelter makes the intermediate product (often called matte) and a refinery produces metal (often called refined metal). I do not know how this came about, but there it is).

The strategic importance of aluminium had become apparent during World War II. To ensure that the technology for making this vital metal would be available in Australia the Commonwealth and Tasmanian Governments had formed in 1945 the Australian Aluminium Production Commission which in 1955 began producing alumina and aluminium at Bell Bay in Tasmania, using locally produced hydroelectricity. It was then estimated that Australia had only 33 million tons of economic grade bauxite and the feed for the Bell Bay operation with a capacity of 26,000 tons of alumina and 13,000 tons of aluminium metal per annum was imported from Malaya and Indonesia. Since then Australia has been shown to have the largest known bauxite reserves in the world and is by far the world's largest producer and exporter of alumina.

The discoveries in northern Australia directed the attention of Western Mining Corporation, endeavouring to diversify from gold to other minerals, to bauxite. Bauxite was known to occur in the Darling Range in Western Australia. Previous investigators had concluded that the grade was too low to be economic and the silica content was too high, but Western Mining decided to have a closer look and in 1957 obtained a temporary reservation of 6250 square miles for exploration.

The Company at that time had a market value (converted to dollars) of $4.9 million (about $50 million in today's dollars) and a correspondingly modest income. To help finance the bauxite investigation two friendly Collins House companies - Broken Hill South Ltd. and North Broken Hill Ltd. - joined in the venture through Western Aluminium NL, formed in 1958. Unusually, there was also an early financial involvement by the Commonwealth Development Bank. Banks at that time, as a rule, lent only against bricks and mortar type security and providing finance to a mining project, let alone exploration, was too risky for them.

As the work progressed it became apparent that there were numerous surface or near-surface bauxite occurrences which, while of modest size individually, added up to a very substantial resource. It was also found that much of the diluent making the bauxite low grade by world standards was silica in a form which did not react with caustic soda during leaching and that the caustic soda consumption was therefore much lower than initially thought. This, and the advantageous location of the deposits close to major infrastructure indicated that the bauxite may be of economic interest.

In late 1959 a trial shipment put through the refinery at Bell Bay confirmed that the Darling Range bauxite was a satisfactory source of alumina. Three trial shipments were also sent to Japan in the hope that the venture may be started as an exporter of bauxite, but this did not happen.

As the knowledge of the size of the resource grew, the initial thoughts of exporting bauxite gave way to the concept of an integrated aluminium operation, from bauxite through to aluminium metal and even fabricating. A refinery site was obtained at Kwinana south of Perth, a brown coal deposit acquired at Anglesea near Geelong in Victoria and a smelter site at nearby Point Henry (Western Australia did not have a suitable source of electric power while Victoria had ample low cost power generated from brown coal.) The Secretary of Western Mining, Fred Morgan, took the lead in acquiring land and in site planning. By early 1960 the major elements of the project were in place except for three vital components: aluminium industry expertise, finance, and technology.

Through the good offices of Denny Marris, Managing Director of Lazard Bros. in London, who had acted at various times for the Aluminum Company of America (Alcoa) and was also adviser to Mr. Clark, contact was made with Alcoa. (Incidentally, "Aluminum" is not a typographical mistake. It is how Americans spell it). Alcoa had started the aluminium industry in 1888 and was the largest aluminium producer in the world. An important reason for approaching Alcoa rather than another company in the industry was the belief that Alcoa's ethical standards matched its technical excellence and financial strength, and that it would not make unfair use of its superior corporate strength in a partnership with a very much smaller company. This proved to be an accurate judgement over the years to follow.

Initial discussions in Melbourne in early 1960 with Alcoa's Vice President International, John M H (Doc) Mitchell, were followed by a presentation of the exploration results in Pittsburgh by WMC's Chief Geologist, J D (Don) Campbell. Arising from these discussions, a then recently retired senior officer of Alcoa's Refining Division in Pittsburgh, Ralph Derr, was retained by Western Aluminium to report on the project. His fee was $US 5000 and travelling and living expenses to and from and in Australia for his wife and himself while working on the project.

Derr arrived in Australia in October 1960. One of my duties became to obtain any information he required and to do various calculations for him. There were no computers in those days; the work was done with pencil and paper, the only mechanical aids being slide rules and hand cranked Facit mechanical calculators. (Most younger people today do not know what a slide rule is). I also assisted with test drilling and mining plans of the Anglesea brown coal deposit.

Derr reported favourably early in 1961. Alcoa's geologist, Ed Harrison, reviewed and agreed with the estimate of a potential bauxite resource of 500 million tonnes, with very considerable upside. The Aluminum Company, as it was often referred to, was in 1961 very keen to secure long term sources of bauxite. It had been successful in doing so in Guinea in West Africa but unsuccessful in northern Australia. When the Darling Range opportunity came along, Alcoa's interest in it in the first instance was as another substantial source of bauxite in a politically stable country.

Mr. Clark was invited to visit Pittsburgh for discussions in April 1961. Denny Marris attended because he knew both the WMC and Alcoa people and had introduced Western Mining to Alcoa. I was allocated to accompany Mr. Clark as his assistant because I had a good knowledge of the project and all the calculations. Mr. and Mrs. Clark and I flew from Sydney on a Qantas Boeing 707 which had only recently become the long haul aircraft and were still a novelty, stopped for a day or so in Honolulu and then flew on to San Francisco where we again stayed over. Travel, even business travel, was more leisurely in those days!

When the travel arrangements in Melbourne had been completed, Alcoa was sent a telegram advising that Mr. and Mrs. Clark would be arriving on a certain flight, accompanied by A. Parbo. The telegram was in capital letters and the full stop between my initial and name had been omitted. Some time later, when we had got to know the Alcoa people well, we were told that this threw Pittsburgh office into a turmoil because no-one could work out who or what "a parbo" was, the guesses ranging from Mrs. Clark's pet poodle to various other possibilities. Finally, after several executive meetings, it was decided that whoever or whatever a parbo was, a

room should be booked for it at the Pittsburgh Hilton. This was done, and we duly arrived in ignorance of the problem.

Meanwhile, there had been discussions between WMC and Mitsubishi Chemical Industries of Japan who wanted to become an aluminium producer. Mitsubishi contracting to take 60,000 tonnes per year of alumina (subsequently increased to 120,000 tonnes per year) would enable a full size refinery unit - at that time 200,000 tons per annum – to be built at Kwinana to supply both Mitsubishi and the proposed smelter at Point Henry. These discussions were started by Bill Morgan with Mr. Hasegawa of Mitsubishi Chemical and Mr. Nishida of the trading company Mitsubishi Shoji Kaisha. Bill Morgan and Fred Morgan, the WMC Company Secretary, visited Japan together in the course of the discussions. To distinguish between them, the Japanese christened them "tall Morgan" (Bill) and "short Morgan" (Fred) respectively. According to Bill, Mr. Hasegawa had a habit of apparently dozing off at the negotiating table, only to come to life with a pertinent comment as soon as something important was raised. Mr. Nishida, a real gentleman, acted in the traditional trading company role as an intermediary and expediter if necessary. I developed great respect for him in my dealings with him quite a few years later.

The initial discussion in Pittsburgh took place on 20 April 1961 in a meeting room on the 31st floor of the Alcoa Building, then not long completed in novel Alcoa-developed aluminium cladding. On the Australian side of a long table there were Lindesay Clark, Denny Marris, and myself, faced on the other side by some 20 Alcoans. After some hilarity about the unequal numbers, C W (Charlie) Parry – later Chairman of Alcoa but then a junior engineer like myself - and I were sent to a back room to work up estimates comparing the costs of the proposed Darling Range venture with costs at Weipa in Northern Australia. We must have come up with the right numbers because the conclusion was soon reached by our seniors that the Darling Range bauxite was competitive, and discussions moved on to defining the main terms of an agreement. I have often wondered how our estimates compared with the later actual results in either place. Fortunately, I do not think that our calculations were preserved.

In the evenings we were entertained royally by the Alcoa people, who could not have been kinder. Back at the hotel after dinner, Mr. Clark would virtually every night send a lengthy telegram in Bentley's code to his co-directors in Melbourne and, because of the time difference, frequently receive a coded reply by the morning. It was my job to code and de-code the messages. There were times over the codebook in the early hours of the morning when I wished that our hosts had been a little less hospitable!

After agreement was reached to commence detailed negotiations there was a short break from 27 April until discussions resumed in May. I was no longer required as Mr. Clark was joined for these discussions by legal,

commercial and financial people. My Alcoa hosts kindly asked whether there was anything they could do for me before I returned to Australia. Innocently, I said that I would like to visit an aluminium plant because I had never seen one.

Alcoa arranged for me to visit on the way home their alumina refinery at Mobile, Alabama and the refinery and smelter at Point Comfort, Texas. Later I found out that my visit to the plants was somewhat awkward for them, because the industry at that time was highly secretive and guarded its technology very closely. There were guards with sixguns on their hips at the gates and Alcoa's policy was that only approved American citizens would be admitted as visitors. The decision to make an exception for me must have gone right up to the top, but it was approved without me having the slightest idea of the problem. As it was, Alcoa's secrets were safe from me because I did not know enough about the aluminium industry to even ask the right questions!

The discussions in May were held in some urgency because Western Mining, a very small company with a market value then of just under $5 million, was vulnerable to takeover. Another company that understood the potential value of Western Mining's 78 per cent interest in Western Aluminium could make an offer which would appear very attractive to Western Mining's shareholders but represent far less than fair value. It was essential to conclude with all despatch an agreement which would enable the project to be announced so that the shareholders and the market would be fully informed.

To help this, the Aluminum Company agreed to provide all the loan finance required by the joint company to be formed, Alcoa of Australia Pty Ltd (A/A), which eliminated the need for lengthy financing negotiations. In return it was agreed that the Aluminum Company would have 51 per cent equity and manage the operation, responsible to a Board on which all shareholders were represented. The Australian shareholders would nominate the Chairman and the Aluminum Company would provide the Managing Director. The financial structure agreed included issuing some paid-up shares to the Aluminum Company in recognition of providing the technology and the finance and to Western Mining for having initiated the project. The shareholdings in Alcoa of Australia became Alcoa 51 per cent; WMC 20 per cent; BH South Limited 16.6 per cent; North Broken Hill Limited 12 per cent. Cushion Trust Limited, a subsidiary of Lazard Bros., was allotted an 0.4 per cent equity as their fee.

The Aluminum Company raised early in the discussions the question of obtaining rights to bauxite from the new venture, to be toll processed into alumina by Alcoa of Australia. In 1961 long term supply and purchase contracts for alumina and, for that matter for other mineral products, virtually did not exist. Such contracts were pioneered by the Japanese to obtain iron ore and coking coal for their steel industry. In the aluminium industry there were no independent suppliers of alumina and competitors would not sell to

each other. The industry believed that a major producer had to have its own source of bauxite. Alcoa having its name directly on some bauxite would also enable it to claim the United States depletion allowance for tax purposes. In the event the Formation Agreement, executed on 8 June 1961, while recognising the Aluminum Company's desire to obtain separate bauxite and alumina rights, left open the details of how to achieve this.

The formation of Alcoa of Australia Proprietary Limited to establish and operate a £45 million (approx. $1 billion in 2007) integrated aluminium complex in Australia was announced on 14 June 1961. G Lindesay Clark was appointed Chairman and J Colin Smith the Managing Director. Offices were opened in Geelong, Fremantle, and Melbourne. A number of Aluminum Company personnel came out to work on the design and construction of a 200,000 tonnes/year alumina refinery at Kwinana, 40,000 tonnes/year smelter and fabricating plant at Point Henry, and a brown coal mine and 150 megawatt power station at Anglesea. Negotiations with Mitsubishi for the supply of 120,000 tonnes/year of alumina were concluded in September 1961.

This was an immense project in Australia at the time. Even after correcting for inflationary changes in money values, comparison of sums of money then and now does not give the correct impression.

In September 1964 the largest company by market capitalisation in Australia was National Dairy Products Corporation with a market value of £544 million, followed by BHP (£304 million), Mount Isa Mines (£201 million), Colonial Sugar Refining Co. (£92 million), Myer Emporium (£91 million), ICIANZ (£87 million), G J Coles (£81 million), Conzinc Riotinto of Australia (£78 million) and Bank of New South Wales (£74 million).

Businesses today are much larger and employ much more capital. A better measure than sums of money is that it was the largest ever project in the Australian minerals industry up to that time. The initial capital expenditure was 50 per cent more than the combined market value of the three Australian companies and represented one sixth of the total investment by Australian mining, refining and manufacturing industries in 1960-61.

The story of Alcoa of Australia from the earliest days until 1996 has been recorded by Geoffrey Blainey in *White Gold* (Allen & Unwin, 1997).

Work began immediately. Mr. C W (Charles, later Sir Charles) Court, then Minister for Industrial Development in Western Australia, negotiated the State Agreement and guided the Bill authorising the bauxite leases and the construction of the Kwinana refinery through Parliament. He was an enthusiastic supporter of the project and one of the few people outside the Company who even at this early stage could visualise that the first refinery

unit, a large investment as it then was, was only the beginning of a major new industry.

During the debate in the State Parliament there was little vision by anyone other than Mr. Court who said that this was a "landmark in the industrial history of Western Australia". Instead of being concerned that the new industry should be encouraged to invest and grow, there was criticism that the State had not extracted enough from the company. Perhaps in the parliamentary system where the opposition believes that it should criticise whatever the government does it was too much to expect anything else.

Looking back today it is hard to believe that it took only four years from the very beginning of exploration in 1957 to the decision in 1961 to begin construction. This is particularly surprising because the number of professional staff engaged on the project until Alcoa of Australia was formed could be counted on the fingers of two hands and none of them, apart from Ralph Derr, had any previous experience in the aluminium industry. Perhaps this was one of the reasons why decisions could be made quickly – we just did not know that it could not be done! It is also incredible that the construction was completed and the plants were producing within two years of the decision to go ahead. Today, it would probably take longer than that to complete just the environmental impact study.

Without doubt the late Sir Lindesay Clark's vision and persistence were the main driving force behind the establishment of Alcoa of Australia. Sir Lindesay had the ability to separate the important issues from the rest and to look a long way ahead. His was the inspiration and the will to carry the project forward in the face of doubts, risks, and setbacks. But I doubt whether even Sir Lindesay would have foreseen the way in which Alcoa of Australia has grown from the initial concept in 1961.

Talc mission

Soon after returning from the United States I was sent overseas again, this time to Europe where I had not been since 1949. Germany in 1961 was very different from the place I had left 12 years earlier. One had to look hard to see any scars of war. In Cologne, where the cathedral had been the only landmark still standing in many square kilometres of rubble, the only reminder of war now was the pockmarks caused by bullets and shrapnel still showing on its twin spires. The Marshall Plan and the re-energised German people had done wonders.

In 1960 WMC had acquired a half share in, and management responsibility for, a talc mine at Three Springs, 320 km north of Perth. The company formed, Three Springs Talc, was keen to expand the sales of its product in Europe. I was sent to do a kind of market survey and recommend an agent in Germany. After visiting over a period of five weeks a number of

customers in Germany, Holland, Finland, Sweden, Denmark and England, an agent based in Frankfurt was appointed.

Many people do not relate baby powders and face powders to a mineral, but they are very finely ground magnesium silicate rock, steatite, commonly known as talc. This rock has many other applications such as extenders in paints and plastics, paper coating, fillers in medications, and insulators in electrical equipment.

Soon afterwards R P (Paul) McInerney, who had just retired as Managing Director of his own equipment and spare parts agency in Perth, was appointed at the age of sixty-four Manager of Three Springs Talc. With much experience and drive and more energy than many people a third of his age, he soon made the business a success. On his first visit to Germany the recently appointed agents, worried about their visitor's venerable age, are said to have warned their staff member accompanying Paul on a round of visits to customers to look after him and carry his bags. After a strenuous week of travel and many late nights, Paul finished up carrying his minder's bags!

Paul's many great strengths did not include a tidy working desk, which was covered by a veritable mound of paper in no apparent order. I recall getting up to leave after a chat and Paul thrusting his hand at random into the heap of papers, saying: "Well, I better get back to work!".

Over the years the business thrived and in 1987 WMC acquired the other half to become the sole owner. Later again a milling plant was established in Europe and, together with a Swiss marketing partner, in 1996 a talc mine was acquired in Finland. In 2000, after I retired, the talc business was sold to the Swiss partner except for the mine at Three Springs, which was sold in 2001 to a Rio Tinto subsidiary.

Geraldton iron ore project

In 1938 the Australian Government prohibited the export of iron ore because the Commonwealth Geological Adviser warned that, unless resources were conserved, Australia would become an importer of iron ore in less than a generation. The embargo was lifted in November 1960 after it became clear that there were very large deposits of high grade iron ore virtually on the surface in the Pilbara. After visiting the area in 1962, Tom Price of Kaiser Steel Corporation exclaimed: "There are mountains of iron ore there…..It is like trying to calculate how much air there is". Why and how these had been previously overlooked remains a mystery.

In the expectation that the embargo would be lifted and aware of the large potential demand in Japan, WMC had become at the end of the 1950s interested in getting involved in iron ore. An opportunity in early 1960 to joint

venture with Rio Tinto at Mt. Goldsworthy was declined because it was felt that this would exhaust the Company's financial capacity and leave no scope for exploration elsewhere. Having an interest in someone else's mine was not as attractive as the possibility of discovering a fully owned deposit. It was decided to pursue iron ore projects only south of the 27th parallel where, it was argued, the climate was more moderate, infrastructure was better and capital costs would be lower.

There was an effort, led by Brodie-Hall, for WMC to develop the Koolyanobbing deposits north of Southern Cross for export, but this was frustrated because Western Australia's Minister for Industrial Development, Charles Court, wanted to use this deposit to attract a BHP blast furnace and steel mill to Western Australia. WMC then turned its attention to the North Yilgarn and the Geraldton district. In July 1961 the WA Government accepted WMC's tender to mine the Tallering Peak iron ore deposit inland from Geraldton for export. Soon after, WMC geologists led by J H (Jim) Lalor discovered another deposit further south at Koolanooka Hills and this was joined into the Tallering Peak project. The high grade ore required only crushing and screening before becoming a saleable product.

Tallering Peak was a prominent outcrop of iron ore in an otherwise flat, dry, and featureless country with sparse vegetation. The Chief Engineer of WMC, W B (Bill) Blown, had been stationed in this area with his army unit during the war. According to him, on one occasion he and his Colonel climbed to the top of the peak and looked around. "Major Blown", said the Colonel, "how far do you think you can see from here?" "Colonel, I think I can see twenty five miles in all directions", said Bill. "Well", said the Colonel, "there you are, you are looking at two thousand square miles of bugger all".

The Geraldton district iron ore project was my main occupation in 1962. To keep abreast with the drilling I visited Tallering on several occasions, usually with Brodie. We would stay the night at Shepheard's Hotel in Geraldton and one of my most pleasurable experiences ever was arriving there parched at the end of a long hot day of climbing all over the Peak, to be greeted by a plate of chilled crayfish and a long, cold beer.

WMC did not have the financial resources to develop the project on its own and Mr. Clark went to the United States to invite his old friends at the Hanna Mining Company and Homestake Mining Company to join WMC in the venture. Hanna was an iron ore and coal mining company while Homestake was a long established gold miner. It had been decided to begin the operation on the Koolanooka deposit and, in preparation for Mr. Clark's visit, I was given the task of assembling the capital and operating cost estimates for presentation to the prospective partners. Most of these had been prepared by our staff in Western Australia, with railway cost estimates provided by a consultant, P J (Pat) Hannaberry, a retired Commissioner of

Commonwealth Railways. I had been working with him on various aspects of this. D P (Doug) McIntyre, who had been appointed WMC's Commercial Executive, supplied estimates of commercial costs and I added my own estimates of any costs not covered by others. The final product was presented in a hard black cover embossed with gold lettering. Gold lettering on reports was out of character for WMC, but I thought it appropriate in the circumstances.

In September 1962 Hanna and Homestake agreed to join WMC in Geraldton Operations Joint Venture (GOJV) in which WMC had 50 per cent equity and was the manager and Hanna and Homestake had 25 per cent equity each. On returning from the United States, Mr. Clark was kind enough to say that the presentation of the cost estimates had impressed the Americans and had helped in attracting them to join the project.

It is interesting to note that what was concluded in September 1962 was a 'gentlemen's agreement', and that a full legal agreement was not signed until March 1967 by which time the project had been constructed and in operation for a year. It was a very different world!

Negotiations for the sale of the iron ore with the ten Japanese steel mills, who negotiated together, conducted largely by Bill Morgan and Doug McIntyre, opened in December 1963. WMC's Japanese agent for iron ore was Gosho Ltd., later to become after a merger Kanematsu Gosho Ltd. WMC was assisted with the arrangements and advised on local customs by Roy Duncan and his son Peter, Australians who had established themselves in Japan after the war as Alliance Industries and Shipping, traders and representatives of Australian companies. There was also an advisory relationship with another Australian, Frank (later Sir Frank) Duval.

The negotiations in Japan proved long and wearisome. We later came to recognise this as one of the standard Japanese negotiating tactics. They expected that the other party would become exhausted and may, just to have the matter concluded, agree to conditions which they would not accept otherwise. The other tactic with which we became familiar over the years was that they would attempt to agree conditions not all together but one at a time, trying to gain maximum advantage in all. The remedy was not to finally agree to anything until all the issues had been resolved.

Bill Morgan finally got the steel mills to conclude the negotiations by announcing that a date about a week away was his mother's birthday and that, whatever happened, he would be leaving for home to attend the celebrations. The Japanese understood the importance of respect for one's parents and this resulted in all matters suddenly being agreed before the departure date!

The Koolanooka project, while tiny compared to the subsequent operations in the Pilbara, was the first in Western Australia (and Australia) to ship commercial iron ore to Japan. To be economic, the project received a higher price than the following much larger projects. The Japanese steel mills

apparently regarded this as "key money" to open up the Pilbara for them. The export of the Tallering Peak ore, which would have required a similarly high price, was quietly shelved – the Japanese must have thought they had paid enough key money! The Tallering deposits remained unmined until opened up by another company in 2003 after the large increase in demand for iron ore by China.

Staff college

In 1964 it was decided that I should attend a management school, apparently in preparation for more senior responsibilities although I was never told so. I was admitted to Session 19 at The Australian Administrative Staff College at Mt. Eliza, south of Melbourne, termed the "charm school" by the inevitable wags. The course started in February and ended in May.

The College operated on the model of the Henley Staff College in England. There were four Syndicates (A, B, C and D) of about 10 members, each led by a staff member known as the Syndicate Leader. There was a programme of topics to be discussed in syndicate and on which presentations were made to the College assembly. For each topic there was appointed a Chairman and a Secretary and it was up to them to conduct the discussions, prepare a report, and arrange its presentation. The Syndicate Leader observed the syndicate and was available for advice, but did not direct or influence the proceedings other than by judicious questioning from time to time.

The membership of the syndicates was carefully constructed to include people from different activities and backgrounds in business, government and trade unions. Outside speakers addressed the College assembly on the topics under discussion from time to time. There was a required reading list which was far larger than could be reasonably read and absorbed – probably deliberately, to encourage the members to be selective and devise means for coping with pressures.

Our Syndicate Leader in Syndicate C was the late Maurice Brown, a wise and urbane man with a background in university administration, and a later Principal of the College. He and his wife Margaret became friends with us all and invited us to their home near the College. I kept in touch with Maurice and Margaret for some years after I, and then they, had left the College.

During one heated discussion – not sure of the topic – Maurice recorded what he thought was a memorable statement by me: *"All I want to say is, that if you want to say what you say you want to say, you shouldn't say what you say".* The syndicate also thought it was remarkable, had it framed under the heading "Parbo's law", and hung it on the wall of the syndicate room. I was later often embarrassed by being reminded of it by people who had seen it there.

There was no formal graduation and nobody failed. Informally, those who had lasted the distance were permitted to use the letters p.s.c. (for "passed staff college") after their names if they wished to do so. I do not know anyone who did.

Back to Western Australia

Soon after returning from the Staff College I was transferred back to Western Australia, this time to Kalgoorlie. I went across on my own temporarily in October 1964 while my family stayed in Melbourne, partly so that Ellen and Peeter could finish their school year and partly because the Brodie-Halls were still occupying the house we were to live in.

I was staying at the Highway Motel at the Perth end of the three kilometres long Hannan street. Getting up early in the morning, I used to run all the way up to Mt. Charlotte at the other end and back before breakfast, for no particular reason other than that it was good fun. I was young - 36 - and fit.

Returning to Melbourne for Christmas, we all, including Saima's mother, finally arrived in Kalgoorlie by train via Adelaide and across the Nullarbor early in January 1965.

11. BACK ON THE GOLDFIELDS

Brodie-Hall, then General Superintendent of Western Mining in Western Australia, had moved his office from Kalgoorlie to Perth and I became his deputy - the Deputy General Superintendent - in WMC's Kalgoorlie office, which remained the operations office. While Brodie was in charge of everything in Western Australia, he concentrated on liaison with the State Government and broader policy issues while I was in effect in charge of activities in the Goldfields, including the technical office. We worked well together and I continued to enjoy working for him.

The Kalgoorlie-Boulder area is at the centre of the Eastern Goldfields, one of the great goldfields of the world. In 2003, after 110 years of continuous mining, the Kalgoorlie Golden Mile had produced 50 million ounces or 1,555 tonnes of gold, worth at today's (January 2008) price more than US$ 40,000 million. In 1965 WMC managed and owned 62 per cent of Gold Mines of Kalgoorlie (Aust.) Limited, one of the four large mines then operating in Kalgoorlie. The other large WMC gold mine at that time was 50.5 per cent owned and managed Central Norseman Gold Corporation NL at Norseman, 90 kilometres south of Kalgoorlie.

Kalgoorlie office

The WMC office, a red brick building in 55 MacDonald Street, had been at the beginning of the 20th century the office of London mining

consultants Bewick, Moreing & Co and, later, Mrs. Fernie's Boarding House, before being acquired by Western Mining in the 1930s. The other mining companies in Kalgoorlie - Lake View and Star, Great Boulder, North Kalgurli, and Gold Mines of Kalgoorlie - all had their offices on the mine leases. Western Mining was regarded by its peers with some reservations for having an office in town, as well as for other reasons - such as being very active in minerals exploration outside Kalgoorlie and in endeavouring to apply scientific thinking and new technology to the search for orebodies. One of its first activities had been a then novel major aerial survey of the Goldfields area. This was thought by many to be a waste of money and the wags called the Company the 'Wasting Money Corporation'. The established mines never ventured outside their leases and depended on just sampling and drilling.

The office I worked in, inherited from Brodie-Hall, had been occupied by Herbert Hoover who arrived in Kalgoorlie in 1897 as representative of Bewick, Moreing. He set about introducing American practices, reducing costs, and improving operations. For a year he moved around the Goldfields on camel or by cart, inspecting mines and writing reports. On his advice the firm bought the Sons of Gwalia mine at Leonora, 240 kilometres north of Kalgoorlie, and appointed him Manager. He lived there in a large white-washed galvanised iron house known as the "White House", somewhat different from the White House he later occupied in Washington as the 31st President of the United States. I am not sure of this, but the glass topped desk I was using may also have been Hoover's. The office was dark, but spacious and quiet. I had the privilege of a private door to the outside veranda which also led to the toilet in a separate building at the end of it, next to the storage room for engineering and geological plans. Engineering blueprints were produced in a special rotary frame outside that building, using sunlight. We did not acquire a plan printing machine until the discovery of Kambalda led in a new and unprecedented era of affluence.

Life in Kalgoorlie

We lived in a company house at 49 Killarney Street, the last street on the northern side of Kalgoorlie. Frank Espie Sr. and then the Brodie-Halls had lived in this house before us. The view from the front of the house was a stony paddock with a large ironstone outcrop in front of us just across Killarney street, and then bush. The Kalgoorlie Golf Club was just to the right, with a drive-in picture theatre some distance to the left. Going north from us was about 1300 kilometres of uninhabited Western Australia until you hit the Indian Ocean at Broome.

In the back yard was a vegetable garden where Percy the Lizard kept nobbling the strawberries. Over a fishpond next to the house there grew a large wistaria and in the front garden there were several tall gum trees which had

been pruned back by the time we arrived. On the far side of the fishpond there was a bungalow which had been occupied by some of the Brodie-Hall children and was now used by Saima's mother. Next to it there was room for a horse (named Jock) for Ellen and there was limitless bush just outside the fence for riding. Jock had a habit of breaking out of his yard and on one occasion he was found a street away munching the prize flowers in Roy and Barbara Woodall's front garden.

Immediately to the south, separated by a lane from 49 Killarney Street, was the Western Mining Directors' Residence at 40 Lewis Street, popularly known as the "DR". It was available for any visiting directors and to guests invited or sanctioned by Melbourne office and also provided a suitable venue for entertainment and staff functions. Its guest book over the years featured besides the signatures of business-related guests Governors, Governors-General and even Prince Charles. One particular feature of this gracious timber house on a three-quarter acre lot, dating back to the early days of Kalgoorlie, was that the interior was lined in the early Goldfields style by sheets of galvanised iron, covered by wallpaper.

Numerous additions and modifications had been made to the original house while owned by WMC. A great effort was made to improve the garden, partly to encourage others to do the same. Native shrubs were present in abundance. The dominant feature of the property was two very tall Washington palm trees, with bare trunks culminating in a mop of branches and leaves at the very top. In a strong wind these trees would bend from half way up to what appeared to be almost parallel to the ground, only to spring back to vertical when the wind ceased.

When I joined Great Western at Bullfinch in 1956, Mr. Clark's visits to the Goldfields were memorable occasions. Besides visiting the various operations, there was usually a dinner party at the DR. Junior people like myself naturally enough did not take part in the discussions during mine visits, but on several occasions I was included among the guests at a DR dinner. These were invariably buffet style, usually male parties although wives were invited on occasions, with perhaps fifty or so guests (mostly staff) overflowing the house into the garden. Trestle tables groaning under food would be set up outside. Often there were a pig and a sheep roasting on a spit.

Mr. Clark and Mr. Espie (later Brodie) would retire about 11 p.m. but sometimes a small group of guests may carry on. I recall on one of these occasions standing in the garden in the early hours of the morning with my colleague from Bullfinch, K E (Ken) Denham and two or three others, kicking the keg to find out how much was left in it. We were not going to leave until it was empty!

When I was the senior WMC officer in Kalgoorlie, it was one of my duties to be the host to eminent visitors invited to stay at the DR, arrange for them to see the sights, and to entertain them.

The DR was a focal point for WMC and Group companies in the Goldfields until well after nickel was found at Kambalda in 1966. Gradually, as the centre of gravity of WMC operations in this area moved to Kambalda and as the people changed, the DR's importance diminished until it was, with considerable regret by me and some others, sold in 1994.

When we arrived in Kalgoorlie in 1965 the gold mining industry on which it depended was in one of its periodical downturns and the town was subdued. There were quite a few vacant houses and the future was uncertain. This changed overnight with the nickel discovery at Kambalda in 1966 (see below). Suddenly there was activity everywhere and previously unwanted housed changed hands at unheard of prices. But even then life at that time in Kalgoorlie in many ways resembled that in Bullfinch, except that it was a much bigger place – in excess of 20,000 people. In all our time in Kalgoorlie, as in Bullfinch, we never locked our cars, even when parked at night in our garage which was open to the street. There were no traffic lights anywhere. Most everybody working for the mining companies knew each other. Distances were short and quite a few staff (including myself) dropped back into the office after dinner or on week-ends to attend to tasks in peace and quiet.

I visited Perth frequently for discussions with Brodie, often travelling by the overnight train. Air travel was by DC3 which took 2¼ hours direct and 6 hours on some days of the week when it did the circuit through Norseman, Esperance, and Albany. (Fokker Friendships were only just coming into service). The train was more convenient. At other times Brodie would come to Kalgoorlie.

One of my tasks was to act to some extent as liaison between Mr. Clark and the President of the Chamber of Mines (Edgar Elvey) on policy issues. This was not always an easy task, as there was a degree of coolness between them. I attended the Chamber meetings as Brodie's deputy and these were usually unmemorable affairs. However, I was told of an occasion when an application by the union for an increase in the rate of pay for carpenters was being considered. No-one had firm views until a mine manager, who normally had very little to say, spoke up. His comment "Christ was a carpenter" resolved the issue in favour of the union.

There were visits to Central Norseman Gold Corporation NL at Norseman and discussions and visits regarding exploration projects, including the deep drilling by Kalgoorlie Southern Gold Mines N.L. in which we had Anglo American and Newmont Mining Company as partners. This was a bold enterprise looking for a major prize - repetition of the Golden Mile at depth. The largest diamond drill in Australia had been specially built for this project and drill hole SE13 at 2,670 metres was at the time the deepest diamond drill hole in Australia. The geological interpretation was found to be correct and some gold was intersected, but not in payable quantities.

Central Norseman was an unusually high grade mine, averaging more than half an ounce (15.5 grams) to the tonne. Visiting there I would ask the Resident Manager, R (Bob) Sainbury, what his current problems were. The answer often was "The grade is too high", because high grade also meant higher losses in the residues. I know of no other mine manager complaining about high grade! Bob had marvellous specimens of very rich gold ore in the safe in his office and would exhibit these to favoured visitors.

Examples of distinguished visitors while I was in Kalgoorlie were the legendary retired head of Newmont Mining Plato Malozemoff and a number of his colleagues, senior people from Alcoa, some of whom I had met in Pittsburgh in 1961, Dr. John Gustafson of Homestake, Harry Oppenheimer, the Lord Archbishop of Canterbury and 64 visitors from the Commonwealth Congress of Mining and Metallurgy. I had the pleasure of showing Oppenheimer around Kalgoorlie and found him an easy-to-talk-to, courteous and down to earth person. He did not lose his good humour even when he jammed his thumb in my car door while closing it. Perhaps he was not used to closing his own doors?.

On one occasion we were visited by a group of senior people from the Chase Manhattan Bank in New York. As Chase was a lender to WMC, I arranged a dinner for them. Their aircraft from Perth was late and our staff, dressed in dark suits and ties, had already arrived at the DR when I went to the airport to meet the guests. When they got off the plane in bush clothes appropriate for the outback I had to do some urgent telephoning to get the WMC people to at least remove their coats and ties.

Some visitors, including from our Head Office in Melbourne, would want to see activities (such as exploration work) in the bush and there would be concern about their comfort. I always insisted that no special arrangements be made. The heat, the dust, the flies and the sand were all part of the job and visitors should not be given a false impression. Those who were mining people would not have been impressed with contrived arrangements and it would do no harm to the others, I thought, to see what it was really like.

At Hannans Club there was a squash court and some of my colleagues and I started to play there at lunchtimes. We would have an apple and a game of squash for lunch. It was certainly strenuous and concentrated exercise. A later, more relaxed, variation of this was an apple and a game of snooker for lunch. I was a keen and enthusiastic snooker player but, as in golf, not very good at it. This did not stop me from trying, especially after some beers.

Hannans Club dated from the early days of Kalgoorlie, soon after the discovery of the Golden Mile. There was a Suggestion Book where members over the years had recorded comments and observations. Life for the mine managers in the early days must have been a little more relaxed than in my time because one of them had registered a complaint that the fire in the Long Room had not yet been lit by 10.30 in the morning!

In our spare time my family and I visited our old haunts in Bullfinch and Marvel Loch and other localities in the Goldfields, went to the drive-in, and very occasionally to the races. The drive-in screen was visible from our front garden and we could watch the action as a silent movie from there.

Saima and I did an Italian course at the Eastern Goldfields Technical School. One of our fellow students was the Bishop of Kalgoorlie, Cecil Muschamp, and we became very friendly with him. When winter came, Cecil introduced me at Hannans Club to a drink known as "Nelson's Blood". The recipe is rum and port wine in any proportion you like; it has great authority in any mix and was just the thing for chilly winter nights in Kalgoorlie.

I was invited to attend the traditional annual Sunday morning breakfast held by the Skullbone and Pig Society. This was a gathering of men only in a convenient hall for a barbecue type meal prepared by members which was consumed, together with copious quantities of beer, to the accompaniment of an irreverent and somewhat raunchy programme of songs and skits. The "breakfast" usually finished well after lunchtime. One guest was selected for the honour of receiving the head of the pig which had been roasted on the spit. Much to my surprise, I was the recipient in 1966. The trophy was subsequently greatly admired by our two white cats, Simpson and Yassie.

I did a speed reading course at the School of Mines and found that the secret was not to read everything. The trick is to develop the knack of leaving out the parts that do not matter! I did learn to quickly get the gist of documents by just scanning them, but would from then on also tend to skip over lengthy descriptions of wonderful sunsets and similar literary efforts when reading books, once I had registered the important information that there was a sunset. It certainly made me incapable of writing such prose myself.

Tommy Sims project

There were indications of copper on the Warburton Range aboriginal reservation, some 950 km by road north-east of Kalgoorlie. Non-aboriginals had to have a permit to enter the reservation. We obtained special permission for our exploration, a part of which was a small underground mining operation quite close to the Warburton Range Mission, named after the aboriginal discoverer of the ore, Tommy Sims.

The mining followed a narrow but very rich vein of copper ore averaging about 35 per cent Cu. The broken ore was bagged and transported to Fremantle for direct shipment to a smelter. A tribute party of four miners from Kalgoorlie did the mining and local aborigines were employed under their supervision to learn mining skills. (The "tribute" system was that the miners were not paid wages but an agreed percentage of the value of the ore produced. It was frequently used in appropriate circumstances in the Goldfields.) The miners lived in a mud brick house built by the Company,

which also included a store and a sample preparation room. Mud brick buildings are very practical in the dry climate and, before the days of air conditioning, more comfortable than alternative construction in both summer and winter. A geological team living in caravans, using a mobile geochemical laboratory specially built for the project, explored the reservation for a large orebody. There were many showings of copper, but we never found an economic deposit.

Personnel movements were mainly by light aircraft which also transported urgent or perishable supplies. I made a number of trips to various exploration locations with a Kalgoorlie charter aircraft operator in his single engine Cessna. A very experienced bush pilot, he explained that a single engine aeroplane was safer in the desolate outback than a two engined aircraft because it glided well, required very little clear space for landing, and could be put down almost anywhere in an emergency. Later he acquired a push-pull Cessna with two engines in line above the passenger cabin, one pulling, the other pushing.

Much of the flight between Kalgoorlie and Warburton was over wind dune country, with hundreds of kilometres of parallel north-west - south east trending sand dunes and nothing else to see. The pilot had the disconcerting habit of checking his bearing once well clear of Kalgoorlie, engaging the autopilot, leaning back in the seat, covering his face with a newspaper and going to sleep. He would wake half an hour from the Warburton airstrip, always on course, just in time to land the aircraft. He was no doubt well aware that in the seat next to him there was an anxious observer of anything untoward, ready to wake him if need be.

WMC had very good relations with the aboriginal people at Warburton. The tone was set by our Chief Geologist and Exploration Manager, Roy Woodall, who had negotiated access to the reservation and was in overall charge. Similar good relations were maintained at other exploration projects over the years. The only difficulties we ever had with aborigines were during the development of the Olympic Dam project in South Australia nearly twenty years later but these were with aboriginal activists, not with the aboriginal people. The activists were no doubt encouraged by the anti-uranium protests rampant against Olympic Dam at the time.

Geraldton Operations Joint Venture

The Geraldton Operations Iron Ore Joint Venture opening ceremony took place in March 1966 at the wharf in Geraldton where the first iron ore shipment was about to be loaded. The harbour had been deepened by dredging and blasting to accommodate a specially built 28,000 ton bulk carrier named "Margaret Maru" in honour of Mrs. Morgan. In 1966 carriers of 35,000 tons

were large and Margaret Maru therefore gave a reasonable shipping cost. Since then, of course, very much larger carriers have become commonplace.

The stockpiling and shiploading facility was still being finished when the opening day arrived. WMC's Chief Engineer, Bill Blown spent the previous 48 hours on the job, personally supervising the completion. Even then, there were some twitched wires and other temporary arrangements and many crossed fingers when the loader was switched on. There had been no time for a trial run but to everyone's great relief the loading went well. There were two lunches before the opening ceremony took place at 2 p.m. - one hosted by Mr. Clark for a small number of the highest ranking guests and the second, for a larger gathering at Shephard's Hotel, hosted by me. The opening was performed by Sir David Brand, the Premier of Western Australia.

Kambalda nickel discovery

Roy Woodall had initiated exploration for nickel near an old gold mine at Red Hill, with the aboriginal name Kambalda, 54 kilometres south of Kalgoorlie on the northern shore of a dry salt lake (Lake Lefroy). Gold had been mined at Red Hill at the turn of the century. Roy's attention was directed to the locality by samples brought to him by two prospectors who had been looking for uranium many years earlier. There was no uranium, but low values of nickel in the samples.

No nickel had been found in the Eastern Goldfields after 70 years of intense exploration for gold (or anywhere else in Australia), but Roy thought it was worth following up. Because the additional expenditure on this project would be a strain on the exploration budget at a time when company finances were very tight, he endeavoured to interest the top geologists of Newmont Mining, Anglo American and North Broken Hill in a joint venture. No-one was interested and Bill Morgan, on the recommendation of Brodie-Hall, approved the expenditure in spite of misgivings by the financial people.

A modest mapping programme locating gossans (ferruginous outcrops) and geophysical surveys showing anomalies led to drilling. The first drill hole intersected high grade nickel sulphides (compounds of nickel and sulphur) on 28 January 1966 while I was on holidays. The news reached me on arrival in Esperance at the end of a two week caravan camping trip with my family, driving down the coast from Perth. Announced in a low key manner when the assays were available on 21 February, this discovery was to transform Western Mining, and my own future, in a way none of us could imagine at the time.

The early history of Kambalda, the story of the nickel discovery, and of the subsequent developments until 1990 are told by J J Gresham, a WMC geologist, in *Kambalda, History of a Mining Town*, published by Western Mining Corporation Limited in 1991.

Our corporate knowledge of nickel at that time was very close to zero. Soon after the first intersection of 8.3 per cent Ni had been made, I had an enquiry from Doug McIntyre on behalf of Melbourne office whether this grade was "good". Not having any knowledge of the economics of nickel, I resorted to converting the value to an equivalent gold grade and, guessing the differences between treatment costs of gold and nickel ore, was able to advise Melbourne that it was indeed good - equivalent to about an ounce of gold per ton!

As it happened, the second and third holes failed to intersect mineralisation and the initial elation gave way to gloom until the fourth and subsequent drillholes showed that the first result was not a fluke. A Company announcement on 4 April said "*It is an important discovery".*

Nickel sulphide ore is processed in a treatment plant by crushing, grinding and flotation to produce a 'concentrate' containing between 10 per cent and 15 per cent nickel. In flotation, developed at Broken Hill, finely ground ore is agitated in box-like vessels known as flotation cells in water to which certain chemicals have been added, while air is bubbled through the slurry. The chemicals cause small air bubbles to attach to the sulphide particles which float to the surface and are skimmed off, while particles of barren rock remain behind. The concentrate is smelted at temperatures in excess of 1000^{o} C, adding fluxes, to a 'matte' containing about 70 per cent nickel and the matte is processed in a refinery to refined metal. All three products – concentrate, matte and metal – are marketable but end users are only interested in metal.

There was in 1966 a shortage of nickel in the world market which was in normal times dominated by one large producer in Canada. This was a rare opportunity for a new producer to enter the business. The Board of WMC made a deliberate decision to disregard normal planning and budgeting procedures. Exploration had not yet outlined the first orebody when on 7 April it was decided to begin underground development and construction. My diary records that this was cause for a champagne celebration at J B (John) Oliver's who had been appointed Project Manager, followed by snooker (and more drinks) at Hannans Club until 1 a.m.

The Club, of course, closed much earlier, about 11 p.m., but I used my member's prerogative to keep it open at an appropriate fee. One participant in the late night party was our geophysicist D J (Don) Esdale who distinguished himself by leaving his pipe on the snooker table when we left. Fortunately it must have been out because no damage was done to the cloth.

This was the only celebration for which we had time. Next morning everyone was busy planning the operation. Paperwork was kept to the minimum because there was no time and this was sensible in any case because plans were amended progressively, sometimes daily, as more results

came in and the scope of the project expanded. There were no budgets. Meetings were more often than not held standing up in the corridor. Surprisingly few mistakes were made in spite of this unorthodox approach. Everybody on the project worked long hours, there were no holidays or weekends. Wages people and contractors got overtime or were on piecework but staff were paid normal salaries (which were miniscule compared to today's). No-one was instructed to burn midnight oil; they did it because the task demanded it and they did not want to let the others down. Subsequently staff were allocated shares in the rights issues to finance the nickel developments on the same terms as shareholders, but this was not known at the time. Staff share or option issues as such were not introduced in Australia for another 20 years. It may be hard to believe today, but the main motivation of people was the feeling of pride in getting things done. I think that we would have been offended if anybody had suggested that we needed to be lured with money to do our best.

The Company had to deal with only two Western Australian government departments during the development; none in Canberra. This was just as well because the emphasis was on getting things done and we sometimes overlooked the proper procedures. Thus Brodie had to admit to the Director of Works that we had completed and were operating a powerline from Kalgoorlie to Kambalda but had forgotten to get permission to build it. The Director looked at him sternly, wagged his finger, and said: "Don't do it again!".

All the water, including for mixing concrete, was carted in road tankers from Kalgoorlie until a branch pipeline was built from the Goldfields main to Norseman. When started, a 6" pipe was considered adequate but the scope of the project escalated rapidly as more exploration results came in and the completed section was replaced with a larger diameter pipe before it had got too far. It was one of the few mistakes made in spite of the great rush to get into production. Another was that the township was commenced in a location where drilling later discovered an orebody partially under it; there had been no time to await the drilling results. The town was therefore eventually built in two parts – the initial Kambalda East and the subsequent Kambalda West, some distance away. It was about the only early decision which could not be rectified later, but it was not a significant disadvantage.

Initially the treatment plant was to be just outside Kalgoorlie, with the ore trucked to it from the mine at Kambalda. This had the advantage of being able to use all the existing infrastructure and services – water, power, housing, railway etc. The site had been surveyed and a layout designed when discoveries of more ore indicated that the ultimate scale of the operation needed a plant at Kambalda.

The construction and bringing into production of Kambalda coincided with similar activity at the major iron ore projects in the Pilbara and one of

the consequences was a shortage of experienced miners and tradesmen. WMC had earlier employed a number of mining engineers from coal mines in England. Some of them were sent back there to drink with miners in pubs and try to encourage them to come to Kambalda. Quite a few did.

One of the consequences of the Kambalda announcement, which sent WMC shares skyrocketing from Eastern States and London was a continual stream of stockbrokers and financial reporters who came in the hope of learning something more than had been announced and started a nickel boom. They were disappointed in getting additional information from WMC staff, not least because we literally did not know any more ourselves. There were, however, always many rumours and plenty of "inside information" in the back bar of the Palace Hotel and no journalist (or broker) ever left without a colourful story. Thirsty geologists arriving in dust-covered four-wheel drives straight from the bush never lacked people willing to buy them a cold beer, or two, or six.

The first nickel concentrate was shipped to a customer just 17 months after the first drillhole intersection. The loading of the concentrate on the Danish ship *Botany Bay* at Esperance was a matter of considerable drama. Shipping regulations limited the moisture in concentrate to a maximum of 8 per cent. We had great difficulty in meeting this specification because the concentrate was very fine and the filtering equipment at Kambalda could not achieve it.

The concentrate awaiting shipment was stored in a shed on the wharf at Esperance. We installed in the shed hot air blowers which were operated around the clock, with the concentrate being turned over with a front end loader to expose the inside of the pile to the hot air. Inevitably there was considerable dust. It, and the glow during the darkness hours of the oil burners providing the hot air prompted someone to compare the scene to Dante's Inferno.

We were struggling to meet the specification but the strenuous efforts - and, the wags insisted, the absence of the master of *Botany Bay*, Captain Hemmingsen, who was our guest in Kambalda and Kalgoorlie - led to the closing of the hatches and the ship sailing towards Melbourne on its way to Vancouver.

I had arranged a senior staff dinner for our Danish visitor at the DR and we scoured Kalgoorlie for Aalborg aquavit, finally obtaining three bottles. This was not a drink we were used to and I recall that, after drinking many toasts, the only participant who looked sober at the end of the evening was Captain Hemmingsen!

This, however, was not the end of the story. The concentrate contained a substantial amount of the iron sulphide pyrrhotite which in the finely ground form started to oxidise rapidly, causing heating of the material and emission of sulphur dioxide fumes. *Botany Bay* managed to reach Vancouver without

stopping on the way but one of the subsequent shipments had to put into Melbourne to check the cargo and two workers were overcome by the fumes when the hatches were opened. We consulted with experts all over Australia and overseas to find a solution. After high science had failed, the remedy was found to be - wait for it - to turn the water hose on the hot spots as they developed!

When drilling at Kambalda started, access from Kalgoorlie was by a reasonable gravel road about half way to Wollubar Dam and from there by an unsurfaced bush track winding between the eucalypts and kurrajong trees. Once the discovery had been made the traffic increased tremendously and, when construction started, heavy trucks carting equipment and materials soon churned the track into a layer of fine bulldust half a metre deep. In the early days everything had to be carted out from Kalgoorlie - including the crushed stone, and even the water for the concrete. In dry weather the bulldust was merely a nuisance, covering everything with fine red dust and welling ahead of the vehicle like waves on the sea. The Governor-General, Lord Casey, and Lady Casey visited and, accompanied by me, insisted on driving out in their black Rolls-Royce. It was transformed into a pink Rolls-Royce but, to his great credit Lord Casey, who told me he had been trained as a mining engineer, did not blink an eyelid.

When it rained, the track turned into a quagmire which even four wheel drive vehicles had difficulty negotiating. Construction of a sealed road therefore became a high priority and it was completed in a short time.

The problem thereafter was that the road was too good. Drivers started travelling at excessive speed, became inattentive, and there were several bad accidents, including head-on collisions and fatalities. One of these involved the Resident Manager, John Oliver, who survived, but the other driver was killed.

The site for the first shaft, for which the headframe and the winder came from the now inactive Great Western's Nevoria Mine, was chosen in May 1966. Second hand plant and buildings were used as much as possible, because of their immediate availability as well as lower cost. A competition among employees and their families resulted in the shaft being named the "Silver Lake".

With all the hurry to get into production the Company was determined to preserve the natural trees and vegetation as much as possible. This was in 1966, some time before the environment became a popular issue in the media, and there were no laws or formal regulations. The main instigator of the self-imposed rules was the Project Manager, John Oliver, strongly encouraged and supported by Brodie-Hall. A well known landscape architect, Mrs. Jean Verscheur (later Lady Brodie-Hall) contributed professional advice. Buildings and houses were sited to avoid cutting down existing trees; if it was absolutely necessary to do so, personal approval of the Manager had to be obtained for every tree. Gardens around the houses were designed to suit the arid climate

and use as little water as possible. The result was an operation which blended pleasingly into the natural environment and created much favourable comment from visitors.

Further discoveries at Kambalda followed rapidly and transformed Western Mining virtually overnight from a small struggling gold miner to a substantial diversified minerals producer. A refinery at Kwinana near Perth to produce nickel metal commenced operations three years later and a smelter south of Kalgoorlie two years after that. WMC became one of the largest nickel producers in the world.

In 1965 the market value of the Company was $16.5 million. After the Kambalda discovery was announced the market value nearly doubled to $30.5 million in 1966 and, when its significance was better understood, increased to $114 million in 1967. The resulting "nickel boom" saw the value reach $422 million in 1970 (about $3.5 billion in 2005 dollars), until the downturn in the nickel market brought it back to $174 million in 1974. The market downturn a few years after production began confirmed the soundness of the Board's judgement of the overwhelming importance of speed in becoming a producer.

Return to Melbourne

The Kambalda Nickel Project was officially opened by the Premier of Western Australia, Sir David Brand, on 15 September 1967. It was an unusual event for us as nothing like it had ever been organised by Western Mining. Guests from Western Australia were joined by numerous customers and business friends from USA, Canada, Japan, Europe and the Eastern States. To minimise the dust nuisance on the then still dirt road, all attending travelled from Kalgoorlie by bus. A magnificent feast was served in the (as yet partially empty) workshop building. WMC had no public relations staff, so in the style of the times, we had appointed just one person - Gilbert Ralph, head of the Kalgoorlie engineering design office - to organise it all, and left him to it. He did it extremely well. To-day a similar event would probably involve not only dozens of Company staff but outside experts for just about everything.

I was transferred back to Melbourne immediately after the opening. My family had already moved to Melbourne in July, but Saima came over for the ceremony. We returned on one of the charter flights to Perth after the opening, catching the midnight flight to Melbourne. My second tour of duty in the Goldfields was over.

12. SETTLED IN MELBOURNE

It soon became clear that I would be based in Melbourne for the rest of my time with Western Mining. Sir Lindesay Clark (knighted in 1968) had been succeeded as Managing Director by Bill Morgan in 1962 but continued

as Chairman. I was made General Manager, responsible to Bill Morgan, in February 1968 and appointed to the Board in September 1970.

Life in Melbourne

Saima and I both had a hankering for more land around our home than the usual quarter acre block or even less, and we were fortunate in finding an old house (built in 1918) on nearly three acres of land called 'Longwood' in Vermont South, on the then eastern fringe of Melbourne. (Incidentally, the house where Napoleon lived while imprisoned on St. Helena was also called 'Longwood').

On Saima's first visit in September the long line of yellow daffodils along the driveway to the house were in full bloom, and she immediately fell in love with the place. When I saw it for the first time a little later, I could only wholeheartedly agree.

We sold our existing house which had been rented out while we were in Kalgoorlie, and bought it. The house could be renovated and extended and the land was unique. Initially the home of the owner of a large surrounding cherry orchard, it was in 1967 still in open country among remnants of the orchard. Before long the suburbs grew around it but the topography was such that the trees and bush on our land screened us from it. Even today the view from the lounge room window remains the Dandenongs in the distance, without seeing the now twenty kilometres of continuous suburbia in between.

For many years there were bellbirds until the increasing traffic noise in nearby Springvale Road drove them to a quieter area. However, hundreds of other birds still live on our land. Another benefit of the large block of land was that Ellen, who had had a horse in Kalgoorlie, was also able to have one here. Saima loves tending the flowers in a modest size formal garden and looking after the trees and shrubs which cover most of the land. When Peeter and Martin were young they fought for the privilege of mowing the grass on the three acres with a ride-on motor mower, but as they lost interest I did it myself. It takes about three hours. People were surprised in later years when I was the Chairman of three large companies that we did not have a gardener, but we both enjoyed doing the work ourselves. We still live at Longwood more than 40 years later and have no intention of moving.

For some time I continued to travel to work by train. In peak hours this was about as fast as by car, but it soon became necessary to get to the office earlier and go home later and the car became faster and more convenient. The only disadvantage of the location from my point of view was that, except very early on Sunday mornings when there was virtually no traffic, it took more than an hour to get to the airport. This, of course, did not affect the family and I was happy to put up with it.

Ellen, Martin, Peeter (and Brigitta) in 1975

The differences in school curricula in Western Australia and Victoria had meant that every time we moved, our children would be a half a year either ahead or behind the other children in the new location. They were usually put in a class half a year ahead and this must have been quite a strain. After we settled in Melbourne they were finally able to settle down at school, also.

In contrast with my time in Kalgoorlie, in Melbourne I could spend week-ends at home, unless travelling. This did not mean that there was no work taken home, but there was usually some time left over for working around the house and spending with the family. I have always enjoyed carpentry and, like Churchill, even bricklaying, while Saima is good at painting, wallpapering and other such jobs and we did quite a bit of the renovating and additions to the house ourselves. People who choose not to work with their hands in my view miss one of life's pleasures. Physical work also helps with keeping fit. I have never been able to follow the logic of hiring someone to mow the lawn and then going to the gym for a work-out.

My frequent absences in Western Australia or overseas meant that Saima became the de facto head of the household, not only in family matters but also in dealing with tradesmen and contractors. She did this very well. Because her mother lived with us and was able to keep an eye on things at home for a while if need be, Saima was fortunately also able to travel overseas with me from time to time.

We also endeavoured to show the children other countries and distant places and, over the years, managed to have family holidays in Tasmania, South-East Asia, Japan, New Zealand, Fiji, USA and Mexico.

Duke of Edinburgh's Conference

The Third Duke of Edinburgh's Study Conference was held in Australia in May 1968. These Conferences, under the patronage and with participation by the Duke, were held at six yearly intervals beginning in 1956, the first in England, the second in Canada and the third in Australia. The purpose was to bring together men and women already in leadership roles who were considered to have potential to progress to senior positions in management, government, and trade unions.

I was chosen as one of the Australian delegates among the 300 participants from 24 countries. The Conference was organised into a number of study groups and I was the Chairman of Study Group B visiting Perth, Kwinana, and Northam. My then secretary, Margaret Muir (later Margaret Collins), was the Secretary of a study group which visited Pt. Kembla and Wollongong.

The proceedings opened in Sydney, transferred to Canberra, and the Study Groups then visited their allocated areas until convening for the finale in Melbourne. In later years I met a number of the 1968 participants again in senior roles in their communities. Since 1968 the Conferences have continued, the 9th taking place in Australia in 2003.

Nickel expansion

For the first five years in Melbourne much of my time was taken up with the expansion and development of the nickel operations. While most of the technical work was done in Western Australia (some by contractors in Canada), the broad planning, all commercial aspects, financing, and shareholder matters were dealt with in Melbourne. Doug McIntyre, by now Commercial Manager, and I collaborated on drawing up plans for approval by Bill Morgan and the Board. WMC was still operating on a very lean basis and we did much of this work personally. To keep in touch with the operators I travelled frequently to Western Australia as this was more sensible than bringing teams of people to make presentations in Melbourne.

The initial discoveries at Kambalda occurred around a geological dome on the northern shore of a large salt lake, Lake Lefroy. However, nickel also began to be found in the St. Ives area south of the lake. The lake was dry except after very heavy rains, but vehicles would become bogged in the mud underneath the salt crust and a road was needed across it. In 1968 an embankment was built up to a height of nearly two metres above the lake surface, using mud excavated from both sides by draglines resting on heavy timber planks. The mud was allowed to dry, then topped with sand and gravel and later surfaced with bitumen. The twelve kilometres long road linked four islands within the lake, named rather unimaginatively Alpha, Beta, Gamma and Delta. Visitors sometimes asked whether we had Greek miners!

With exploration rapidly adding to the known ore reserves, it was decided to expand the mining and concentrating operations at Kambalda to 5000 and then to 20,000 tonnes of contained nickel per annum. The latter rate justified the building of a nickel refinery to produce nickel metal at Kwinana, which had been under discussion since late 1966. To finance all this work a $45 million rights issue of shares was announced in January 1968, the largest ever capital raising by an Australian public company up to that time. There were then no requirements for a prospectus or forward projections; the issue

was made on the basis of the Board announcing a broad outline of the plans. Questioned by the media about profit expectations, Sir Lindesay said: "I think you could say that the board is in favour of profits". The stock market reacted next day by sending the shares up by $10.50 to $53.50.

The refinery used an unusual Canadian hydrometallurgical process developed by Sherritt Gordon Mines which produced nickel metal through an ammonia leach directly from concentrates, without the intermediate smelting step. This had the advantage of WMC becoming a metal producer, gaining access to end consumers, sooner, at a lower total capital cost. Construction at Kwinana started in July 1968 and the refinery started up in May 1970, the second plant of its kind in the world. Sherritt helped with the commissioning but there was no-one with experience in this type of process available to staff it and our people all had to learn on the job, including A J (Allen) Gittos, the Resident Manager, who had a background in alumina refining. It took an anxious year or so for teething problems to be ironed out and the plant to settle down. There were some humorous incidents.

The residue from the leaching of the concentrate was pumped 6 kilometres to a dam which happened to be next to a pig farm. The farmer complained about the ammonia smell emanating from the residue and WMC made an offer to buy the farm, which was accepted. When the Administration Manager of the refinery, W B (Bruce) Gardner, drove out to the farm and handed over the cheque the farmer and his wife said goodbye, got in their car and drove off, leaving Bruce with the problem of feeding 400 hungry pigs! He managed to make arrangements and in due course the pigs were sold.

Once the overwhelming urgency to become a producer of, first, concentrate and then nickel metal, had passed, there were good reasons for also having a smelter. A smelter would produce a marketable intermediate product – matte containing about 70 per cent nickel – and there were advantages in feeding the refinery with matte instead of concentrate. Thinking about a smelter began as soon as a decision on the refinery had been made in 1967.

At the time of considering the refinery Bill Morgan had engaged a Norwegian metallurgical consultant, J H (Jan) Reimers working out of Oakville near Toronto, Canada, who continued to advise us on smelting. Flash smelting, a process developed by the Outokumpu company of Finland, looked attractive and I visited Outokumpu with a team of Western Mining people in September 1969 to discuss arrangements for the use of their technology. The output of nickel concentrate from Kambalda was increasing, in 1970 a 43 per cent interest had been acquired in Great Boulder Holdings Ltd operating two modest size nickel mines north of Kalgoorlie, and in 1972 WMC became a 50 per cent joint venturer in Poseidon's Windarra mine north of Laverton which had triggered another major nickel boom a few years earlier. Together, this provided enough feed for a smelter. Construction at a site seven kilometres

south of Kalgoorlie began in early 1971 and the first concentrate was fed into the furnace in December 1972. As with the refinery, the Kalgoorlie smelter was again the second of its kind (for the smelting of nickel) in the world.

The refinery had been constructed for WMC by the Bechtel Corporation, with the design carried out under Sherritt supervision in Montreal, Canada. The smelter was designed (with the assistance of Outoumpu) and constructed by WMC's Engineering Department under the supervision of S A (Stan) Eyers, Assistant Chief Engineer. Before joining WMC Stan had worked at Mt. Isa and was familiar with smelters. We were fortunate to have a very experienced pyrometallurgist, C J D (Ned) Williams, join us as Resident Manager of the smelter. The smelter also had some initial problems, mainly with the high magnesia content of the concentrate which resulted in higher than expected operating temperatures and short life of the furnace lining, but these were in due course overcome. Some years later Ned Williams and his team developed a number of innovative improvements to the smelting process.

Until the discovery of Kambalda WMC's metallurgical skills had been limited to processing gold ore. Within a short time these skills had been broadened to include hydrometallurgy and pyrometallurgy, very different processes from oredressing. This major transformation occurred with remarkably few problems. The only expert employed from outside was Ned Williams; the rest of the operating staff at both the refinery and the smelter had to learn on the job.

With the smelter under construction, Doug McIntyre and I approached Sumitomo Metal Mining (SMM) who were buying nickel concentrate from us for their smelter on Shisakajima Island. The economics were very much in favour of SMM shutting down their smelter and buying WMC matte instead of concentrate. There was no question of the financial benefits but it was a wrenching decision for the Japanese. Nevertheless, after some consideration, they did so.

While visiting Kambalda after the smelter had started up, Keith Parry and I were invited to attend a Toga Party organised by the Kambalda geologists. Styled Orgus Romanus Maximus, it was attended by about 100 people and all had to be in costume – Romans, Vestal Virgins, Huns, Slaves etc. Keith and I were both provided with togas; mine was an ornate *toga picta* as worn by victorious Roman generals in triumphal processions and later by emperors, gold braid on a purple robe, with matching laurel headgear.

The party continued until breakfast but Keith Parry and I retired in the early hours of the morning to drive back to Kalgoorlie, with Keith driving. Just before the turnoff to the smelter we hit a kangaroo. Still mobile, we decided to call at the smelter to assess the damage, and in case we needed help. Arriving at the smelter gate in our Roman togas, obviously in a merry state, I said to the watchman "I am Arvi Parbo". Oh yes," said he, "and I am

Jesus Christ!". It took some time to convince him. Fortunately, the damage was slight and we were able to continue to Kalgoorlie.

Quite early in our nickel activities we started inviting representatives of the major customers to visit the operations in Australia and become familiar with the plants and the people. We also made a point of our senior people calling on customers while overseas. This had an unintended consequence in 1973 when a number of American customers, who had been well looked after in Australia, invited me to dinner at the Queen City Club in Cincinnati and presented me with a certificate of appointment as a Kentucky Colonel. The occasion was also memorable because before dinner we watched on television Billie Jean King beating Bobby Riggs in a tennis challenge match which was big news at the time.

The good progress in developing our nickel production facilities was not matched by commensurate financial rewards. The shortage of nickel in the late 1960s turned into a surplus in the early 1970s while the Australian dollar appreciated to A$1.49 to US$1 by late 1971 and remained high for some time, severely reducing our income in Australian dollars. This caused criticism of WMC by some stockbrokers and analysts whose earlier very optimistic predictions were now obviously incorrect. As always, they blamed the company for this. The oil price increasing sixfold by early 1974 caused a world economic downturn and further affected the nickel market (see *The Oil Shock* below).

Television

By this time television had become well established in Australia and it was decided that Sir Lindesay and I should receive training in being interviewed. We attended a number of sessions run by a prominent interviewer, Michael Willessee. He put us, one at a time, through a grilling while the other watched and learned from it. The two important lessons were that one should ignore the camera (this was initially rather hard to do) and speak briefly, concisely and confidently. It is easy to appear shifty on television. The most valuable advice, however, was Michael's parting comment: "When invited to appear on television, make sure you know what the topic is. Think of three things you want to say about it and keep saying these; never mind the questions!"

Appointment as Managing Director

Bill Morgan was preparing to go overseas in May 1971 when he was diagnosed with cancer. The trip cancelled, his condition deteriorated very quickly and I was appointed Deputy Managing Director at the end of May, with oral instructions from Bill to "act as the Managing Director". In July I presided on his behalf at the retirement dinner for WMC's General Manager- WA,

Bill Blown, in Perth. He rarely came to the office after that and soon became bedridden. I was appointed Managing Director in November 1971 and Bill died early in 1972.

He had been one of the early employees of WMC in the 1930s but had left the Company before World War II and re-joined it as General Manager in 1956. I had worked for Bill Morgan on and off for a decade or so and thoroughly enjoyed it. He was an urbane man with wide interests and a relaxed management style who disliked paper work and gave the people who reported to him wide autonomy as long as they produced results. Personal trust was the basis of the relationships. This had been the general culture of Western Mining since its beginning, and still was very much so at that time.

Bill did not involve himself in operations which were Brodie-Hall's responsibility, with two exceptions: initiating the introduction of standard costing into all operations and strongly encouraging the application of statistical methods to sampling and therefore ore reserve calculations. Bill Morgan's unique contribution to WMC was the establishment of the commercial relationships with Japan which he did personally, with the assistance of just one other person, Doug McIntyre. The Company's previous activities in gold mining had virtually no product sale content and this, including shipping bulk materials, was a major new area of activity. Bill went about it with typical thoroughness, even to the extent of taking Japanese lessons although the negotiations in Japan were always in English through interpreters. He was one of the foundation members of the Australia-Japan Business Co-operation Committee. Beginning with the negotiations for bauxite, iron ore and Alcoa of Australia's alumina, these relationships subsequently led to establishing long term contracts for Western Mining's nickel. Bill was also instrumental in negotiating access to Sherritt's nickel refining technology in Canada, and had good contacts in Germany since his State Electricity Commission days, where he had worked before re-joining Western Mining.

After I became Managing Director I made it a practice to always speak to journalists and reporters if they wished to do so. Official statements were issued by the Secretary and for major announcements there were press conferences but in between the media could ring me up at any time. There was no difficulty in doing this because Western Mining did not have a Public Relations (PR) department – there was no-one to object!

In my office in 1979

Being always available to the media took less time than one would think; they appreciated it and did not call me unnecessarily. I was very rarely let down by being misquoted or by publication of off-the record comments. When it

happened, the remedy was simple: I would never speak to that particular reporter again.

Being readily available to the media was not the normal practice; most senior managers seemed frightened of reporters and hid behind their PR people. On one occasion I was asked to address the Public Relations Institute and put it to them that the job of their members was not to shield the leaders of their organisations but to encourage them to speak up. Some of the media reports suggested I had ticked the PR people off but, somewhat to my surprise, the Institute thought this was a great idea and published my address in their newsletter.

Return to Estonia

While in Finland in September 1969, I obtained with the help of Outokumpu a tourist visa for an overnight visit by ship to Tallinn as a member of a Finnish tourist group. This was my first visit to Estonia since leaving in 1944, almost exactly 25 years earlier. On arrival in the harbour I was greeted by red placards in typical Soviet style, commemorating *'the liberation of Tallinn from the fascists 25 years ago'*. I now knew who I was!

After leaving in 1944, I had first received news of my family while in Clausthal three years later. I knew that communications with foreign countries were virtually an offence in the Soviet Union and communications with an overseas family member would have put my family into a very difficult situation. Years later when I told a young Australian journalist who questioned me about my family in Estonia that publicity about them could put my relatives at a severe disadvantage, I was met with utter disbelief. This fortunate son of a free country simply could not believe it. The story of an Australian, listening to the stories of persecution and deportations asking: *"But why did you not call the police?"* captured well the inability of many in the free world to understand the nature of the communist regime.

Wanting nevertheless to establish contact, I had written a letter under the name of A. Harvey, addressed to an old lady living near our farm who had helped my mother while we were young. She was single, in her late 80s and had an impeccable proletarian background, so it seemed to me that she could not come to much harm, particularly as she could honestly deny any knowledge of A. Harvey. On the other hand I hoped that the innocuous letter mentioning incidents she would remember from our childhood would give her a clue and she would inform my parents.

My brother Jaanes later told me that, when the letter arrived, the people in the local post office who were good friends of ours realised what it was, intercepted it, and handed it to my parents. In any case, in April 1947 I received in response a brief unsigned note to A. Harvey in my father's handwriting. I thus learned that my elder brother had fallen fighting the Red Army, but that the rest of the family were alive and still on the farm. After

that there was no contact for the next ten years. The reason, I found out later, was that in 1947 my father on his originally 100-hectare, but now 24-hectare, farm was declared a "kulak" - a Russian term meaning a rich peasant and exploiter of the working class - and had to leave it. During further mass deportations of more than 20,000 people from Estonia in March 1949 the family was caught in the net.

After a rail journey of several weeks in cattle wagons they were sent to work in harsh conditions on a State farm near Novosibirsk in the middle of Siberia. In 1950 my two younger brothers (then eighteen and nineteen) were arrested, interrogated by the KGB, and sentenced to twenty-five years forced labour for being 'enemies of the people'.

'Enemy of the people' was a catch-all charge in the Soviet Union, including such serious crimes as 'doubting the party line'. At the end of the twenty five years they were forbidden to return to Estonia for a further five years. Oolu was sent to serve his sentence in a coal mine north of the Arctic circle and Jaanes in a copper mine in Kazakhstan.

The sentence included confiscation of all property and on Christmas Eve 1950 the few possessions the family had were taken and sold at auction, leaving our father and mother with just the clothes they stood in and eating utensils.

Some years after Stalin died in 1953 my family was amnestied and, in 1957, allowed to return to Estonia. My brothers, however, were not permitted to acquire a higher education. One worked in a furniture factory and eventually retired as a brigadier (foreman) and the other became a truck driver on a sovhoz (State farm). In September 1969 my father and mother, two brothers and a number of other relatives were waiting for me on arrival in Tallinn harbour. It was a sentimental occasion! Missing was our eldest brother, Endel, who had fallen fighting the Red Army on Estonia's eastern border in 1944.

The tourists from Finland were supposed to sleep overnight in their cabins on the ship, but I 'forgot' to do so and stayed with my brother Jaanes in the city. My parents lived with the other brother Oolu just outside Tallinn. I had been given a piece of paper in Russian which said I could only move within the limits of Tallinn, but decided that I did not understand Russian. There was a militia post at the town boundary and the taxi slowed down passing it but the militiaman did not take any interest in us, so I was able to visit my parents, Oolu, and his family also.

Relations with Japan

After I succeeded Bill Morgan it fell to me to continue and build on the relationships he had established in Japan. Saima and I had first visited Japan in September 1969, accompanying Bill and Margaret Morgan to a

joint meeting of the Australia-Japan and Japan-Australia Business Co-operation Committees (AJBCC and JABCC respectively) which took place annually, alternatively in Australia and Japan, beginning in 1963. These meetings were a unique opportunity to meet and exchange views with senior Japanese one would not normally come into contact with. Rather formal in the early years, the meetings became more relaxed as time went on. Many of the Japanese participating in later years had lived abroad for lengthy periods and were at home with western ways while the Australians had acquired a much better understanding of Japanese culture and habits.

On our first visit the Morgans and we stayed at the Okura Hotel in Tokyo, across the street from the American Embassy. There were some kind of student protests against the United States at the time, the hotel was guarded by police in riot gear with water cannon and we were not allowed to leave it for a day. It was the only such experience we had in Japan and even then it was all peaceful while we were there. During this first visit we were also invited by our Japanese business friends to dinner at a geisha house, which we later experienced many times.

I succeeded Bill as a member of AJBCC, later became a member of the Executive Committee and a Vice President and in 1985 followed Sir Ian McLennan as President. The early Chairmen of the JABCC had been Sir Tadachi Adachi and Mr. Shigeo Nagano, both legendary figures. By the time I became President my Japanese counterpart was Mr. Eishiro Saito, an Honorary Companion of the Order of Australia, for whom I developed great respect and liking. Just before my retirement as President in 1991 I was invested by the Emperor with the Grand Cordon of the Order of the Sacred Treasure, a gracious award.

Over the years Saima and I attended some twenty joint meetings which were held in different locations such as Tokyo, Osaka, Kyoto, Nagoya and Kobe in Japan and Sydney, Canberra, Melbourne, Adelaide, Perth, Gold Coast and Brisbane in Australia. While the men attended to a business agenda the ladies had their own programmes and saw a great deal more of Japan than we did. There were, of course, also joint festivities. The Japanese were always gracious hosts and we had to work hard to provide a comparable reception in Australia. A particular problem initially was the exchange of presents which is a part of the culture in Japan but not so in Australia.

Later, on Japanese initiative, there was established the Pacific Basin Economic Council (PBEC), the members of which came from Japan, Australia, Canada, USA and New Zealand. Initially members of the AJBCC were automatically also members of PBEC. I held various offices and Saima and I attended numerous meetings. Later, the two bodies were separated and I remained with the AJBCC.

Conscious of the importance of learning as much as I could about Japan, I attended in January 1973 an intensive one month course in Japanese at the Australian National University in Canberra. This was a really intensive course from morning till evening, week-ends included, of lectures, practice sessions, and a tape laboratory where individual students could practice at their own pace. I drew up a set of cards with Japanese words on one side and the English translation on the other and learnt my vocabulary while walking along - some of the cards were always in my pocket. While one month was not enough to learn to speak Japanese, it did give me an understanding of the language and a basic smattering and, I like to think, improved my understanding of the people we were dealing with.

Our daughter Ellen, on the other hand, did become an expert in Japanese. Following attendance at the age of sixteen at the Yamate High School in Yokohama as a Rotary exchange student she became a an Honours graduate in Arts, majoring in Japanese, of Monash University and returned to Japan for postgraduate studies. Subsequently she was for some years a teacher at Yamate. Her Japanese is said to be excellent.

Ellen in Japan 1974

We visited Ellen in Japan with the whole family, including Saima's mother, in 1970 and stayed at the historic Grand Hotel in Yokohama which had been the grandest hotel in the East at the end of the 19th century. General MacArthur had arrived at the New Grand almost exactly twenty five years earlier, in the afternoon of 29 August 1945, as Supreme Commander of the Allied forces to accept Japan's surrender. He was greeted at the front entrance by the owner, Yozo Nomura, and shown to the best accommodation in the hotel: room 315, with connecting rooms. In all, 159 general officers from all Allied armies and navies were accommodated at the New Grand, served by Japanese waiters and, it is recorded, terrified waitresses. The surrender ceremony took place on 2 September 1945 on board the battleship "Missouri", anchored in Tokyo Bay.

After Yokohama we all, including Ellen, visited the ancient capital Kyoto and the World Expo in Osaka and were very well looked after by Sumitomo who, among other things, managed to find ways for us to avoid waiting in the long queues outside the pavilions.

Japan was of great importance to WMC as a market for its products, beginning with alumina from the Darling Range, iron ore from Koolanooka and talc from Three Springs. One of the earliest, largest and most important

customers for Western Mining's nickel was Sumitomo Metal Mining Company (SMM) who converted a substantial proportion of WMC's production into metal, mainly for sale in Japan. They thus effectively acted as WMC's refinery and marketers in Japan. While I was active in WMC an excellent relationship was maintained by give and take on both sides through the many ups and downs of the nickel market over more than thirty years. I regarded the senior people in SMM as personal friends, visited their refinery on the island of Niihama and saw there the mining museum of the Besshi copper mine where SMM had its beginnings, as well as the marvellous Sumitomo bronze museum near Kyoto. In the late 1980s Japanese electricity generating companies became an important customer for WMC's uranium from Olympic Dam and again personal respect and friendships developed.

We were advised and assisted by our Australian representatives in Japan, in the early days by Roy and Peter Duncan and also Frank (later Sir Frank) Duval and later by E W (Ted) Weatherstone. An interpreter of Japanese with the Australian Army during the war, Ted had served with the Australian Mission in Tokyo during General MacArthur's time and later as a member of the Australian Embassy, going into business on his own account in 1973. He was an excellent Japanese speaker, very knowledgeable about Japan and advised us very well until retirement to Canberra with his Japanese wife Taeko in 1994.

While visiting Japan many times, Saima and I developed a real liking for the country and the people. We became very fond of Japanese food, from raw fish (except when it was carved in front of us from a still living fish) to sushi, tempura, sukiyaki and the many other delightful dishes. One of the great delicacies in Japan is *fugu*, which is raw blowfish. Parts of it are very poisonous and the chefs carving the fish have to be highly skilled. At a fugu dinner I once asked what to do if affected by the poison. The answer was: *"Take a shovel, go into the garden and dig a hole deep enough to stand in it. If you can complete the hole, you will be all right!"*.

Some of the Japanese were great entrepreneurs. Among other things they decided to produce high class whisky, and did. Sometimes, however, their enthusiasm ran away with them. There is a story (not sure whether true or not) that one whisky maker named the place where their distillery was located 'Buckingham Palace' and advertised the product as 'genuine Scotch whisky, produced in Buckingham Palace'.

Every so often during the visits we managed to take a few days off to see various parts of the country, occasionally staying in Japanese *ryokan*, sleeping on *futon* on the floor. When sightseeing, we would be often approached by schoolchildren who would very politely ask whether they could practice their English. There were very efficient and often entertaining guides at most locations. On a visit to one of the Emperor's many summer palaces we were shown around by a young Japanese guide who was

somewhat of a wit. He was pointing out some stones embedded in a concrete path. *"Observe the pattern"* he said: *"one-two-three, one-two-three. No particular reason!"*

Besides places such as Hakkone, the sulphur springs in the hill country north of Tokyo and the World Expo in Osaka in 1970, we visited the famous pottery district around Okayama and on one occasion travelled by train from Tokyo through northern Honshu through an undersea tunnel to Sapporo in Hokkaido. With the aid of signs in English and some understanding of Japanese we had no problems whatsoever travelling on our own. In 1990 there was a Garden Expo in Osaka in which Australia had at first declined to participate. Mr. Saito, who was heading it, asked me to make representations to the Australian Government. I wrote to Prime Minister Hawke and, whether this made any difference or not, Australia later did decide to take part. Mr. Saito gave me all the credit for this and Saima and I were invited to see the Expo as his guests. We happened to be there on the day the Emperor visited and at one stop I was reverently told that the chair I was sitting in had been occupied by the Emperor just a few minutes before me!

The oil shock

The world price of oil, which had been stable throughout the 1960s at US$1.80 per barrel, nearly tripled by the end of 1973 and then more than doubled again to US$11.65 per barrel by early 1974. The increases, caused in the first instance by political changes in Iran and subsequently maintained by an oil producers' cartel (OPEC), were widely misinterpreted as being caused not only by a shortage of oil but, indeed, all energy. It became conventional wisdom that the world was facing an "energy crisis". There was a crisis all right, but it was not caused by shortage of energy.

The immediate consequence of the oil price increase was a world economic recession beginning in 1974. The US Gross National Product (GNP) decreased by 6 per cent between 1973 and 1975 while unemployment doubled to 9 per cent. Japan's GNP declined in 1974 for the first time since the end of World War II. There was panic hoarding of various goods; many Japanese housewives bought up to two year's supply of toilet paper. In Japan the oil crisis was accompanied by a shortage of toilet paper!

The demand for nickel was drastically reduced and for the next several years the producers, including WMC, faced very difficult times. Senior WMC management, including myself, were fully occupied coping with this until world economic activity turned up again just before the end of the decade, only to slump again after further oil price increases in the late 1970s-early 1980s. The price reached US$37.37 a barrel and it was predicted (by economists) that it would quickly soar to US$100 per barrel. When economic growth resumed, high inflation had become an intractable problem.

In the event the higher price caused new and previously uneconomic production to come in – in Alaska, from under the North Sea, from tar sands and so on. The price dropped back to US$15 per barrel by 1986 and did not reach US$30 again until the year 2000, increasing to US$70 in 2005 after the greatly increased demand by China and while production in the Gulf of Mexico was affected by major hurricanes. Finally, the long-predicted US$100 was reached momentarily in January 2008. After allowing for the change in money values, however, the price reached in early 1980s in January 2008 dollars had been $102.81.

Change in public attitudes

Public perceptions and relationships with governments have always been important to the Australian minerals industry because the minerals belong to the States and the companies merely obtain a licence to produce them, albeit after having first had the privilege of taking the high financial risks in discovering the deposits. Also, most mineral production in Australia is for export and the Federal government has the power to control exports. The early relationships with governments were at times turbulent as witnessed by the Eureka Stockade. Overall, however, for the first 130 years of mining in Australia the public understood and appreciated the benefits from minerals developments and applauded these. There was wholehearted community support and encouragement for the industry, which in turn led to the establishment of manufacturing and service industries.

This long standing stable environment changed in the early 1970s. The emergence of negative attitudes was not limited to Australia and not limited to the minerals industry but directed at economic development generally. The level of prosperity which had by then been reached in the developed world was probably one of the reasons; it seems to be a human characteristic not to appreciate what is readily available and to take things for granted. In Australia the great minerals developments in the 1960s were the main source of the new level of prosperity. The industry's very success was most likely a cause for the change in attitudes.

Nothing is ever completely black or white and there was a great deal of merit in, for example, the then emerging concern for the environment. It was, however, a gross exaggeration to portray the minerals industry as incompatible with environmental care. While there were some poor examples from the past, a number of companies had already recognised the need to minimise and control effluents and waste and restore and regenerate mined areas. On the positive side, the publicity no doubt encouraged these companies to go further and induced others to follow. Australian mining companies today are world leaders in land rehabilitation and are in fact helping to re-generate large areas of degraded farmland.

The change in public attitudes coincided with, and was aggravated by, the change of Federal Government in Canberra. After twenty-three years of Liberal-Country Party coalition governments the Labor Party, led by E G (Gough) Whitlam, came into office in December 1972. R F X (Rex) "Strangler" Connor was appointed Minister for Minerals and Energy.

Connor was not anti-mining but had strong views about the industry and wanted to run it. While in Australia minerals belong to the States, he believed that the Federal Government should control and direct minerals developments. He was certain that minerals, and particularly energy, would be increasingly in short supply and that their value and strategic importance would therefore increase rapidly and substantially. This view appeared to be confirmed by the then just issued Club of Rome report *The Limits to Growth,* the oil price increases, and the uranium price which increased from US$4 per pound U_3O_8 in 1972 to US$26 per pound by mid-1975. He visualised a Federal Minerals and Petroleum Authority which would control and have full or part ownership of major projects. There would be a national pipeline grid, a major industry converting coal into liquid fuel, an upgrading of ports and railways, and a buy-back of foreign equity in minerals.

Connor commissioned a report by a Sydney journalist, Tom Fitzgerald, Financial Editor of *The Australian Financial Review*, entitled *The Contribution of the Minerals Industry to Australian Welfare.* Published in April 1974, the report was designed to show the industry in as bad a light as possible. Taxation deductions which had been introduced to encourage investment and which the companies were entitled to were presented as tax avoidance. Selected extracts from the report were widely publicised in the media before anyone in the industry had seen it or been able to respond. It was an impressive hatchet job to support Connor's case for controlling the industry. Having had full public and governmental support virtually since its inception, the industry was not equipped to fight a public relations battle and was no match to the politically motivated onslaught. The industry leaders (many representing foreign companies) were in no position to disagree in public with the Minister in what was an openly intimidatory atmosphere.

Although Connor had publicly branded all industry leaders "hillbillies" I never experienced the discourteous behaviour some of my industry colleagues talked about, perhaps because I was heading an Australian company. I had polite relationships with both Minister Connor and his Departmental Head, Sir Lenox Hewitt, although the response to whatever I put to them was usually "no".

The anti-mining activist groups, particularly the environmental extremists, seized their opportunity to the fullest. Publicity at any price was the lifeblood of their campaigns, one of which is described in some detail in

the section on *Uranium.* Common to all these was the adversary approach, with well established rules which have been summarised as follows:

- *Call everything a disaster and a crisis. The end of the world is near.*
- *Always claim the high moral ground. No-one else but you is concerned about the finer things in life, or the future of the world.*
- *Never modify your absolutist standards. There is only one correct view - yours.*
- *Fashion the terms of reference and conditions of any discussion in terms of your ambit position. Refuse to participate if this is not accepted.*
- *Any argument which does not suit you is irrelevant, biased, or falsely premised.*
- *If you are losing, delay, filibuster or call for more research or for another inquiry.*
- *Seek to maximise perceptions of the opponent's error and the rightness of your own position - create the so-called horns and halo effect.*
- *Do not admit your errors. If you lose one battle or argument, abandon it and go on to the next.*
- *Truth and equity are outdated concepts. Any damage caused to the other party, material or otherwise, is not your concern.*

The impartiality of science was consciously debased by selective interpretation of research findings and unconsciously by the values and biases of researchers. "For every PhD there is an equal and opposite PhD". Issues were sometimes expressed in such emotional or apocalyptic terms that to ask for hard evidence appeared callous.

The public was conditioned to believe that chemicals are a dreadful invention of humans, about to do irreparable damage, even if present in infinitesimal quantities which science was now able to detect for the first time because of fantastic recent advances in technology. In Victoria, environmental activists successfully embarrassed the Board of Works over an analysis at the level of parts per *quadrillion* - one part per quadrillion being equivalent to 1 second in 31,000,000 years. Not many members of the public know that

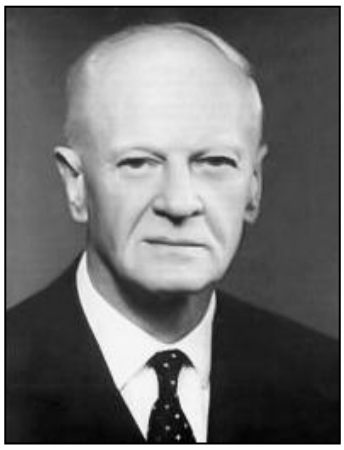
1 part per million is 1 centimetre in 10 kilometres
1 part per billion is 1 centimetre in 10,000 kilometres
1 part per trillion is 1 centimetre in 10,000,000 kilometres

Another useful perspective is that our heart beats 1 billion times in 33 years.

Such campaigns ignored that everything on earth is made of chemical compounds (and is radioactive), including all those substances touted as "natural" and, indeed, including human beings. We are made mostly of water, mixed with a few handfuls of chemicals (and emit radioactivity). One of my friends referred me to a favourite story which I have used on many occasions.

Consider being served a dish consisting of a mixture of acetone, acetaldehyde, methyl butyrate, ethyl caproate, hexyl acetate, methanol, acrolein, and crotonaldehyde. Terrible, isn't it, bound to be very harmful, and should be banned in the strongest possible terms. Perhaps a new government authority should be established to deal with this menace to our and future generations.

The dish you have been offered is a ripe strawberry.



Retirement of Sir Lindesay Clark

Sir Lindesay Clark retired as Chairman of Western Mining Corporation at the end of the Annual General Meeting in 1974, at the age of 78. I had been appointed Vice Chairman in the previous year and now became Chairman as well as Managing Director. Sir Lindesay, who had been Technical Managing Director when WMC was established in 1933, continued as a director for a further four years, until 1978. He recorded his recollections of Western Mining in a book *Built on Gold* (Hill of Content, 1983) and died in 1986, just short of his 90th birthday.

Sir Lindesay Clark exerted a very strong influence on Western Mining.

The founder of WMC, W S Robinson, had retired from the Company by the time I joined it in 1956 and I never met him. Sir Lindesay had succeeded Sir Walter Massy-Greene as Chairman in 1952. He was a cultured person and a strong patriot dedicated to developing Australia; just making money would have been vulgar to him. He and the leader of the Country Party, Sir John McEwen, were friends and had very similar views.

Trained as a mining engineer, Sir Lindesay's great interest was not in production or management but in minerals exploration and broad strategy. When visiting operations he spent most of his time reviewing exploration plans and results with geologists. It was largely due to him that funds were allocated for bauxite exploration in the Darling Range and nickel exploration at Kambalda at the time when even the very modest sums were a strain on the Company's finances. Had discounted cash flow (d.c.f.) calculations then been popular, neither of these projects would have proceeded - the bauxite had been pronounced uneconomic by previous investigators and there had been no nickel found in the Goldfields after 70 years of intense exploration for

gold. He led the negotiations which resulted in the establishment of Alcoa of Australia and insisted that the initial nickel developments should be financed largely by equity raised by rights issues rather than loans, the wisdom of which was seen when the nickel markets turned down following the oil price increases in the early 1970s.

He had been commissioned in the field at Ypres in World War I and awarded the Military Cross, although I never heard him speak about his war experiences. He was fond of England where he and his wife Jane visited for several weeks every year, but did not relate to non-English speaking countries. Working for him he could be a hard taskmaster but, after having told you off, he could immediately thereafter advise you of a salary increase.

Sir Lindesay set the tone of Western Mining for the best part of forty years. The Company's growth from a small gold mining company into a substantial diversified minerals producer was largely due to his leadership. The discovery of the massive Olympic Dam copper-uranium orebody in the 1970s followed soon after his retirement.

Exploration

The distinguishing characteristic of Western Mining since its formation had been the strong belief in scientific mineral exploration. This began with the founder of the Company, W S Robinson, and continued under successive Chairmen, including myself. Sir Lindesay Clark's main interest, as noted above, was in exploration. Exploration was always one of the items on the Board meeting agenda and two successive leaders of the exploration team – J D (Don) Campbell and R (Roy) Woodall – were members of the Board.

The main exploration successes under Don Campbell's leadership were the continuing discovery of rich new gold ore shoots at Central Norseman Gold Corporation and the proving of the bauxite in the Darling Range. The dividends from Central Norseman were vital in seeing Western Mining through otherwise difficult times in the 1950s and 1960s and the bauxite deposits led to the formation of Alcoa of Australia. The immediate effect of A/A on WMC was relatively modest but it became very important to the Company a quarter of a century later.

Don was the Director of Exploration when nickel was discovered at Kambalda, but the credit for this success which transformed Western Mining overnight and set it on the road to becoming a substantial diversified minerals producer goes to his then assistant, Roy Woodall. Roy succeeded Don Campbell a year later. Nearly a decade after that Roy's exploration team made a second major grassroots discovery, this time of copper and uranium, at Olympic Dam. Meanwhile, in 1972 there had been the discovery of the Yeelirrie uranium deposit in Western Australia but the anti-uranium attitudes in the 1980s prevented its development (see later).

The bauxite, nickel and copper-uranium successes and the developments based on them remained the defining features of WMC and its two successor companies. The nickel operations subsequently benefited substantially from judicious additions by acquisition. Numerous smaller discoveries of gold and other minerals on and off mine sites made a considerable contribution over seven decades but the nature of WMC and its successor companies was defined by the "big three" discoveries.

Relations with Germany

In 1967 an energetic and enthusiastic German businessman then living in Melbourne, Fritz von Einem Joosten, founded the Society of Australian-German Student Exchange. Fritz was also the driving force in canvassing at about that time the foundation of the Deutsch-Australische Gesellschaft in Frankfurt, which occurred some years later with Casimir Prinz Wittgenstein, the Deputy Chairman of Metallgesellschaft, as President..

Quite independently W H J (John) Barr, a Vice President of the Student Exchange and, as Managing Director of Metallgesellschaft Australia a colleague of Prinz Wittgenstein, initiated in 1972 moves to form the counterpart of the Deutsch-Australische Gesellschaft, the Australian-German Association, in Australia. To John goes the credit for recognising the value of closer links between Germany and Australia, for promoting the concept of the Association, and for canvassing support among senior members of the Australian business community which led to the establishment of the Association in 1974. He became Executive Officer of the Australian-German Association and his close links with Prinz Wittgenstein helped to establish smooth working relationships between the German and Australian entities. I was one of those John consulted early in the piece and took the lead in bringing the group of business people together.

Sir Willis Connolly, retired Chairman of the State Electricity Commission of Victoria which had close links with Germany through the use of German-built bucket wheel excavators in mining brown coal for its power stations, became the President of the new organisation, and led it with distinction until his death in 1981. I was a Vice President until 1987 and was then appointed Patron until retirement from that post in 2004, when I was made a Life Member.

The two organisations arranged every few years joint meetings in turn in Australia and Germany, with numerous independent functions in between. Germany was an important market for WMC nickel metal and we had close links with Urangesellschaft in the (unsuccessful) endeavours to bring the Yeelirrie uranium deposit into production. When Olympic Dam started up, Germany became also a market for copper.

The Managing Director of Urangesellschaft was Dr. Hans Hampel, a mining engineering graduate of Clausthal Mining Academy who had studied there after me, in the early 1950s. He subsequently worked in Australia for nine years as Managing Director of Ruhrkohle Australia and, on retirement in 1989, became for another nine years the Frankfurt Representative of WMC. Hans became a valued friend and colleague and I have the greatest professional and personal respect for him. We keep in touch in retirement. A man of utmost integrity, he is one of the people who made life in the minerals industry a pleasure.

My German had become quite rusty not using it for many years, but after some days in Germany I always became more comfortable with it. On a couple of occasions I caught myself on the way back speaking to the Qantas hostesses in German after we had taken off from Frankfurt.

In 1979 I was greatly honoured to be awarded the Commander's Cross of the Order of Merit by the Federal Republic of Germany. I had in 1972 become a member of the *Gesellschaft Deutscher Metallhütten- und Bergleute* (GDMB), the German equivalent of the Australasian Institute of Mining and Metallurgy. In May 1992 I was awarded at the Annual Meeting of GDMB in Salzburg, Austria, the Georg Agricola Denkmünze (Medal). Established in 1924 this is the highest award by GDMB. My address at the formal ceremony was in German (Hans Hampel had vetted it to make sure there were no dreadful errors), but at the following lunch which Saima and I hosted to selected guests I reverted to the more comfortable English. Up to and including 2007 there had been 46 recipients of the Denkmünze.

The gold crisis

By 1971 the Australian gold mining industry was in a crisis. Costs had risen substantially because of inflation while the price of gold remained fixed. In the Western Mining Group both Gold Mines of Kalgoorlie and Central Norseman made losses in 1970-71 and announced that, unless the price of gold increased, operations would cease when all economically extractable developed ore had been treated. The headlines in the Western Australian newspapers were *It's the End of Paddy's Golden Era* and *W.A's Gold Mining Industry in its Death Throes.*

This dismal outlook changed when in December 1971 the price of gold was increased to US$38 per ounce and in January 1972 the Australian dollar was devalued by 8.6 per cent which was equivalent to a further price increase to Australian producers. Soon thereafter the $US price of gold on the free market increased above the official price. At the end of 1972 the convertibility of the US dollar into gold was discontinued and this ended the price of gold being fixed by government fiat. From then on the price was

determined by supply and demand in the market, as for any other commodity.

Mine development was resumed and the closures were averted. In a further effort to improve the economics, Gold Mines of Kalgoorlie and Lake View and Star merged in 1973, WMC managing the resulting Kalgoorlie Lake View Pty. Ltd. (KLV), covering most of the Kalgoorlie Golden Mile. Brodie-Hall was instrumental in bringing about the merger and became the Chairman of KLV.

Costs, however, continued to escalate, mainly due to wage rises which in the gold mining industry had dropped below the levels elsewhere and were being gradually brought back to parity. In June 1975 some two hundred KLV employees were retrenched and it was announced that mining would be restricted to higher grade areas. Western Mining, who usually would have been looked to for financial support, was going through tough times in its nickel business and could not assist. Brodie-Hall kept the Minister for Minerals and Energy, Rex Connor, fully informed while simultaneously negotiating with the Homestake Mining Company. While he was in San Francisco, I advised the Federal Government in October 1975 that there appeared to be no option but to close down further sections of the mine, with consequent further retrenchments. I also attended a meeting in Rex Connor's home in Canberra who undertook to see what the Government could do.

But events moved fast and almost immediately after our meeting Connor was dismissed as Minister for his part in the infamous Khemlani loan affair. A month later the Governor-General dismissed the Whitlam Government and there was no further interest in Canberra. Production from the Fimiston area ceased.

In December 1975 Homestake became a 48 per cent partner with KLV in Kalgoorlie Mining Associates (KMA), contributing funds to enable the operation to continue on the reduced scale. During 1976, however, the price of gold decreased and the mine was losing money at an alarming rate. It was decided to cease all operations on 10 December 1976. Retrenchment notices (known locally as "pink slips") were handed out to all employees other than those needed for the closedown.

Remarkably, as soon as this had been done, the price of gold started to rise and on 29 November the Australian dollar was devalued by a massive 17½ per cent. On 9 December, on the eve of the closure date, it was decided to continue in operation and retrenchment notices were withdrawn. By this time many employees had made other arrangements and the workforce in January 1977 was just ninety three people. This was not all bad because it enabled the manning to be re-built from the ground up as if it were a new project, without the problems of historical practices or people considerations.

KMA gradually resumed production and a loss of $5.5 million in 1975-76 was turned into a profit of $0.4 million in 1976-77. The crisis was over. Homestake, which had taken a considerable risk and for a time looked like losing its capital contribution, was handsomely rewarded for its enterprise. They deserved it.

The nickel crisis

The gold mining industry was not on its own in going through tough times. The world recession triggered by the oil price increases in early 1970s resulted in a serious oversupply of nickel in the second half of the decade. Production cuts by producers, including WMC, were insufficient to balance the market. Prices fell and most of the world nickel producers were losing money. WMC was still profitable, but only just.

In November 1977 I explained the seriousness of the situation to the Secretary of the Department of Trade in Canberra and asked him to convene a world producer-consumer meeting. A government calling the meeting would avoid anti-trust problems. He said this was a great idea and promised to do so. Nothing happened. In 1979 the demand picked up for a short time but, after further oil price increases, the published losses by the world nickel industry from 1981 to 1986 were US$3 billion, equivalent to more than US$6 billion in today's money. The meeting was finally convened – in 1985! By then the next crisis to the one which prompted the request was virtually over. It was not the first (or the last) time I found that the mills of bureaucracy grind very, very slowly.

Meanwhile, WMC decided to make a determined effort to end price discounting and re-establish a firm producer price. In November 1977 I advised all our nickel customers by letter, followed in January 1978 by personal meetings in Germany and London, that we would charge a fixed price for our nickel until March 1978. Keith Parry spent considerable time working out of London visiting customers and reinforcing the message. Although we could not discuss prices with the other producers we had reason to believe that they, also, were unhappy with the market chaos and would follow our lead, but behind the scenes they were undercutting us. Our sales fell by 40 per cent, profit fell to the lowest for 10 years and stocks increased to an all time high.

In 1978 we were seriously considering taking a partner into our nickel business, to turn some of the equity into cash and to share the risks. I remember discussing the pros and cons with Keith Parry for a couple of hours while walking around Green Park in London. Hugh Morgan (eldest son of Bill Morgan, who had joined WMC from North Broken Hill as Executive Director responsible to me for financial and commercial matters) had an informal prospectus prepared and we had discussions with oil

companies then anxious to invest some of their enormous cash flow in minerals. It all came to an abrupt end when, at a meeting with BP, we found that they expected to buy in at a discount instead of a premium.

In 1979 nickel (and aluminium) began to be traded on the London Metal Exchange. Before that the price had been fixed by the producers (the so-called "producer price"), with one of the main producers announcing changes from time to time and the others following. This had resulted in price stability, but also meant that the price was not sensitive to changes in demand. Thereafter nickel was priced by the market like any other commodity. The strengthening demand in 1979 and a strike at Inco in Sudbury reduced stocks to normal levels and the price stabilised.

The poor prices for nickel in much of the 1970s and in early 1980s had an interesting side effect for WMC. We had come across some gold ore in some of the nickel mines at Kambalda which was not surprising because, after all, there had been a gold mine there earlier. Some of the specimens were spectacularly rich. Additional income was welcome and, when more ore was discovered, a gold recovery circuit was added to the nickel treatment plant in 1980. This led to successful exploration around old gold workings at St. Ives south of Lake Lefroy and gold mining there. By 1981 a separate gold plant began operations next to the nickel concentrator.

Gold at St. Ives and Agnew

Further exploration in the St. Ives area proved more ore in a number of separate locations. It is not known who started the practice of naming them after the ships at the battle of Trafalgar in 1805 but it must have been a geologist, who were traditionally given the privilege of choosing the names of prospects. (There were rare exceptions. For example, when reports from the Roxby Downs area started to mention the Appendicitis Dam prospect, I insisted that the name be changed because I could not face the possibility of an Appendicitis Mine!). When the prospects turned into orebodies, the names remained. Whoever it was at St Ives, his or her successors continued with the tradition. For an unknown reason the Junction Mine was the exception.

Until the end of 2000 the names of seventeen of the 70 or so ships involved in the famous battle had been used. Thirteen of these were British ships: Victory, Defiance, Leviathan, Conqueror, Britannia, Orion, Minotaur, Revenge and Africa were orebodies (mines), Mars, Minotaur, Agamemnon and Thunderer were resources and Swiftsure and Neptune were prospects, all east of the Kambalda-St Ives road. Four namings west of the road were after French and Spanish ships: Intrepide and Santa Ana were orebodies and Formidable and Bahama were resources. Gilbert Ralph made the comment that, up to that time, the British had been victorious!

Exploration was so successful that in 1988 a gold mill with a capacity

of treating two million tonnes of ore per annum began operations at St. Ives, eliminating the transport of the ore to Kambalda. Because the discoveries were made progressively over a period of time, the St. Ives successes did not get the publicity or credit which they deserved. A production of 4.26 million ounces until it was sold in 2001 made St. Ives after twenty years a goldfield comparable to Norseman which had been in continuous operation for more than sixty years.

In 1987 WMC commenced gold production again in the old gold mining district of Agnew, some 320 kilometres north of Kalgoorlie. The main previous operation here had been the Emu mine, not named after the famous Australian bird but being an abbreviation of East Murchison United. The geologist in charge here was religious and gave the deposits names taken from a well known hymn: Redeemer, Pilgrim, Deliverer and Crusader. The employees lived in a camp and later in the nearby new nickel township of Leinster, but the famous Agnew Pub continued in business. Peter Muir's words, sung by country and western singer Jimmy Nunn, captured its spirit:

"Yes the Agnew Pub's still standing and the boys still breast the bar
Tell modern tales of mining and bush camps near and far
Their dusty throats are dampened as their elbows smartly bend
No the Agnew Pub's not finished, it's nowhere near its end
No the Agnew Pub's not finished mates, we'd hate to see it go
The Agnew Pub's not finished mates – one more before we go!".

In 2001 WMC decided to sell all its gold assets. The operations at St. Ives and at Agnew were both sold to Gold Fields Limited of South Africa.

Olympic Dam discovery

In 1957 Western Mining began at Roy Woodall's instigation exploring for copper in the Tarraji River valley in the West Kimberleys of Western Australia. In 1960 the search moved to the Moonta district in South Australia which had produced in the mid-1800s ten per cent of the world's copper. Later there were copper exploration projects in the Warburton area (see *Tommy Sims Project)* and the Hamersley Basin of Western Australia.

Under the leadership of Roy Woodall, now the Company's Chief Geologist and subsequently Director of Exploration, a team under the general direction of J H (Jim) Lalor, General Manager Exploration, Eastern Australia, and Dan Evans, Exploration Manager in South Australia, began in 1974 to follow up in the north of South Australia theoretical concepts developed by D W (Douglas) Haynes while researching for a doctoral thesis, on study leave from WMC. H (Hugh) Rutter worked on the regional geophysical aspects and E S T (Tim) O'Driscoll on the tectonic setting of the target area. In August

1975 the first drillhole in an area with no surface indications of copper intersected considerable lengths of low grade copper mineralisation under 330 metres of barren cover rocks. The 1976 Annual Report reported four further such intersections. In all, the first nine drillholes intersected uneconomic copper or were barren.

In early November 1976 Roy Woodall, Jim Lalor, I, and others, en route to an oil exploration project in the Simpson desert, called in to visit the drilling. The location had been christened Olympic Dam because of its proximity to a dam of this name excavated on Roxby Downs station at the time of the Melbourne Olympic Games in 1956. We landed at an airstrip some 30 km away and drill core had been brought there for us to see. The core on trays laid out the ground was sparkling with beautiful golden sulphides, obviously of much higher grade than anything encountered earlier. We were naturally all elated and there was good-natured banter about this having been arranged for our visit. Olympic Dam had become a prospective mine. It was a truly remarkable discovery by Western Mining's exploration team.

We stopped over for the night at the Continental Hotel in Oodnadatta and finished up after dinner drinking beer and playing pool with some locals, including the cook. Inviting him turned out to be a mistake because the cook got drunk and we had to leave without breakfast next morning.

Further work on the drill core showed the presence of some gold and silver besides copper and, by February 1977, also uranium. The mineralisation was also found to contain up to 5 per cent of the rare earths lanthanum, cerium and niobium.

Uranium

When the Board of WMC decided in 1953 to diversify into minerals other than gold there was a uranium exploration boom encouraged by the Australian government for defence purposes and one of the Company's first non-gold ventures was investigating a uranium prospect in Northern Australia. This was unsuccessful, but in the late 1960s WMC had again become interested in uranium as a source of energy.

In January 1972 the Company was able to announce the discovery of uranium mineralisation *"over a very extensive area near Yeelirrie about 50 miles south-west of Wiluna, WA".* The deposit was unusual in that the uranium occurred close to the surface in an old calcreted drainage channel. Subsequent work indicated a deposit containing 47,000 tonnes of uranium oxide (U_3O_8), later increased to 52,000 tonnes U_3O_8, and some by-product vanadium,.

We were conscious of the importance of access to markets and had already before the Yeelirrie discovery joint ventured in uranium exploration with two German uranium marketing companies. By 1973 we had agreed on one of these companies, Urangesellschaft (UG), becoming a 10 per cent joint venture equity holder in the Yeelirrie project. This was not approved by Rex

Connor, then Minister for Minerals and Energy, and in 1975 the Whitlam Labor Government announced its policy of 100 per cent Australian ownership of uranium developments.

We approached the Federal Government again after the Liberal-Country Party coalition had won office in November 1975. The UG participation was now approved. Meanwhile, an international anti-uranium movement had begun to build up and, against much internal opposition, the Australian Labor Party reversed its long standing policy of strong support for uranium mining and nuclear power generation. The byzantine manoeuvrings at Labor Party Federal Conferences have been described by Peter Walsh, a Labor Member of Parliament and a Minister in the later Hawke Labor Government:

'Some time after 1975, some people decided to reverse Labor's uranium policy. I do not know who actually made the decision, but suspect they were the same people who, in 1974, used to decide what the Left's position was on everything. The most voluble, as distinct from articulate, crusader for an anti-uranium policy was Tom Uren. All the Left's moral humbug and intimidatory inclinations were brought to bear. If you were not opposed to uranium mining and nuclear power, you were not fit to be in the Labor party. The fact that it was repudiating the Platform which it normally held to be sacrosanct did not worry the Left as it wound up its campaign for the 1977 Federal Conference. After the Conference adopted the anti-nuclear policy in 1977 the Left, which for two years had been publicly denouncing the then pro-nuclear policy, allowed no criticism even in private of the new anti-nuclear policy. Authoritarianism rather than consistency is the hallmark of the Left.'

By the time of the WMC Annual General Meeting in 1977 it had been announced that any development of the Olympic Dam copper discovery would include production of by-product uranium. Added to our efforts at Yeelirrie, this drew the anti-uranium activists. Some had bought one WMC share to enable them to attend the meeting, others were present as proxies. The meeting was disrupted in accordance with an agenda directed by a leader (I was later told a university lecturer) blowing a whistle. Copper coins to the accompaniment of chants of 'money, money, money' were thrown on the Board table and one lady presented me with a plastic bag said to contain radioactive tailings from test work at Olympic Dam. Asked what I would do with this, I said I would keep it on my bedside table as a memento of the meeting!

We had arranged for Roy Woodall to give a slide presentation of WMC's exploration activities. This was drowned out by the noise from the protesters and I had to adjourn the meeting twice for brief periods to restore order. Police were present, but the disrupters were careful not to do more than be a nuisance. When it came to the resolutions, the protestors were

numerous enough to ensure that every resolution was lost on a show of hands and had to go to a poll. Not expecting this, we had not organised to have all the polls together at the end of the meeting and had to hand out polling papers, collect them, count them, and announce the result one resolution at a time. This meant that the meeting dragged on for nearly seven hours. At the end there were not too many left in the hall! I remember telling someone later that the main qualifications for a public company Chairman were infinite patience, a thick skin, and a bloody good bladder because according to the rules the Chairman could not leave the room without the meeting being adjourned.

The protesters were there again at the 1978 meeting, rattling copper coins and throwing these on the table where the directors were sitting, disrupting by interjections and by being noisy and asking interminable repetitive questions. At that meeting the Articles were amended to provide for 50 shares as the minimum registrable parcel for new shareholders (a marketable parcel was 100 shares). This was done partly to reduce share registry costs, but partly because anti-uranium protesters had been buying one share which entitled them to attend and speak as shareholders. It did not really solve that problem, because the owner of 50 shares could give proxies for one share each to 50 people.

Amendments to the Articles also gave the Chairman explicit powers to terminate discussion and adjourn the meeting at his discretion. The Australian Shareholders Association was very unhappy about this, painting extreme scenarios as to how these powers could be misused, and this added to the length of the meeting. All resolutions were, however, passed after about four hours. Not everyone agreed with the Shareholders'Association. One lady shareholder wrote to me after the meeting, complaining that those owning one share and causing a disturbance should have been prevented by directors from attending the meeting. By not doing so, directors had condoned the rowdiness! When I pointed out that we were unable to do so until the amendment to the Articles had been approved by shareholders, she thought we should have done it and had it approved afterwards. One of the interjectors upset a shareholder sitting in the row in front of him, who turned around and swung a punch. The protester suddenly became a supporter of law and order and loudly appealed to me to intervene. I said I would listen to his story after the end of the meeting, but by then he had obviously thought better of it and was not there when the meeting ended.

The 1979 AGM was held in Kalgoorlie, partly because Western Australia was in that year celebrating its 150th Anniversary. I was later told that two carloads of anti-uranium protesters had arrived from the Eastern States. They were met at the town boundary by the local police who politely suggested that it was very much in their interests to continue on without stopping in Kalgoorlie and escorted them to the exit to Perth.

By the 1980s the presence of protesters and critics of various kinds at Annual Meetings of public companies had become a standard feature although at WMC meetings the anti-uranium protests had died down, largely, I think, because they were no longer news.

Anti-uranium activists would go to extraordinary lengths to gain publicity. In 1978 a gauge measuring pulp density in the Kambalda mill was misplaced and inadvertently included in a shipment of scrap steel to a steel mill in Singapore. The gauge contained a small amount of radioactive material and the question became how to dispose of the mildly radioactive refractory bricks and other material resulting from cleaning the melting furnace.

What must have been deliberately leaked cables from the Australian High Commission in Singapore to the Foreign Affairs Department in Canberra caused media headlines such as *"Miner Accused on Atomic Waste*" and *"Lost Nuclear Device",* as if an atomic bomb had been dropped. The Singapore Government became involved and unrelated matters, such as aviation issues, became tangled up in government-to-government dealings. After nearly two years of negotiations it was decided to bring the slightly contaminated material back to Kambalda, which caused a strike at Kambalda. A scientist with the Australian Atomic Energy Commission in Sydney was brought to address a public meeting at Kambalda, to explain that there was no danger. Ships refused to handle the cargo; a 16,000 tonne vessel was finally chartered to bring just five shipping containers of the material – no other cargo - to Geraldton for road transport to Kambalda. Further leaks from the High Commission in Singapore ensured that the arrangements were well publicised. The Waterside Workers at Geraldton black-banned the ship on the basis that the radioactive gauge had left Australia in a shipment of scrap from Fremantle and the waste material should be returned there. As it happened, Fremantle was closed because of a nationwide strike. The ship finally berthed in Esperance amidst extensive media coverage and even threats. The five shipping containers were buried in an underground concrete bunker at Kambalda, completely sealed with concrete and covered with topsoil. Measurements by the WA Government laboratory showed "no measurable effect on background radiation in the area". The final act was that the ship which had transported the containers was banned from its next destination in Port Melbourne until it had been shown to be clear of radioactivity. All this was prominently reported in the media. With apologies to Winston Churchill, never was so much made by so many out of so little! Predictably, there was no media coverage of the burial or of the result of the radiation measurements at the site.

Before being ousted in 1975, the Federal Labor Government had appointed Mr. Justice Fox to enquire into all aspects of uranium mining, milling and export. The Fraser Coalition Government continued with the

enquiry. The Fox Report in May 1977 came out in favour of uranium mining and export under strictly controlled conditions.

The outlook for uranium was bullish, the price had increased to US$40 per pound U_3O_8 and in 1978 Esso joined WMC and UG in the Yeelirrie Joint Venture with a 15 per cent interest. Esso agreed to purchase about a half of WMC's share of the product and French government-owned Electricite de France would buy the rest. The development of the Yeelirrie project was approved by the Federal Government in 1980. A metallurgical research plant to confirm the process was built and commissioned just outside Kalgoorlie and a final feasibility study began in 1982.

Soon thereafter the market outlook had become less bullish and Esso decided to withdraw from the project. WMC and UG continued, the feasibility study was completed, and by early 1983 project financing was well advanced when Labor returned to power in Canberra. The newly elected Hawke Government withdrew the permission to proceed. Its subsequently announced "three mine policy" for uranium did not include Yeelirrie and the deposit remains undeveloped to the present day. Urangesellschaft's ten per cent equity was bought back by WMC in 1993.

WMC eventually did become a uranium producer when Olympic Dam started up in 1988. The road there was, however, tortuous.

South Australia's Labor Government from 1976 to 1979 had caved in to the "leave it in the ground" lobby. The Premier, Don Dunstan, after personally assessing safety aspects of nuclear power generation overseas, declared in February 1979 that uranium would not be mined in SA. The Liberal State Government elected in September 1979 enunciated in February 1980 a policy of approving uranium development, including conversion and enrichment, subject to all requirements being met, while the 1981 Labor Party State Convention called for SA to be declared a nuclear free zone. The Democrats, who had the deciding vote in the Legislative Council, would only approve Olympic Dam if the uranium was returned underground with the waste fill. This was economic nonsense.

After the Olympic Dam Indenture Agreement between the State and the Joint Venturers was defeated in the Legislative Council in the early hours of 17 June 1982 a Labor MP, Norman Foster, resigned from the Labor Party. At a special sitting later in the day he voted with the Government and the Bill was passed. It was subsequently claimed that Foster was deliberately provoked by his party colleagues to defect and support the project because the Labor party would have suffered electorally had its anti-uranium policy thwarted the development of Olympic Dam, the only bright spot in the State's economic outlook.

In July 1983 WMC announced that the indicated reserves of uranium oxide at Olympic Dam were one million tonnes, making it the world's largest known uranium resource. This stimulated further anti-uranium protests in 1983

and 1984, particularly during school term holidays in August because many of the demonstrators who gathered at the site were schoolteachers. They breached fences and security barriers, super-glued themselves to cyclone fences and gates and attempted to disrupt work by blockading roads and slashing tyres on vehicles. WMC staff had considerable difficulty in constraining the workforce from retaliating. The mounted police "Star Force" camping in the area managed to maintain order and became very popular with the children in Roxby Downs township who were given free and supervised horse rides. In Adelaide demonstrators blocked access into WMC's office and held a symbolic vigil on the steps of Parliament House. All these activities were designed to generate publicity and the media naturally obliged, although towards the end they started to lose interest because of the repetitive nature of the antics.

Work on the project was not affected by all this and it was committed to go ahead on 6 December 1985. Production began in June 1988. The Labor Party had re-gained State Government and the project was officially opened on 5 November 1988 by the Labor Premier, John Bannon. While being strongly supportive and laudatory of the Olympic Dam development in his opening speech, he could not help throwing a political sop to his anti-uranium party colleagues by assuring them the government had no intention of permitting an uranium enrichment industry. No-one was interested in the establishment of such an industry.

Norman Foster attended the opening as an honoured guest, invited by the project. He had penned a (not very good) poem for the occasion:

'I was the Member abused to excess
Supporting a project to be truly assessed
No appreciation at the time
By all now taking credit for Roxby Mine
Remember those who risked their stake
To make once more South Australia great!'

The first shipment of uranium oxide (yellowcake) left Olympic Dam for Adelaide in November 1988 in a convoy of ten semi trailers carrying 120 tonnes of the product in sealed drums inside shipping containers. They were accompanied by recovery vehicles in case of a spill, and by police escort.

"Yellowcake" is canary yellow when first precipitated. When sintered before packing into drums for transport, it becomes a bluish-grey powder.

On arrival at Port Adelaide in the early hours of the morning, deliberately timed to avoid heavy traffic, about a hundred anti-uranium demonstrators attempted to block the convoy by standing in its path or sitting

on the roadway. Police quickly cleared the road after television cameras had recorded the events to the satisfaction of the demonstrators, who were unhappy with WMC because they had been given inadequate notice (twenty-four hours!) to prepare. No arrests were made.

The second shipment in January 1989 met with only a handful of protesters, probably because the television cameras no longer thought it newsworthy. The third shipment in June resulted in an equally half-hearted protest and thereafter everybody lost interest.

In mid-1989 there began a concerted campaign about alleged radioactive dangers at Olympic Dam, as a part of a move within the ALP to limit uranium mining. In May 1989 two authors of a Health Commission report to the parliamentary Select Committee on Olympic Dam which they said had been suppressed by the then Minister of Mines, Roger Goldsworthy, in 1982, tried to present a submission to the ALP National Committee on Uranium which was visiting Adelaide. They said there would be deaths as a result of radiation exposure to miners.

The Committee's proceedings were delayed by 'at least 90 minutes' while about 150 demonstrators *'swarmed around the ALP and Trades Hall entrances, abusing ALP national organiser Ian Henderson for refusing them entry'*. A rally organised outside by Nuclear Issues Network, which included Greenpeace and Friends of the Earth, *'erupted into a noisy demonstration'*.

Subsequently there were complaints that WMC had failed to make public annual reports on the impact the mine was making on the environment. WMC pointed out that the legislation covering Olympic Dam specified that the reports were to be given confidentially to the State Government.

On 13 December the Australian Ionising Radiation Advisory Council (AIRAC) tabled a report in the Federal Senate saying they had inspected and investigated the safety procedures at Olympic Dam. They found that:

- work practices to ensure workers were protected from the effects of ionising radiation had been introduced and maintained in a competent and professional manner
- ionising radiation monitoring arrangements had been introduced to ensure radiation was well within statutory limits and workers were properly instructed on the hazards of radiation
- monitoring and regulatory arrangements by the State Government appeared adequate to ensure the project conformed to standards

There were howls of disagreement.

On 14 February 1990 the Premier, John Bannon, announced jointly with WMC that the confidentiality provisions of the Indenture Agreement would be waived and all reports would be in the future made public in their entirety. To overcome the problem of disclosure of the medical records of

identifiable individuals, which had been a major issue, these reports would be published in an aggregated form. The decision to make the Olympic Dam monitoring reports public effectively ended the argument. The antis had lost their ability to insinuate that something dreadful was being covered up; one of the media headlines – '*Key Roxby secrets to be unveiled'* - said it all.

The exaggerations of the anti-uranium campaigners are well illustrated by the Chernobyl accident.

On 25-26 April 1986 the world's worst nuclear accident occurred in a nuclear power station at Chernobyl 80 miles north of Kiev in the Soviet Union (now the Ukraine). A number of safety procedures were disregarded, the chain reaction became out of control and explosions and a fireball blew off the reactor's lid, releasing radiation. 30 died immediately and various commentators predicted an eventual death toll of hundreds of thousands and even millions.

In 2005 the United Nations convened 'Chernobyl Forum', including the International Atomic Energy Agency, seven other UN agencies, the Russia, Ukraine and Belarus governments, and with expert contributions by the World Health Organisation, recorded fewer than 50 deaths directly attributable to the accident and estimated that the eventual number due to radiation effects could possibly reach 4,000. While still a large number if it is eventually confirmed, it is a fraction of the alarmist predictions and smaller than the death toll of many other human activities and natural events. The record shows that deaths in the nuclear power industry are very much less than in alternative large scale power generation.

Public discussion of uranium in Australia underwent a remarkable reversal in 2005. During the takeover of WMC Resources by BHP Billiton, the value of Olympic Dam as the world's largest known uranium resource was highlighted by commentators and analysts. A taboo subject until then, politicians and commentators began to point out that nuclear power was the only practical alternative to fossil fuel fired power stations. Numerous calls for a rational discussion of the issues appeared in the media, including by media commentators, Coalition and Labor politicians, and union leaders. While some Labor State governments, including in Western Australia, still prohibited uranium mining, the Howard Federal Government supported increased uranium exports.

In 2006 the report of a group of experts on the practicability and desirability of nuclear power stations in Australia, headed by Dr.Ziggy Switkowski, endorsed nuclear power generation. The Labor Party Conference in 2007 ended the three-mine policy and accepted additional uranium mining. However, at the time of writing nuclear power generation remains prohibited by legislation in New South Wales, Queensland and Victoria. It cannot last,

any more than the ban on uranium mining could last. It does not make any sense for us to deliberately exclude ourselves from a major area of technology increasingly used by every other country of significance while we have the largest uranium resources in the world and are a major supplier of uranium. It will, however, take perhaps 20 years to make the political decision, repeal the prohibiting legislation, develop regulations governing the industry and build the first nuclear power station.

Growth of Alcoa of Australia

After having been involved in the setting up of Alcoa of Australia (A/A) in 1960-61, I had no further direct involvement in its activities until Sir James Forrest, who had succeeded Sir Lindesay Clark as Chairman, retired in 1978. By agreement the Chairman was a Western Mining nominee and, after considering alternative candidates, I was elected to succeed Sir James in February 1978.

One of my first actions was to call a two-day meeting of shareholders in April 1978 to sort out the misunderstandings and disagreements that had accumulated over the years. The two main matters of concern and some friction between the Australian and American shareholders were the management of Alcoa of Australia and the Victoria Agreements.

The Aluminum Company of America (ACOA) in the 1960s was a highly centralised organisation, with the Head Office in Pittsburgh including technical departments which insisted on exercising control over even operational details. The various departments in Pittsburgh frequently intervened in the management of A/A without the knowledge or agreement of the Chairman, the Board, and at times even the Managing Director who was a seconded ACOA executive. This was contrary to the agreed and often re-stated intention that A/A should operate as a separate company, with the Managing Director responsible to the Board of the company. The concerns had been brought to the notice of senior management in Pittsburgh from 1963 onwards but, in spite of voluminous correspondence and many discussions, the problem remained.

The other issue was whether the Victoria Agreements were equitable. These had resulted in 1965 from the desire of ACOA, first discussed at the time of A/A's formation in 1961, to have a direct equity interest in some of the bauxite, to obtain an assured supply of alumina and to qualify for the then existing US tax deduction for depletion. A/A refined the ACOA-owned bauxite into alumina on a toll basis. The Australian shareholders were concerned that high inflation and exchange rate movements, neither foreseen when the Agreements were concluded, distorted the formula used for calculating the toll refining fee. Several adjustments had been agreed but the inherent problem remained.

It was decided to review and discuss all these matters, establish an agreed record of the intentions of the parties at the time of the formation of Alcoa of Australia, resolve any differences if possible, and establish a clear basis for the future. Material from files giving the historic views of the parties, their interpretation of events and assessments of the respective benefits flowing to the American and Australian shareholders, as well as a number of other matters, were recorded in what came to be known as the 'Blue Book'. Actually there were two volumes in blue covers which were agreed by the participants to be the official record of the events, replacing any previous records.

At the conclusion of the meetings, J C (Joe) Bates on behalf of the Aluminum Company and Sir Wilfred Brookes on behalf of the Australian shareholders exchanged letters expressing satisfaction with the outcome and pledging to work together in a manner equitable to all participants, being prepared to review and correct any inequities should these arise because of circumstances changing in the future. Copies of the 'Blue Book' were filed away and I recall expressing the hope that there would be no need to open them again. This is what happened: not many people in subsequent years were even aware of their existence. There was only one occasion when I had reason to refer to it.

In 1987 gold was discovered at Hedges, in an area held 50:50 by A/A and ACOA under the Victoria Agreements. The lawyers in Pittsburgh argued that ACOA therefore owned 50 per cent of the gold because the Victoria Agreements referred to “mineral rights”, not “bauxite rights”. I wrote a detailed memorandum setting out both arguments and pointed out that the letter from Joe Bates in the “Blue Book” pledged ACOA not to take unfair advantage of circumstances that may arise in the future. Following a discussion with ACOA’s Chairman and Chief Executive Paul O’Neill and Legal Counsel R L (Dick) Fischer in Pittsburgh, Paul overruled the lawyers and we heard no more about it. When I retired from the ACOA Board 11 years later, retired ACOA Chairman Krome George gave me a copy of a memorandum he had written at the time, recording the intentions during the negotiations in 1960 and strongly recommending “forgetting Victoria”.

Regarding management, the involvement of Pittsburgh in operational matters gradually diminished over the years, particularly after the central technical departments in Head Office were abolished, until the problems and frustrations in the 1960s and 1970s disappeared. When Paul O'Neill's reorganisation of ACOA came in August 1991, giving business units a great deal of autonomy, it meant virtually no change in Alcoa of Australia's operations which had been functioning in a similar manner for some time.

The question of the Victoria Agreements was finally resolved very simply, following a plan devised by Dick Fischer and Hugh Morgan over dinner in New York. The initial tax reasons in the United States no longer

applied and it was decided to terminate the Agreements, in recognition of which A/A paid the Aluminum Company US$30 million. Thereafter the alumina purchased by the Aluminum Company was priced at the average of the arms length alumina sales by A/A. There were no problems whatsoever with alumina sales to ACOA after that.

Since 1961 A/A had experienced virtually continuous expansion of its alumina refining capacity. The Kwinana refinery, using bauxite mined at Jarrahdale, had grown from 200,000 to 1,400,000 tonnes per annum and a second refinery at Pinjarra, supplied by a major new bauxite mining operation at Huntly, had reached a capacity of 2,000,000 tonnes per annum.

This growth had not been uneventful. Extremists in the environmental movement gathering momentum in the early 1970s found Alcoa of Australia ideal to oppose. The bauxite was covered by unique jarrah forest and the trees growing over the orebodies had to be removed before mining. Some of the bauxite occurred in the catchment areas of Perth's water supply reservoirs. Although the Darling Range was sparsely populated, the mining and transport of the bauxite inconvenienced some inhabitants. It was not difficult to whip up emotion and construe alarming scenarios.

For a long time there was an energetic and skilful publicity campaign opposing bauxite mining. In 1981 the opponents even applied to a court in Pittsburgh, Pennsylvania, to prohibit bauxite mining in Western Australia. This did not win them any friends in Western Australia or elsewhere in this country. The Deputy Prime Minister, J D (Doug) Anthony and I debated the issue with the leader of the activists, Neil Bartholomew, on television. The U.S. court sensibly concluded that what happened in Australia was for Australians to decide.

The late Sir Charles Court, initially as Minister for Industrial Development and subsequently as Premier of Western Australia from 1974 to 1982, had been instrumental in the Company becoming conscious of the environmental aspects of its operations from the early days. The late J C. (Joe) Bates, the American Managing Director of Alcoa of Australia from 1968 to 1971, recalled very clearly Sir Charles pointing out the need to rehabilitate the mined areas, which was not common practice in those days. Joe, with the support of the then A/A Chairman, Sir Lindesay Clark, had to overcome considerable internal resistance, particularly from the Refining Division in Pittsburgh, and weather criticism from industry colleagues in Australia when initiating a rehabilitation and reforestation programme concurrently with mining. (The industry people were concerned that A/A was creating an unnecessary and expensive precedent.) The technique was perfected over the years to satisfy even the most stringent critics until in 1990 Alcoa of Australia received the distinction of becoming the only mining company in the world entered on the Roll of Honour of the United Nations Environment Program. (This made the extreme environmental activists in Australia very unhappy.)

Since 1989 the A/A techniques have also been used for rehabilitating degraded farmland, the greatest environmental problem in Australia.

The opposition to Alcoa gradually disappeared when the Company started inviting people to visit its activities and see for themselves what was happening, following the process through from the earliest stage of removing the trees to inspecting the rehabilitated areas with ten or fifteen years' growth of new forest. A day's outing and a picnic lunch in rehabilitated bauxite mining areas became favourite weekend relaxation for many Perth and Fremantle citizens and their families, some 25,000 people a year. It was not possible to argue any longer that bauxite mining caused damage which could not be made good.

This had not yet been achieved and the opposition and criticism were still at a highly emotional level when Sir Charles on several occasions guided legislation approving the various stages of expansion through Parliament. It was due mainly to his determination that the Company's growth could continue.

Almost immediately after my appointment as Chairman there was also a change of Managing Directors: W (Waldo) Porter Jr. retired and was succeeded by G T (George) Haymaker. I visited Japan with both of them to announce the change to the customers. Waldo was keen to record on video the proceedings at dinner in a geisha house and this was probably the only occasion there when everybody had to negotiate their way across a mass of electric cables on the tatami-covered floor. However, the Japanese stoically pretended not to notice it and no-one was electrocuted.

George was very able and energetic and his assumption of office coincided with a boom in aluminium markets. Following the major oil price increases in the first half of the 1970s and the Club of Rome report *The Limits to Growth* in 1972, there was a widely held perception that all resources, particularly energy, were going to be in short supply.

George initiated a number of studies which predicted a bright future for expanding A/A capacity, much too rosy in my view. A third alumina refinery was to be built at Wagerup. The availability of relatively low cost power generated from brown coal in Victoria was an important reason for expanding smelting. Pittsburgh subscribed to the view that reasonably priced electric power for aluminium smelting would become scarce. In addition to installing a third potline at Point Henry, a second smelter was proposed. There were presentations to the A/A Board, one of which was attended by the President of ACOA, W (Bill) Renner. There was a discussion on whether A/A, already heavily borrowed, should undertake the very considerable capital commitment of constructing simultaneously another major refinery and smelter, and I clearly recall Bill Renner saying: *"If you* (meaning A/A) *won't do it, we* (meaning ACOA) *will"*. This settled the matter.

The preferred site for the second smelter was at Westernport, close to the source of power in the Latrobe Valley. There was, however, strong opposition from environmentalists who wanted to preserve the mangrove swamps at Westernport. After much soul-searching Portland, requiring 270 km of twin high voltage powerlines, was chosen. Construction of the Wagerup Refinery and the third potline at Point Henry began and the Portland Smelter was announced, all in 1979.

The Victorian Government's announcement in August 1980, that the cost of power would be increased in two steps by 40 per cent, came as a great shock. A/A made it very clear to the Government that the Portland smelter would not be economic under these conditions and scaled down the construction activity to a minimum, pending resolution of the issue. The Government commissioned two independent studies into the power tariff for A/A which resulted in an interim formula in December 1981. The Board expressed its disappointment that no final formula had been arrived at but 'reluctantly' decided to resume construction in January 1982.

Meanwhile, there had been much public controversy which extended beyond the issue of the power cost to matters such as foreign ownership. As the Chairman and an Australian it fell to me to put the A/A case to the public; the American Managing Director obviously could not do it. I did so on many occasions, in print, on radio, on television, in talks to various audiences, and in my address at the Annual General Meeting of A/A in March 1981 which was attended by the media.

Markets had again turned down and the ability of A/A to finance its capital commitments had become doubtful. After an unsuccessful attempt to attract partners for the Portland Smelter, the completion of the smelter was deferred in July 1982 *'due to depressed markets and pending finalisation of a long term power contract' and* the start up of the newly completed Wagerup refinery was deferred *'due to depressed markets'*. J L (Jack) Diederich, the new Managing Director who had succeeded George Haymaker in May, stripped the Head Office of personnel built up by George in expectation of continual expansion. In November the lenders to A/A were requested, and agreed, that the Company's debt to equity ratio could be increased to 2:1. Dividends to shareholders from 1981 to 1983 were paid in additional shares instead of cash. It was a difficult time!

Some $300 million (of the order of $850 million in 2007 dollars) had been spent at Portland by October 1981. W H K (Krome) George, Chairman and Chief Executive of ACOA, had come out to review the situation. Contemplating the partially completed foundations on the silent construction site and the sheets of galvanised iron flapping in the wind, Krome famously wondered whether Portland may become the Stonehenge of the aluminium industry. A small 20th anniversary dinner at the Australian Club attended by some of the founding fathers – Sir Lindesay Clark, Sir Wilfred Brookes and

Ralph Burt, as well as Krome George - was pleasant and friendly but somewhat subdued.

In April 1982 there was a change of government in Victoria; the Labor Party won office. The new Premier, John Cain, recalls the A/A situation in his memoirs *John Cain's Years* as follows:

"... From the start the signals were clear that we had a large continuing problem with the smelter project. This was not good news to a new government trying to expand the economy and jobs. In the next three weeks we had several meetings with Alcoa and SEC officials. We put in train a number of initiatives to try and resolve the problems that emerged. I said publicly in mid-May that the government would consider being involved in the project if invited. I wanted to give a clear indication of our commitment.

The company was surprised and impressed with the effort we put in that short period to find a way to prevent a deferment of construction. On 2 June 1982 we met with a number of their key executives. They said they would defer final decision and that they wanted their officers to discuss power tariff and SEC financing with the Department of Management and Budget. Time was being given for a further attempt at resolution.

This concession did not change my impression from mid-April that the decision to defer was taken months before but had not been announced because of the political implications before an election. The new card in the pack was that by 2 June there was a new chief executive at Alcoa, Jack Diederich, and we were to have a very long and fruitful relationship with Jack and his company in the years ahead. Jack and I communicated well. We did not waste each other's time nor did we fail to be frank with each other. I liked him and I think he reciprocated. .....

We put to them a set of proposals for the operation of two potlines, with a flexible electricity tariff; we proposed also to set up a tax-paying company to take up a 25 per cent equity in the project. We indicated that the offers were made subject to a withdrawal of the proposed deferral of construction, the continuation of work at Portland to achieve an early 1984 start-up of the first potline; the government would do its best to find another 25 per cent equity partner. .....

Although Alcoa did not accept our proposals, and did defer the project, the negotiations had not been in vain. They knew we could not reasonably have done more than we had to ensure that construction went on, and the good relationship we had built up was to stand us in good stead in the future. At their suggestion we made a joint announcement of deferral on 19 July 1982."

On 9 August 1983 there was in Melbourne a march of 500 people from Portland and Geelong. It was non-party-political, led by the Anglican Bishop

of Ballarat and the Mayor of Portland. The Victorian Branch Secretary of Federated Ironworkers Union, Harold Holowell, was the organiser. They called on me in the A/A office on their way to see the Premier in Parliament House. The Premier and I were both informed of their concern at the delay in completing the Portland Smelter. The demonstrators were orderly and put their case well. It is the only demonstration I can recall that supported what I also wanted!

With the markets improving, the Wagerup Refinery eventually started operations in February 1984. It was officially opened in April. In Victoria, fuelled by the Opposition in Parliament, there was extensive media speculation that work would also resume at Portland and on 15 March 1984 I took the unusual step of making a public statement, saying that we were negotiating with the Government, and that:

"The aim of both Alcoa of Australia and the Government is to bring these negotiations to a successful conclusion as early as possible. It is not practicable to discuss details of the negotiations until they reach finality.

The continued media speculation is not helping the discussions. In fact, the more speculation there is the more difficult the negotiations become."

I also said we were 'optimistic' regarding the outcome. Surprisingly, the media reported this criticism factually and without getting on a high horse. This would be unlikely to happen today.

Agreements between A/A and the Government totalling 1500 pages, enabling construction to be resumed, were finally signed by the Premier, John Cain, and me on 31 July 1984. The State Government would become a 25 per cent joint venturer, with A/A having 45 per cent equity and thus leaving room for other partners. (Subsequently Chinese, Japanese and Australian interests took up the available 30 per cent interest). There would be a flexible power tariff, related to the price of aluminium, with a floor to ensure cash generating costs were covered at all times. However, under a separate agreement between the Government and the State Electricity Commission, at times of low prices the Government would make payments to the Commission which would be recouped in times of higher prices.

There was much jubilation, with only minor criticism from the Opposition and some media speculation of the power being subsidised. There was almost a last minute hitch when it was suggested that the Federal Government was contemplating discontinuing the investment allowance. John Cain and I were told of this while travelling to Portland. John telephoned the Prime Minister, Bob Hawke, in my presence from Essendon airport and we both told him that the Portland project depended on the allowance being continued. The Business Council of Australia was alerted and, after a quick consultation, sent a telex to Hawke, Keating and Button seeking extension of

the investment allowance for three years. The allowance was continued and works on the smelter re-commenced in November.

The main credit on the A/A side for getting the Portland project back on rails belongs to Jack Diederich. As John Cain noted in his memoirs, he and Jack respected each other and worked without hidden agendas or trying to be smart. The first metal at Portland was produced in October 1986. Jack had returned to the United States by the time the smelter was officially opened and I made a particular point in my comments at the opening of recognising Jack's vital role. The *Portland Observer* got carried away by the long-awaited event and called it *'World's largest smelter' which* it, regrettably, was not.

A/A was, in fact, at the breakthrough point. Next year, in 1987, twenty six years after its formation, it made the first substantial profit of $150 million for the year. It has never looked back after that.

Jack Diederich was succeeded as Managing Director by N F (Norman) Stephen in October 1986 and Norm was in turn succeeded by R F (Bob) Slagle in May 1991. A/A was doing very well during Norm's tenure and the Chairman had, for a change, nothing unusual to attend to. Although the profit varied in sympathy with market conditions, it remained substantial even in downturns. The profits came overwhelmingly from alumina. Alcoa of Australia has become by far the world's largest alumina producer, with three fully owned refineries in 2005 of thirty nine times the initial capacity in 1963. The initial smelter has grown into two smelters in Victoria, with a combined capacity of thirteen times of the first smelting unit in 1963, one fully and the other 45 per cent owned. The story of Alcoa of Australia until 1996 is described by Geoffrey Blainey in *White Gold* (Allen & Unwin 1997).

After the BH South liquidation in 1984 the initial WMC 20% shareholding in A/A had increased to just over 30 per cent. The North Broken Hill shareholding was bought for cash in 1986, bringing the WMC interest to 42.507 per cent. WMC continued to buy A/A shares from other Australian owners and eventually built its shareholding up to 48.25 per cent. ACOA continued to own 51 per cent, QBE Insurance holding the other 0.75 per cent.

Acquisition of BH South

Broken Hill South Limited (later renamed BH South) was in the 1960s nearing exhaustion of its lead-zinc-silver orebody in Broken Hill when its geologists identified substantial deposits of phosphate rock in Queensland. In 1974 the Company announced that it would proceed with the Queensland Phosphate project which was expected to become the Company's "backbone of activities".

The $100 million loan-financed development to upgrade the rock for sale to fertilizer manufacturers met with major problems and incurred substantial losses. This led by 1978 to an unsuccessful search for joint

venture partners and in 1979 to a takeover offer by National Mutual Life. BH South negotiated a better offer from CRA Limited.

One of the major assets of BH South was their shareholding in Alcoa of Australia. CRA was a rival aluminium producer through its subsidiary Comalco and WMC decided it had to make a counterbid. I personally handed the letter of offer to BH South Chairman J M (Jim) Tyler in his office on the floor above WMC in Collins House at 4.45 p.m. on 10 October 1979 and was informed that the BH South Board had accepted the CRA offer at 4.30 p.m.! Our higher $210 million offer changed this.

According to *The Australian* this was *"the biggest takeover battle in Australian history"*. There was, however, no battle because WMC agreed, if successful, to sell some of the assets to CRA. The offer was accepted by 80.2 per cent of the shareholders and closed in January 1980.

In 1983 the shareholders agreed to a voluntary winding up of BH South, which was completed by June 1984. In the distribution of the assets WMC received, besides some cash, shares representing 10.5 per cent of Alcoa of Australia and 83.5 per cent of Queensland Phosphate.

Aluminum Company of America

In February 1980 I was appointed a director of the Aluminum Company of America (ACOA). The invitation was extended by the Chairman and Chief Executive, Krome George, after I had been informally approached by the Vice-President International, Joe Bates with a 'personal thought' by telephone in November 1979. This, the first appointment of someone other than an American to the ACOA Board, was a recognition of the importance of Alcoa of Australia to ACOA and also an early indication of ACOA gradually becoming a global, rather than American, enterprise. (The Company's name was subsequently changed from Aluminum Company of America to Alcoa Inc. and in 2005 half the directors were foreign-born).

My presence on both Boards was a very effective way to ensure there were no misunderstandings regarding A/A, which can so easily arise between the majority shareholder and manager and significant outside shareholders. It did involve a great deal of long distance travel and time, as the ACOA Board met six times a year and I endeavoured to attend most meetings. Including travel time, each visit would take the best part of a week. However, I thought that the benefits to WMC were worth it and tried to reduce the unproductive time by combining the ACOA commitments with other business in USA and/or Europe. The ACOA Board met mostly in Pittsburgh, occasionally elsewhere in USA such as Dallas, Atlanta, San Diego, South Carolina, Tennessee, etc. and also had meetings and/or visited operations in Brazil, England, Holland, Germany, Italy, Hungary and Australia.

There were several meetings in Brazil where ACOA had extensive operations. There were refineries and smelters near the old university town of Sao Luis in Maranhao using bauxite from the Amazon and at Pocos de Caldas in Minas Gerais using local bauxite, fabricating plants at Recife on the Atlantic coast, and the Head Office in Sao Paulo. Besides visiting plants, the programmes included stopovers in places such as Manaus in the middle of the Amazon with its magnificent Opera House. The topmost artists in the world had performed here at the time of the rubber boom in late 1800s – early 1900s when Brazil had a world monopoly on rubber trees. Opened in 1896, all the materials for the Opera House (called Amazon Theatre) were imported from Europe, except the wood which was from Brazil but hand worked in Europe. About an hour by boat on the Amazon to the west of Manaus Saima and I saw the "meeting of the waters" where the dark waters of the Rio Negro join the lighter waters of Rio Solimoes and the two streams run side by side for six kilometres before becoming mixed. Another time Saima and I visited the magnificent Foz de Iguacu Falls near the Itaipu hydroelectric project on the Parana river which forms the border between Brazil and Paraguay.

Apart from Board visits, to get a better understanding of the business I made a point of trying to visit an ACOA operation while en route or returning from a Board meeting. The visit out of many I remember best was to Suriname where ACOA was involved in bauxite mining, refining and smelting. The name of the capital, Paramaribo, is popularly abbreviated to "Parbo" and this is also the name of the local beer, so I was well received everywhere! Parbo beer came in bottles of three sizes: Sissy (250 ml), Decent (500 ml) and OlsonBeast (1.5 liters). To buy a bottle of OlsonBeast, one had to trade in an empty bottle. It was not clear how the first empty bottle was to be obtained.

The visit was informative and interesting, including seeing a banana plantation (not ACOA's). When the time came to leave, the departure of the plane was delayed for 12 hours. This meant that we had to stop overnight on the island of Aruba in the Caribbean. It was really only for a part of the night – arrived in the hotel at 1 a.m. and got up at 6.15 a.m. to go the airport again. As far as I could see from the car window, it appeared to be a tourist place full of casinos, hotels, and no doubt many other devices for extracting money from visitors.

On another occasion Paul O'Neill, R A C (Roger) Vines and I had a day trip in an Alcoa Learjet from Pittsburgh to St.Croix in Virgin Islands in the Caribbean to inspect an alumina refinery, which Alcoa subsequently bought.

When Charlie Parry succeeded Krome George as the Chairman and Chief Executive of ACOA in the mid-1980s he decided that there was no future in being an aluminium producer (even the largest in the world) because aluminium had become a commodity, likely to yield only modest

returns. His solution was to turn ACOA into a 'materials' company, developing and producing sophisticated high-technology materials. As a part of this, he was contemplating selling ACOA's interest in Alcoa of Australia which up to that time had not produced attractive returns to shareholders. WMC was the most likely purchaser of ACOA's shareholding and, with the permission of the ACOA Board, I discussed the possibility with WMC directors. By January 1987 the matter had proceeded to the stage where a telephone meeting of WMC directors agreed the terms of an offer.

Most ACOA directors were not happy with what Charlie Parry was doing in re-directing the Company and in April 1987, after a special meeting of non-executive directors over Easter in New York City, it was decided to replace Charlie as Chairman and Chief Executive with one of the non-executive directors, P H (Paul) O'Neill. The changeover took place on 15 June 1987 and in July Paul asked that the Alcoa of Australia sale proposal be suspended until he had been able to form a view, which turned out to be the exact opposite to Charlie Parry's. By August Paul had decided not to pursue the A/A sale further. This was the right decision for ACOA, because almost immediately thereafter A/A became very profitable.

ACOA, nevertheless, continued to develop mainly the manufacturing side of its business, relatively neglecting the primary production side (alumina and metal). It took ACOA 20 years to build another aluminium smelter (in Iceland, using geothermal energy). When the China boom transformed minerals industry profitability from 2005 onwards, this became a relative disadvantage to ACOA.

In the late 1980s when WMC was cash rich, after having sold its Kalgoorlie gold interests to one of Alan Bond’s companies and raised $840 million through a rights issue in October 1987, consideration was given to buying a 10 per cent shareholding in ACOA. Their shares were low during a world economic downturn and the unsuccessful efforts to diversify out of aluminium into 'materials'.

I discussed this with Paul O’Neill while in Pittsburgh for a Board meeting, assuring him that we would only do so with Alcoa's agreement. Paul discussed it with the other directors in my absence and told me afterwards that the Board was not in favour. No reasons were given, but among these would have been the fear that WMC, a relatively small company, could be taken over and thus provide a stepping stone towards the acquisition of ACOA, which was of considerable concern at the time. The Board was actually devising a 'poison pill' provision to make a takeover more difficult.

An acquisition of shares in ACOA at that time would have been a great investment. By the late 1990s Paul O'Neill's reforms and judicious acquisitions had greatly improved the Company’s market value. However, it was unthinkable for us to proceed without the agreement of the ACOA Board.

Just before and following the break-up of the Soviet Union in 1991, one of the consequences of this major world event was a flood of metal supplies no longer required by the Soviet military to the western markets. Coinciding with another world economic downturn this had a very serious effect on metal prices, including the price of aluminium.

Paul O'Neill took the lead in 1993 in convincing the governments of the main aluminium producing countries, including Russia, to cut back production until demand had caught up with supply. A number of meetings of the governments of European countries, Russia, USA, Canada, Australia and Norway in 1993 resulted in the signing of a *Memorandum of Understanding* in Brussels in January 1994. World smelter production was reduced by one million tonnes per annum (approximately 5 per cent.) ACOA and Alcoa of Australia cutbacks accounted for more than a half of this. Most likely some other producers cheated.

Paul's initiative was vehemently opposed by some. Joseph E Stiglitz, at that time Chairman of the Council of Economic Advisers under President Clinton and later Chief Economist and Senior Vice President of the World Bank, has recorded that the decision for the US to sponsor the *'cartel'*, supported by State Department and the Secretary of Treasury, was made by a *'heated subcabinet meeting'* against the opposition of the Council of Economic Advisers and the Department of Justice, who *'were livid'*. Stiglitz himself thought it was *'perhaps the most grievous instance of US special interests interfering in trade'*. His argument was that Russia was not dumping, their production costs being less than the world price. He chose to disregard that the flooding of western markets with various metals did not happen in the ordinary course of trading but because of unprecedented political developments, and that 'cost' in Russia at that time was an artificial number. Paul O'Neill's purpose was not to interfere with normal trade competition but to overcome a highly abnormal situation for a limited time.

It is puzzling that an economist of the stature of Stiglitz - a later Nobel Prize winner - could not see the difference. To add to the paradox, Stiglitz was at the same time very critical of the Russian economy having been suddenly thrown completely open - the 'sharp shock' treatment. He was right in that judgement.

By the second half of 1995 LME aluminium stocks, which had been 2,600,000 tonnes in mid-1994, had fallen to 600,000 tonnes and the price had recovered. The *Understanding* was discontinued.

I reached the normal retirement age for ACOA directors (70 years) in 1996, but was asked by Paul O'Neill to stay on for a further two years. When I retired in May 1998, Hugh Morgan was appointed to the Board. In 18 years I attended 82 ACOA Board meetings. Doing so, I calculate, involved flying in excess of three million kilometres or about four times the distance to the moon and back.

Law of the Sea

The Club of Rome report *Limits to Growth* in 1972, followed by the oil price increases a short time later, initiated a belief that the world was going to be short of minerals and energy. The United Nations had been trying for some time to formulate world-wide rules for navigational rights under the label 'Law of the Sea'. It now expanded this activity to include rules for mining manganese nodules containing nickel, copper and cobalt known to occur on the ocean bed by an exclusive international body known as *'The Enterprise'*. One of the leaders in this, the Maltese Ambassador to the UN, Arvid Pardo, coined the phrase that the nodules were the 'common heritage of mankind'. As might be imagined, I had to spend considerable effort in denying that Arvid Pardo was in any way related to Arvi Parbo. WMC had in 1972 participated as an observer in a trial nodule dredging operation by Japanese interests somewhere near Hawaii and obtained samples for testing.

A number of us in the Australian minerals industry became concerned when it was proposed that the metals produced from the nodules were to have a guaranteed share of the world market. A meeting of industry representatives with Prime Minister Fraser in 1980, at which I somehow finished up the spokesman, resulted in industry observers attending the Law of the Sea negotiating sessions discussing the provisions for producing the nodules. J O (John) Reynolds of WMC was one of these. Many conferences were held; some government representatives spent much of their working lives drafting and negotiating the Law of the Sea. A Convention was signed by 117 countries in 1982. The US, Great Britain and Australia were among the abstainers because the provisions for seabed mining, characterised by one commentator as "a Byzantine regime almost unique in its perversity", were unacceptable. Even Arvid Pardo called the system "fatally flawed". After the provisions were amended, US and Australia signed the Convention in 1994. However, the US Senate did not ratify it because it did not think the amendments sufficient and the US is today (2007) not a party to it.

To my knowledge there has been no commercial production of the nodules, for the simple reason that there has been no shortage of minerals and it makes no sense to dredge nodules from five kilometres of water if similar material is available at a much lower cost on land. Further, the frightening complexity of committees and agencies which are to regulate seabed mining under the aegis of the International Seabed Authority, a United Nations body, may well discourage such operations even if they become financially attractive.

Travelling around the globe

In the early 1930s a flight from Sydney to London involved forty-two refuelling stops, up to five changes of aircraft, and a 950 mile train journey from Brindisi to Paris because Mussolini wouldn't allow flights across Italy. It was also hazardous; the head of Australia's Civil Aviation Department, Harold S C Brinsmead, travelling to London to negotiate a regular passenger and airmail service in 1931, was involved in a plane crash on takeoff in Indonesia. He boarded another flight which crashed while taking off in Bangkok. Five people were killed; Brinsmead suffered serious injuries and died two years later.

Later in the 1930s an air journey from Sydney to London took nine days, with stopovers every night.

Until the early 1950s going overseas was a major decision for Australians, equivalent to getting married or buying a house. Most people would contemplate it once in a lifetime, usually after retirement, and would travel by ship. A return air ticket between Australia and England cost as much as a three-bedroom suburban house in Sydney or Melbourne. Even after Lockheed Super Constellation aircraft were introduced in 1954, the cost was still equivalent to the price of a new car. The Super Constellations took ninety-four hours to reach London, with six refuelling stops. They could not fly above turbulence or bad weather but had to go through it.

The first commercial jet, the Comet, introduced in 1952, was grounded in 1954 after a number of fatal crashes which were later shown to be due to metal fatigue. By the late 1950s the successful Boeing 707 (and Douglas DC 8) jets had captured the market and made long distance air travel much faster and more comfortable. Starting in 1969 these aircraft were in turn replaced by the widebodied Boeing 747 "jumbo" jets and Douglas DC 10-s. The 747-s are still the main long distance aircraft in 2007.

Only one generation ago it would have been unbelievable that in 2005 adventurer Steve Fossett flew 37,007 kilometres nonstop around the globe in 67 hours. In 2006 he recorded the world's longest non-stop aircraft flight of 42,460 kilometres in 76 hours and the longest closed-circuit flight (returning to the same location) of 45,707.7 kilometres in just over 74 hours. We have come a long way since Jules Verne's breathtaking story about travelling around the world in 80 days! (The sad part of the story is that in 2007 Fossett disappeared without trace on a flight in a single engine aircraft in Nevada.)

Beginning in the 1970s I frequently travelled outside Australia, to United Kingdom, continental Europe, Japan, United States, Canada, India, South-East Asia and New Zealand. Most of it was on business but on several occasions there were private family visits. Travel to and from North

America was initially from Sydney to Nadi in Fiji, then Honolulu, and on to San Francisco. It was a big improvement when the Nadi stop was eliminated and one could fly direct from Sydney to Honolulu. Arrival in Honolulu on the way to US was about midnight local time and the stopover about an hour and a half. I spent many of these early morning hours marching up and down in the gate lounge, to get some exercise and start the blood circulating before continuing to San Francisco. Flights from Melbourne to London or Frankfurt initially stopped twice - in Singapore and in Bahrain or Dubai. From Perth there were, however, flights with only one stop in Bombay. Another way to travel to Europe was from Sydney via the polar route, stopping in Anchorage in Alaska and arriving in Copenhagen after flying over the North Pole; I did this on a number of occasions. Subsequently the standard from Melbourne became flights to Europe with only one stop in Singapore. Flying high, there was little to see on any of these flights, but one memorable spectacle travelling non-stop from Japan to Europe on a clear night was the gas flares in the extensive Siberian oilfields.

My travels became more intensive in the 1980s after I became a director of the Aluminum Company of America and, later, other companies in USA and Germany, as well as BHP. The scope of the travel widened to take in South America, Papua New Guinea, China, and, occasionally, southern Africa. Many of the trips were around the world because it was often possible to combine a number of commitments in various parts of the globe, thus reducing unproductive travel time. There were, however, times when there were no other appointments; I would leave Melbourne on Wednesday for a Board meeting in Pittsburgh or Chicago or Frankfurt and return on Sunday morning. If there were gaps between business commitments which were too short to return to Australia, I would use these to visit places I may not otherwise see, such as Iceland, Greenland, Bermuda, the Bahamas, Dominican Republic, Barbados, Trinidad, Portugal, Gibraltar, Turkey, Israel, Nepal, Venezuela, Argentina and so on. Saima was able to come with me on quite a few of both, the official and unofficial visits. We travelled on Qantas whenever possible, not because of parochialism but because it is an excellent airline. I got to know some of the Qantas crews on the long hauls across the Pacific or to Europe quite well and we would enquire after each other’s health.

When non-stop flights across the Pacific started in 1989 or 1990, they were initially only from Sydney. As there was usually a change of aircraft in Sydney which meant lugging my carry-on luggage across I preferred to travel from Melbourne to the US via Auckland in New Zealand, with the same aircraft continuing to Los Angeles. Direct non-stop flights from Melbourne to Los Angeles began later in the 1990's.

For many years Australian quarantine regulations required that all aircraft arriving from overseas had to be sprayed before the doors were opened,

presumably to kill strange bugs. This was always a source of amusement for overseas visitors who had not seen it done anywhere else. Initially the cabin crew used hand pumped spray guns and later pressure packs, always in a desultory fashion. In due course the regulations must have been amended because the spraying stopped.

Of the various places visited, Greenland was particularly interesting to me because one of the oldest rocks on earth, a gneiss (deformed granite) 3870 million years old outcrops near the capital Nuuk. (The oldest known rock in the world, gneiss 400 kilometres north of Yellowknife in the North-West Territories of Canada, is 3960 million years old.) I did not get a sample of this but did pick up a piece a mere 3000 million years old. It was also interesting because Greenland was named and the southern coast of it populated around the year 1000 when the climate was much warmer. The southern end of Greenland may have then actually looked green. The ruins of farmhouses abandoned when the climate cooled again some 400 years later can still be seen. Another memorable experience was flying over the ice cap from Kangerlussuaq (Sondre Stromfjord) on the west coast of Greenland to Kulusuk on the eastern side. I was glad to view this forbidding terrain from 10 kilometres above it !

In the US, a very interesting visit was to Titusville and Oil City north of Pittsburgh in Pennsylvania where Edwin L. Drake drilled the first commercial oil well in 1859. This vital material for our present way of life has been available for a relatively short time. Other memorable historical visits in United States included Williamsburg in Virginia and the Alamo in San Antonio, Texas.

In July 1978 I was able to combine business commitments with Saima and me attending my investiture as Knight Bachelor by the Queen in the Throne Room at Buckingham Palace. The attendant at Brooks Bros. sized me up instantaneously while I walked through the door and produced as if by magic the exact size morning suit and grey top hat by the time I arrived at the counter.

At Buckingham Palace
19th July 1978

There was evidence of 1000 years of practice at the ceremony and the subsequent garden party. At the ceremony some 30 or so recipients of various honours lined up and when called, presented themselves on a small stage. While the Knight Bachelor's badge was hung around my neck, the Queen asked whether I had come to London *'just for this'*. I said no, I also had other commitments. I then kneeled, with one knee

on a small stool covered in green velvet, and was touched on both shoulders by the Queen with a rapier like sword.

That evening Bill and Margaret Stewart (previously Margaret Morgan), who were in London, kindly gave Saima and me a dinner party.

It is now difficult to remember that for a long time there were no security gates or checks at the airports. Anyone could wander freely inside the airport, right up to the boarding gate. It was a very different world from today's where passengers have to pass into the boarding area through metal detectors, are subject to personal search, hand luggage is X-rayed, and even nail files in the hand luggage are confiscated.

Probably the first major air travel security alert occurred in May 1937 when the German dirigible *Hindenburg* left Frankfurt on its fatal journey to Lakehurst, New Jersey. There had been bomb threats and a fortune teller had written to the German ambassador, prophesising the imminent end of the airship. There were only a few passengers but the *Sicherheitspolizei* checked their luggage very carefully, inspecting even toothbrushes, taking razors apart, and leafing through writing paper. The fortune teller was right - the *Hindenburg* was destroyed by fire at Lakehurst. The official enquiry blamed static electricity but there is some doubt about this.

The world's first hijacked commercial airliner was a Cathay Pacific Catalina flying boat after take-off from Macao to Hong Kong in 1948. The pilot refused to hand over the controls and was shot. The aircraft crashed into the sea and only one of the 27 people on board survived – the leader of the hijackers.

Thereafter hijacks were rare, mostly by desperate people fleeing Communist countries, until 1968 when Palestinian militants forced an El Al flight from Rome to divert to Algiers and the passengers were held by Algerian authorities for 40 days until released after a boycott by international pilots. From then on there were many occurrences, culminating with the aircraft crashed into the World Trade Centre in New York and the Pentagon on 11 September 2001.

The need for strict security today is clear, but the measures sometimes make one wonder. I have been on numerous flights where, when food was served, the round-ended knives were plastic but the forks with four sharp prongs were metal. I have two metal hips, which always ring the bell at the security gate. This invariably results in a request to take my shoes off and send them through the scanner.

The most unusual security measure I can recall was on an Aeroflot flight from Frankfurt to Moscow where the luggage checked in was then laid out on the tarmac alongside the plane. Passengers had to identify their suitcase or bag as they boarded. Any not identified were left behind. In those days it was effective but today, with suicide bombers, it would no longer necessarily work.

The paperwork necessary to travel has been greatly reduced over the years. The vaccination certificates, which were an absolute must, have virtually disappeared. Many countries no longer require visas for Australian citizens. It is still necessary to fill in a landing and departure card, but a much briefer one than it used to be. Customs declarations are necessary only for some countries, but at virtually all airports there is a "green" exit for those who have nothing to declare. An unusual problem occurs with the paperwork in countries using ideographic writing such as Japan, Korea and China. The space left for names and addresses is much too short for western names, even for 'Parbo'. I have often wondered how the British with double-barrelled names cope with it.

The records show that between 1961 and 2006 I was overseas 194 times. While there is no accurate record of the air distances, my guess is that the total must exceed seven million kilometres, equivalent to about 175 times around the world, or nearly ten times to the moon and back. At a speed of 900 km/hr, this works out at about one full year (365 days of 24 hours) in the air.

After fax machines became commonplace in the 1980s, being absent from the office did not interfere with dealing with whatever work landed in the office or getting the office to deal with whatever came up in the travels. My assistant Barbara Giles and I would be in constant fax communication and we would even draft speeches over the fax. The time differential between Australia and the US and Europe helped: the fax I would send at the end of the day from, say, Pittsburgh, would be in Barbara's office when she arrived there in the morning, and vice versa. E-mail today makes it even easier.

One aircraft I did not get to travel on was the supersonic Anglo-French Concorde. Initially expected to revolutionise long distance travel - for example from Europe to Australia - it fell foul of national governments (such as India) who would not permit the sonic boom on breaking through the sound barrier to take place over their territory. Its use was therefore limited to the London-New York and Paris-New York runs, where the boom would occur over the Atlantic. Air France also ran a service to Rio de Janeiro. The Concorde became uneconomic and the final passenger flight, BA 001 from London to New York, took place on 24 October 2003.

I was never involved in an accident while travelling by air, although once a Garuda flight Saima and I took from Jakarta to Denpasar in Bali lost an engine and had to return to Jakarta airport. (Incidentally, when we got to Bali on another aircraft, to our surprise the famous Bali beach at the hotel where we stayed was not sand but coarse grit, quite painful to walk on in bare feet. Many of the world famous beaches, such as in Italy and southern France, would not rate highly in Australia.) The occasions when the aircraft was significantly delayed were rare. There were, of course, quite a few stories, of which just some examples.

On a first class Aeroflot flight from Moscow to Frankfurt I was asked by the hostess, who looked as if she would have made a good sergeant major, whether I wanted a "drrink". When I said yes, I would have a vodka, she returned with a full bottle which she placed in front of me, together with "zakuska" - pickled cucumbers and salt herring. I arrived in Frankfurt some hours later full of goodwill towards Aeroflot!

The most unusual flight I ever had was, together with Doug McIntyre, from Reading, Pennsylvania, to Washington National airport in a pre-World War II Lockheed Electra, the military version of which later became the Hudson. The airline was called Suburban Airlines. Before we took off the pilot asked me whether I would be good enough to hang on to the door handle because the latch was not working properly. We then proceeded to fly to Washington at about 1000 feet above the ground. The journey was otherwise uneventful!

On a visit to India with Keith Parry in 1976 we took a local flight from Delhi to Agra. Keith, who had trained as a pilot during World War II, thought our pilot must have been a stunt flyer and kept his eyes covered with his hands most of the way. Besides our nickel customers in India, we called on a number of government officials. This was during the "emergency" declared by the Prime Minister, Mrs. Gandhi, and we both admired the signs on the desks exhorting public servants to greater efforts.

Flying South African Airways from New York to Johannesburg the aircraft refuelled on a very small island off the West African coast called, from memory, Isla de Sol. Most of the island, which seemed to be about the size of an aircraft carrier, was taken up by the landing strip, refuelling facilities and the airport building. The reason I remember it is that, when the aircraft door opened, we were greeted by what seemed like hundreds of mangy looking grey-brown dogs. I never found out what they were doing there and why they were allowed on the tarmac.

On another visit to South Africa and Namibia I arrived at Windhoek airport to catch a flight to Frankfurt and found to my amazement that my round-the-world ticket did not include a ticket or booking from Windhoek to Frankfurt! Unbelievably, this had happened without anyone (including myself) noticing. Luckily the South African Airways flight was almost empty, so I purchased a ticket and all was well.

There was an unusual flight on British Airways from London to Gibraltar. Arriving over Gibraltar it was very windy and there was low cloud. After circling for an hour the captain decided to divert to Tangier in Morocco to refuel and wait for an improvement in the weather. After a further hour or so on the tarmac in Tangier we were diverted to Malaga in Spain and taken to Gibraltar by bus. On the way a passenger in the bus stood up. The driver stopped and refused to go on until he had sat down. It was very effective – the whole busload of people was yelling at this fellow to sit down! On arrival I

found out why the captain had been reluctant to land at Gibraltar: the ”airfield” consisted of a strip of bitumen starting on reclaimed land in the bay and crossing the busy main road between the border town of La Linea and Gibraltar! Landing there in low cloud was even more dicey than usual. Our bus driver refused to cross the strip to the airport building until he had a police escort.

We arrived at the end of the working day and there were no taxis at the airport – sensibly, they evidently chose not get involved in the terrific traffic jam caused by Spaniards working in Gibraltar leaving for home. I finally hitched a ride on a well dented bus taking a tourist group to their hotel – the driver just barged into the traffic, evidently calculating (correctly) that another dent did not matter. The tourists disembarked at a hotel on the eastern side of the Rock and I had a sightseeing tour around the southern end before arriving at the Rock Hotel on the western side.

The hotel bathroom did not have a shower and the bath had the highest sides I have ever seen – nearly a metre. There were no handholds and, suffering from a worn and very painful left hip, I had quite some difficulty climbing out of the bath, for a while having visions of perhaps having to sleep in the tub until the housemaids arrived in the morning!

Visiting Clausthal again I gave a lecture at what was now the University of Clausthal and was presented with a ceremonial axe, the mark of office of a *Berghauptmann*, professionally and socially the highest official in a mining town such as Clausthal-Zellerfeld had been. This presented the problem of how to take it with me on the flight to Australia because it was too big for a suitcase and I would be hardly allowed to walk on a plane with an axe in my hand. Finally one of my German friends hit upon the idea of a golf bag into which the axe fitted and I was able to check it in as luggage.

The shortest airline flight I ever had was in 1961 when Dallas and Fort Worth in Texas, just a few miles apart, each had their own airport. Either because of rivalry between the two towns or perhaps because they could not make up their minds which one to leave out, airlines used to land in both places. The flight time between them was literally a few minutes! It no longer happens, because Dallas and Fort Worth now have a combined airport. The second shortest air route I know is between Helsinki in Finland and Tallinn in Estonia. All of eighty kilometres long, it takes twenty minutes. Kuala Lumpur in Malaysia and Singapore are also very close - so close that the Boeing 747's do not retract the undercarriage on a flight between them, because after the takeoff the tyres would be too hot for landing unless cooled down by the draft.

After lugging a large suitcase with me in the early years, I realised that much of what was in the suitcase was rarely used. Thereafter I would take a suitbag and a cabin bag into the cabin, with nothing checked in except on rare occasions when for some reason there was a clear need to take more things. This had two very considerable advantages: the bags could not get lost, and at

the destination I could walk off the aircraft and out of the airport without having to wait for the luggage. It must have saved me many days over the years. Overnight laundry and dry cleaning service in many hotels today make it even easier to travel light. Saima mastered the same technique and we followed it when we travelled together. Some of the ladies, used to travelling with several large suitcases and perhaps a hatbox, could not believe it.

There is, of course, the need to use common sense: carrying heavy bags around has no merit, either. Once the extent of the luggage reaches the critical level, it is better to check it all in and travel really light. When I have done this, it is remarkable how often two bags checked in together arrive at the baggage reclaim ten minutes apart. One gets the impression that the airlines have a complicated computerised system to make sure the bags are separated. First class luggage is usually marked with a red label marked "Urgent" and there were occasions when even such a bag arrived last. Also, the few times when I have checked bags in, these have sometimes got lost.

In one memorable case, flying from Los Angeles to Phoenix, Arizona, in a very small America West aircraft which had no room in the cabin for any kind of bag, the cabin bag and suitbag checked in were recovered twenty-four hours later after they had been to Salt Lake City! On another occasion a bag checked in in New York, to accompany me to Melbourne via Frankfurt where I stopped over for a day, arrived some days later via Zurich.

There is the story about the traveller from New York to London who was checking in three bags and wanted one to go to Zurich, one to Rio de Janeiro, and one to Tokyo. The girl at the counter regretted that she could not do that. *"Why not"*, asked the traveller, *"you did it last time!"*

In fairness to the airlines, the percentage of occasions when luggage gets lost is probably very small. The stories about these occasions, however, tell much better than the dull report that all went well. (However, in 2005 mishandled luggage in USA was reported to have increased to an average of 6.04 per 1000 passengers, the worst airline reaching 17.41 per 1000 passengers. One of the reasons given was that every bag had to be handled manually for screening for explosives. It is not obvious why this should result in sending it to the wrong destination.)

Apart from luggage my technique for long distance flying, developed over the years, is as follows. On board I rarely drink alcohol or even gassy soft drinks, only a lot of plain water. Because the cabin pressure in flight is considerably lower than at ground level, alcohol has a greater than usual effect. I eat little and light, and sleep as much as possible. After much practice I now find that I can go to sleep as soon as I put the airline sleeping mask on - autosuggestion, I suppose! (I also use the mask in hotels and at home). When people complain about jetlag, in my experience much of it is due to overindulging on board in food and alcohol.

On a trip with several stops and/or connecting flights I never think about the whole trip but only about the current leg. In this way a 24 hours elapsed trip time does not seem all that bad. It is useful to assume that there will be some delay and have a good thick book handy. It is then a pleasant surprise if there are no delays. I do not usually break the trip but, once on an aircraft, prefer to go straight through. Getting in and out of airports and hotels is not much fun.

While air travel naturally was the main means of moving long distances, I also had three long sea voyages – on the migrant ship to Australia from Naples to Melbourne, on the QE II from New York to Southampton and, together with Saima, filling in time on a Caribbean cruise from Miami, calling in on Yucatan peninsula, Grand Cayman island and Jamaica. The voyage on QE II was memorable because on arrival at Southampton in the evening we had to stay on board until next morning because the baggage handlers had imposed an overtime ban. Australia had frequent industrial stoppages at the time and I wondered whether the unions wanted me to feel at home?

Saima and I both like travelling by rail and within Germany I used this mode of travel whenever I could instead of flying or driving at what always seemed to me an excessive speed on the autobahns. In Japan we had many trips on the 200 km/hr "bullet train" from Tokyo to Kyoto and Osaka. We also made three longer rail journeys together – across the Rocky Mountains from Vancouver to Winnipeg in Canada, from Tokyo to Sapporo on the island of Hokkaido, and on the Orient Express from London to Venice. The first two were resounding successes and the third a miserable experience.

The first leg from Victoria Station to Folkestone was promising. The British service was superb and the carriages of period vintage. From Folkestone we transferred by hydrofoil to Boulogne where we boarded the real Orient Express. Our compartment was comfortable, although a little cramped. Some, but not all the guests in the dining car wore dinner suits and some even white tie as Agatha Christie readers would have expected. (The charges, including the fare, were all white tie class). We traversed France during the night and woke in Zurich to cross the Alps in daytime. Then trouble struck – a railway strike at Bologna in Italy, finally arriving in Venice in pouring rain at midnight, six hours late! Our programme had been to catch a flight to Rome that evening but this was now not possible.

The Express people booked us into a hotel just on the other side of a canal from the railway station. After some difficulty in getting across the canal at this late hour – a water taxi demanded US$100 for a trip of a couple of hundred metres which I refused to pay - we arrived in the hotel lugging our bags and sopping wet, getting to bed by 2 a.m. and having to get up again at 5 a.m. to go to the Marco Polo airport. Arriving there we were told by a disinterested girl at the check-in counter that the flight to Rome we needed to make a connection to Athens was booked out. Going to another

counter where the attendant seemed to be more awake, we were booked in with no trouble. When we got on board there were plenty of vacant seats.

Leaving Athens for Istanbul a few days later I discovered that our tickets for the Athens-Istanbul sector were missing, although those for the Venice-Rome sector were still there. Figured that if they were so dumb as to take the wrong coupons on one occasion they might do so again, and said nothing at the desk. It worked – no-one noticed it!

The most unusual hotel I ever stayed in was the Trinidad Hilton in Port of Spain, which is built on the side of a hill. After checking in on the ground floor on top of the hill and pressing the button in the lift to go to your room on, say, the 4th floor, the lift goes downwards!

In Buenos Aires on one occasion a Mexican pop singer was staying in the same hotel and there was a permanent mob of mainly young girls in front of it for a day and two nights, holding placards and screaming, hoping to get a glimpse of him. The windows of my room, fortunately on the 7th floor, overlooked this. My appearance at the window did not seem to satisfy them.

Another hotel experience for Saima and me was one night on one of the upper floors of the Ritz Carlton Hotel in Chicago during a violent storm. To the accompaniment of an eerie creaking noise, the wind gusts blowing from Lake Michigan were strong enough to make the top of the tall building move perceptibly. We were glad when morning came.

Something similar had happened to us at the Imperial Hotel in Tokyo during a mild earthquake. The sliding doors of the cupboards in our room started to open and close of their own volition. If this had not alerted us, the excited noises made by the female cleaning staff rushing down the corridor would have done so. The quake, however, was over in a minute or so.

A number of the companies I was involved with (BHP, Alcoa in US, Sara Lee) had executive jets of the then most advanced Grumman Gulfstream type and I had a number of long distance flights in them – between Australia and US, Australia and Chile, Australia and Papua New Guinea, US and Brazil, US to Virgin Islands, and on one occasion from US to Estonia (see *Overseas Commitments)*, as well as within Australia and USA. They were very comfortable, particularly at night if there were only a few on board and the seats could be folded down to make beds. With the full complement of passengers and sitting up, I would rather travel on the 747.

The main advantage of a private jet is that one does not have to stand in queues at airports. The customs and immigration people come out to the plane and process the passengers in literally minutes. Also, you can take off whenever you are ready (subject at large airports to having a slot available), and the plane won't leave without you! On the other hand, their range means refuelling stops every so often.

The time I really appreciated a private jet was when I left Finland after having been in hospital there with a broken leg over Christmas/New Year

1981-82. Alcoa was kind enough to send the company Grumman (actually it was a US Steel jet swapped for the Alcoa Grumman) to pick me and Saima up in Helsinki and take us to Pittsburgh where, the Alcoa people insisted, I should be checked over by American doctors. (See *Visits to Estonia*).

A bed had been made up for me in the back of the jet and I travelled in great comfort. We landed to refuel in Keflavik in Iceland and Goose Bay in Labrador in Canada. I particularly remember the icy cold coming in through the open door while we were refuelling in Goose Bay.

When we left Pittsburgh for home we were taken by an Alcoa Lear jet via Denver to San Francisco where I was transferred in a wheelchair to a Qantas flight. In a wheelchair one gets really preferential treatment at airports and I was somewhat sorry when I was eventually able to stand on my feet again!

WMC never owned an aircraft but chartered when appropriate. Much of our travel in the outback, including transport of personnel to exploration projects, was by chartered light aircraft which saved a great deal of time. I travelled on many, from single engine Cessnas to Lear jets.

When flying in the outback, the pilot files a flight plan and reports progress to the flight controllers by radio at prescribed intervals. If a pilot fails to make a scheduled report there is a standard procedure which, after a certain period, initiates a search.

Flying on one occasion in a chartered Cessna from the north-west of Western Australia to Kalgoorlie, the radio failed. We could hear the controllers and were aware that a search was about to be mounted, but could not speak to them. The pilot decided to land at Meekatharra to report that he was all right, but on arrival found the terminal shed empty and no phone available. On looking at his radio he found that the problem was a loose wire, and decided to solder this back on.

He had an electric soldering iron and there was a power point in the terminal, but no extension lead to reach the plane parked outside. The solution was for him to heat the iron and sprint the 100 feet to the radio while I held the plane door open and the broken wire in the right place. After three or four repetitions of this the radio was again operative and the problem solved.

Many light aircraft do not have toilet facilities and seasoned travellers make sure they do not drink too much liquid before embarking. This does not always work when being fondly farewelled by one's good friends before departure from a bush camp, and the emergency procedure for male passengers is to use an empty beer can. On one occasion, flying from Kalgoorlie to Perth, there were no cans available and the need of some on board was such that the aircraft had to make a "comfort landing" at Cunderdin!

Writing this in 2006, there are new developments in air travel on the way. The Airbus A 380, to be introduced into commercial service over the next few years, is to carry 840 passengers in one class or 555 in three classes, up to

half as much again than the Boeing 747-400. In response, Boeing is to offer an upgraded and stretched 'jumbo', the 747-8 Intercontinental. Boeing is also developing a mid-size aircraft, the 787 Dreamliner.

On the drawing boards in California is the HyperSoar, an aircraft travelling at Mach 10 (three kilometres per second) at a height of sixty-four kilometres, able to travel from New York or London to Sydney in just under two hours. Someone reading this in the future may well have just made such a flight.

Birth of the Business Council

In the early 1980s I became involved in the formation of the Business Council of Australia. The origins of the Council go back to 1919 when the Australian Industries Protection League was launched in Victoria as a product of the times by our first Labor Prime Minister John Watson, then in retirement. The name was changed to the Australian Industries Development Association (AIDA) in the 1950s. By the late 1970s, AIDA had become an organisation of senior managers in the manufacturing industry. It was leading a change in the way business organisations were working in Australia.

Large companies were concerned about the existing industry association structure, lack of business influence in government policy and industrial relations, and inadequacies in business advocacy. None of the large corporations were involved at a senior level. In February 1972 I had been invited to attend a meeting with Managing Directors of BHP, Mt. Isa Mines, CSR, and ICI to discuss the formation of an organisation representative of all industry, including the large companies. All attending agreed with the need for unifying and upgrading the effort, but the only outcome of the meeting was a threat that if the two major national employer organisations didn't accelerate their merger to form the Confederation of Australian Industry (CAI) in which large companies were to have direct representation, these companies may form their own organisation.

George Polites, the leader of one of the associations, was sceptical: "*It won't work; no-one can corral these stallions at the head of big companies*". George had seen many times disunited employers - not the least large companies - constantly buckle under a whiff of grapeshot from unions and allow themselves to be divided and ruled by successive governments. He described his job (hopefully with tongue in cheek) as *"losing as slowly as possible"*.

In the course of the formation of CAI over the next three years the plans to give the fifty largest companies direct membership were shelved and the CAI became an association of associations.

The perceived need for broader large company collaboration continued. The Committee for Economic Development of Australia (CEDA) was the catalyst for the development in 1979 of a network of Chief Executives from all sectors. On the model of the U.S. Business Roundtable, an Australian Roundtable was formed under the chairmanship of Gordon Jackson of CSR. It attempted to 'corral the stallions', including manufacturers, and sought to form longer term views about major policy issues based on objective research, with business leaders standing up to be counted. It was through the Roundtable that I became involved.

The Roundtable lacked sustained research support and was not able to go public with well considered policies. In 1980 a tentative approach was made to Gordon Jackson by the then AIDA President, John Hooke, to explore collaboration or merger because of overlapping membership and effort and the perceived value of pooling resources for research and policy support. Discussions became more serious through 1982 when Milton Bridgland was President of AIDA and Jim Kirk had become the President of the Roundtable.

By the time of the election of the Hawke Government in March 1983 there was a commitment to merge. The business experience at the April 1983 National Economic Summit convened by the new Government was to be the catalyst for its rapid implementation. In a number of ways the Summit and its associated Prices and Incomes Accord underlined the need for a Business Council. While some of the major corporate leaders were heading industry organisations - as in banking, mining, and the automotive industry - they were by and large absent from the major employer associations. To get the most substantial names in business to attend the Summit, the Prime Minister had to look beyond associations to find 18 independent business leaders. While almost all of this so-called Gang of 18 (of which I was one) were members of AIDA or the Roundtable, we proved to be the epitome of the uncorrallable stallions.

Many of the leaders of some of Australia's largest companies scarcely knew each other and certainly had not worked together for any purpose. We had no shared perception of what we wanted from the Summit or from the long-run policy environment. Our lack of systematic involvement in political processes left us vulnerable to the political experience and clever tactics of others. Most of us were also a rather reticent lot - very coy in public - so that for many citizens the televised proceedings of the Summit were the first opportunity the public had to put faces to many of the names in industry and commerce.

During the Summit, Bob Hawke invited me to join his table at lunch in the garden of Parliament House and asked me what he should do about

involving business leaders, as distinct from associations, in the formal consultative structures he was considering. I told him of the plans to merge AIDA and the Roundtable. He said that in the light of these he would involve us fully in future consultative mechanisms. This has led some to believe that the Council was in some way initiated by Bob Hawke. In fact the plans were well advanced by then but the experiences at the Summit certainly speeded up the formation of the Business Council.

Within three months the terms of a merger had been agreed and a Constitution developed. There were arguments about whether there should be an inner Executive with a policy role and whether or not we should get involved in the policy bargaining and trade-off deal-making the government sought. There were also some early tensions, which I believe we resolved well at the time, about how to reconcile the interests of individual member companies with policy stances taken by the Council.

A planning committee of six members, of which I became the reluctant Chairman, put together the framework for the new organisation. The Committee quickly agreed on a planning document called 'Objectives and Modus Operandi'. The following basis was laid for the organisation:

- it would attempt to be objective, stressing the importance of economic development while seeking a policy environment that served all Australians rather than narrow interests;

- it would be proactive, seeking to place issues on the agenda and shape them rather than simply reacting to the initiatives of others;

- it would be research based and rigorous in argument;

- it would be company - not secretariat - driven, involving the staff of member companies in supportive work, drawing on and explaining to others the direct market based experience of our members; and

- it would seek to bring Australian companies into a new mode of working together, as well as involving company leaders more actively in public debates.

Chief Executives would have to participate in Council meetings personally; alternatives or representatives were not acceptable.

The Business Council of Australia was launched at Sydney's Regent Hotel in September 1983. The Soviet Ambassador reached Sydney to attend but turned back to Canberra, it was the day a South Korean jumbo jet was shot down in Soviet airspace. Prime Minister Hawke and Opposition Leader Peacock both spoke and were strongly supportive.

Despite many attempts to explain our pluralist philosophy, both the Government and the ACTU - probably with the mindset of their industrial relations backgrounds – expected the Council to be the third leg of the corporatist consensus trifecta. This was never our intention; the Council represented the largest companies in the country and not all the employers, but our refusal to presume to deliver deals on behalf of business was a surprise to the Prime Minister and probably interpreted as a sign of inadequacy. By late 1989 Bob Hawke told the *Financial Review* that one of the great disappointments of his years in office was his failure to get business to deal with him through one unified voice.

I had become the Council's first President because I was outfumbled by the other more astute candidates; Geoff Allen was the first Executive Director. I made many mistakes. At one of the early full Council meetings with the Government I invited Prime Minister Hawke and Treasurer Keating to say something to us before opening the discussion. After they had spoken for an hour and a half there was scarcely time left to thank them. The press reported full and frank discussions.

An early excursion into high policy was in relation to the 1984-85 Budget. The Economics Committee had done an excellent job analysing the budget numbers and convinced the Council that I should lead advocacy for a $5 billion deficit rather than the more comfortable $7 billion plus the Government was selling as the best possible. Nicknamed the "five billion dollar man" I took plenty of heat from the Government. Treasurer Paul Keating called this advocacy politically motivated, "so meaningless as to be a joke", and "out of the question". Then, leaving aside tax cuts which we had not supported, he pulled something very close to this as the first of a series of rabbits from his magic budget hat. This early rubbishing of our budget advocacy and then ultimately delivering something close to what we had called for became the pattern for the next few years.

It was over this budget advocacy that our brave nominees Alan Coates and Bryan Kelman in the Economic Planning Advisory Council, EPAC, set up as an outcome of the 1983 Economic Summit, felt the political intensity of the business-government relationship. My recollection is that in an attempt to separate them publicly from the Council's position, they came close to being what in police circles is called "verballed", in what was to be the first and, because of this, the last official EPAC meeting communiqué.

One of the advantages I had in the early testing days was a bad left ear. One eminent Council member tried three times to put a controversial issue to vote..... or so I am told; I didn't hear him.

I retired from the Presidency at the end of 1984 but remained a member until 1988. When I became Chairman of BHP it was no longer appropriate for me to represent WMC on the Council and Hugh Morgan took my place. As

the guest speaker at the 10th Anniversary dinner in 1993 I reminisced about some of the events during the first decade:

"Bob White was the next President. While I was also there to make up the numbers it was left to Bob, together with Eric Mayer, to represent the Council at the Tax Summit in 1985. He was vilified by Government leaders for not buying the Government's tax package lock, stock, and barrel and putting forward our own proposal. The Council was made the scapegoat by the Government when the industrial and political wings of Labor had their first falling out in the Hawke period and the package was rejected. This was one of a number of occasions when Labor politicians promoted the idea that opposition by business to their policies was motivated not by differences on the issues, but by party politics or ideology.

Bob's most vivid memory from his Presidency must be when he had to tell Prime Minister Hawke that the Business Council was not about to publicly praise Accord Mark II between the Government and the Unions. This led to twenty minutes of language on the telephone which Bob hadn't heard since he was a teller's apprentice. What is not more generally known is that the full Council was commanded to assemble before the Prime Minister in Canberra. This would have been great sport but served nobody's interest; it took three days of assiduous staff work between the Secretariat and PM's office to defuse that situation.

The Labor Government's expectations had become more realistic by the time Rod Carnegie became President. It was a fruitful period during which the Council worked together in new ways. Rod undertook the Herculean task, with the Executive Director, of visiting every Council member to discuss one-on-one the workings of the Council and the critical issues of the day.

The two dominant themes to emerge were the growing national debt in the context of our competitive performance and concern about employee relations and the industrial relations system. This helped to give focus to the Council's work at a time when the Treasurer had declared that the pain of adjustment was at an end and that they were "bringing home the bacon".

Under Rod's leadership the Council set about to change the "industrial realities" we were told could not be changed. This was initiated by members putting their hands in their pockets in a big way and forming the Employee Relations Study Commission. While others now claim ownership of the shift towards today's enterprise focus, in the view of many the work of the Commission changed the course of Australia's industrial history. It may be the most significant single contribution the Council has made. The significance of it can be seen in retrospect by the fact that, as Prime Minister Bob Hawke was briefed on the outcome of the work of the Study Commission,

he told Council members they would get enterprise agreements over his dead body. In the light of subsequent events I suppose he was half right.

Bruce Watson and Eric Mayer deserve special mentions for the 1988 Annual General Meeting. Bruce, deputising for Rod who had just had an accident, told the Prime Minister and the assembled multitude of the slowness and inadequacy of the reform agenda. Following this Bob Hawke interrupted his eulogy of the Government's performance to severely scold the Council in general, and Bruce in particular, for ingratitude. Thanking the Prime Minister, Eric admitted we felt like naughty children being spanked, but with supreme skills of diplomacy firmly told the Prime Minister that Bruce was right after all.

Under Dean Wills' Presidency the Council's work on microeconomic reform was launched. While such reform was part of the Government's rhetoric and some economically orientated Ministers were delighted with the Council setting some tough objectives, this was not universally appreciated by either political or industrial leaders. Again the Council's nominees on EPAC - this time Will Bailey and Eric Mayer – took a pasting. The Council had sent them to the meeting with a strong paper on inadequacy of reform on the waterfront and coastal shipping. This was just one of the occasions when the Union and Government reaction was high on the Richter Scale, but it was also a demonstration that the Council was being taken seriously.

Under Dean's leadership the Council issued its first Industrial Relations Study Commission Report and initiated a series of major Business Summits. One of Dean's most vivid memories is probably the visit of Treasurer Keating to a meeting at the Hilton Hotel in Sydney. I was not there but am told he said in his initial remarks that ACTU Secretary Bill Kelty alone was worth the whole Council put together and then, after being thanked, invited himself to make a second speech in which he said if the Council supported Andrew Peacock on Capital Gains Tax, the Government wouldn't deal with it again. At the Treasurer's next meeting with the Council he told members they were the most important people in the country which led one of the well known members to remark loudly to the Council, "He must think we have effen amnesia!".

Brian Loton was the next President. While by this time I was merely an interested alumnus, I understand Brian had to manage the stallions through some tortuous debates on such issues as the legal right to strike. He also had to manage attempts by Ministers to use the Council in the Government's internal conflicts over telecommunications reform. It was arising from his disappointment with the Council that Treasurer Keating, who had earlier told the National Press Gallery that Australia had not had a prime ministerial statesman since Curtin, now informed us that we had not had a decent business leader since Keith Campbell. Brian's period saw continuing work on

microeconomic reform and the launching of the Innovation Study Commission.

John Ralph, who had been a member of the Interim Committee planning the establishment of the Council, presided over the tenth anniversary of the Council. John was a member of the AIDA council from the 1970s and was important in influencing that organisation's leadership into a more sophisticated approach to business-government relations and public policy."

I concluded:

"Over the ten years of the Council's life, leaders of Australia's largest companies have come together in a way previously unknown in Australia. They have entered directly into the marketplace of ideas and involvement in policy making. The significance of what has been achieved cannot be seen as clearly in the perspective of 1993 as by comparison with those days and years before 1983 when we were largely absent from public life."

I also pointed out, however, that one of the important original objectives - explaining the vital contribution of business and industry to Australians generally and winning their support – had not been achieved. This remains true today, nearly fifteen later again.

There have been major changes in the corporate and community mindset in these years. Globalisation, the emphasis on profitability as the main measure of success and the widely publicised greatly increased rewards to business leaders have made it much more difficult for the people in the street to identify their interests with those of business. The leaders have again become reticent expressing in public views on matters other than those directly related to their companies. After Paul Anderson retired as Chief Executive Officer of BHP Billiton in 2002 he was reported to have said that today's Chief Executives were "frightened people". Paul should know. Quite apart from that, the average tenure of CEO's today is much shorter than in the 1980s, their remuneration is heavily related to profitability during their tenure and they must be less concerned with longer term issues than people who expected to remain in office indefinitely while their performance was satisfactory.

For some years the Business Council appeared to have become another lobby group working increasingly behind the scenes, although better supported by solid research than many others. Subsequently, with Hugh Morgan as President, it appeared to have been rejuvenated and Hugh again made public comments, no doubt made easier by he having retired from business. His successor, Michael Chaney, while still involved in business as Chairman of the National Bank of Australia, was also again outspoken in his Business Council role.

Changes in Australia

Since 1960 there have been profound changes in Australia. Some of these have been related to what has happened elsewhere in the world but others are peculiarly Australian.

Pre-1960 Australia was perennially constrained by balance of payments problems. The economy was inward-looking and highly regulated; productivity was a little understood concept. Many industries were supported by high tariffs. Investment overseas by Australians and even the amount of foreign currency available to travellers were strictly limited by currency controls. Wage (and salary) determination was a legal process and movements were largely limited to regular cost-of-living adjustments. The trade unions, aided by years of overfull employment, were in complete control of the industrial relations scene. The membership of unions peaked at 61 per cent of the workforce in 1962. The then President of ACTU, Bob Hawke, was quoted as saying that if unemployment ever exceeded 2 per cent, there would be blood in the streets. At the end of the Whitlam Government in 1975 it had risen to 5 per cent and reached a peak of 10.7 per cent during the Keating Labor Government in 1993-94. In 2006, with shortages of skilled labour, unemployment was down 4.8 per cent, probably the minimum in a modern economy.

Major new minerals discoveries in Australia in the 1960s and early 1970s coincided with post-war reconstruction in Europe, industrialisation of Japan, and strong economic growth elsewhere. In particular, the demand for raw materials by the rapidly growing Japanese industry enabled the large new discoveries to be quickly brought into production. There was the minimum of red, green or black tape and within a few years major new industries were established. With the exception of oil, the output of these was almost entirely for export. These developments attracted a substantial flow of overseas investment, created large additional export income (or replaced imports) and removed the balance of payments constraints. The resulting quantum leap in prosperity, however, created its own problems.

The Australian dollar appreciated to reach an all time high of A$1.49 to US$ 1.00 in 1974. (I remember annoying my American friends by asking whether they were talking about American dollars or real money). This seriously affected the competitiveness of exports. Memories were short; public opinion support for the minerals industry which had underpinned the economy for more than a century and had largely brought about the new prosperity turned into antagonism (see Change *in Public Attitudes* above).

Prime Minister Whitlam

"…assumed that economic growth was given…..that continuous prosperity was Australia's destiny and that politics was about the distribution of

wealth, not its creation" (Paul Kelly, *The End of Certainty,* Allen & Unwin, 1992),

a view that could be held only by someone completely unfamiliar with how wealth is generated. His policies, assisted by the more than quadrupling of the oil price and a massive wages explosion in 1974, soon overcame the problem of too strong an economy and currency and brought back the familiar concerns about the current account.

At the same time, the Whitlam Government was the first in Australia to flirt with what later became known as economic rationalism by reducing tariff protection to industry overnight by 25 per cent, although this was done for ideological rather than economic reasons. Treasurer Hayden's 1975 budget is said to have suggested the influence of free market economist Milton Friedman's ideas. The trade unions, however, remained firmly in charge. There was a further massive wages blowout under Prime Minister Fraser in 1981 and 1982 and the economy faced a serious crisis. Western Mining was, of course, suffering from this and, to bring the reality home to all as well as to give a lead to business generally, in August 1982 I announced that salaries of WMC executive directors and staff would be frozen until reviewed on 30 June 1983. The staff accepted it well and there was a very positive reaction in the media. A number of large companies followed suit, but most did not.

The newly elected Prime Minister Hawke and Treasurer Keating from 1983 onwards recognised that something had to be done and, I suspect most importantly, that their tenure in office depended on the prosperity of the economy. They set about making changes which, had they been in opposition, they would have almost certainly tried to frustrate. The Coalition in opposition, while naturally critical of many aspects of it, went along with the changes.

An Accord between the now Government and the unions to control the wages pressures had been agreed just before the election and was implemented on assuming office. The National Economic Summit immediately after that was to condition the community to change. Deregulation and free market economics were introduced. It was a major change in Australian traditions and the Australian way of life. This partly followed a similar trend in overseas countries governed by parties of similar political persuasion, such as in New Zealand, France, Italy, Spain and Sweden. The floating of the Australian dollar fully in December 1983 was strongly supported by the Business Council. Interest rate ceilings were removed and entry of foreign banks to Australia approved. Tariff protection was further reduced and the Government committed itself to restraint of union claims, cutting costs of public services, budget surpluses, and understanding the need for higher profitability. In the process the supporters

of the Labor Party changed from the traditional working class to what Paul Kelly in *The End of Certainty* calls the *'new class'* –

"teachers, social workers, university lecturers, journalists, reformist lawyers, environmentalists, civil servants and union officials – products of liberal education, affluence and the women's movement. It was skilled at promotion of its own interests in the name of the common interest".

This in turn gave great encouragement to the emergence of numerous activist groups, again following the trend overseas.

After the 1983 National Economic Summit, in July 1985 the Prime Minister, Bob Hawke, convened in Canberra a National Taxation Summit to discuss taxation reform. The Business Council of Australia was invited and was represented by the President, Bob White, Eric Mayer, and myself as Immediate Past President.

The Government had presented three options – A,B, and C – and expected those present to select one of these. An important part of the Government's proposals was the introduction of a Goods and Services Tax. The Business Council decided it could not support any of the options because a number of important issues had not been dealt with, and put forward its own proposal – "Option D". Other sectors, including the ACTU, also had objections, including to the Goods and Services Tax.

I spoke for ten minutes on the second day, immediately after the Treasurer, Paul Keating. My comments included the observations that, nationally, there were two overwhelmingly important tasks - to create more real jobs and to stop the runaway escalation in overseas debt. Australia's overseas debt had grown from $3,500 million in 1970/71 to about $65,000 million and would continue to grow at a rate of more than $10,000 million a year until we earned sufficient additional export income to at least make ends meet. I pointed out that the Prime Minister had said that we were truly living beyond our means..

I suggested that the White Paper before the Summit seemed to have been written by people overwhelmingly concerned with how to collect tax. Nowhere was there a concern or argument about whether the proposals helped create more jobs and stem the overseas debt explosion.

My comments created quite a stir. The Treasurer whispered to an aide as I was speaking and sent him scurrying off somewhere, presumably to get Treasury officials to devise an antidote. He subsequently claimed that the private sector accounted for a significant amount of the borrowings and that "he assumed that the decision to borrow by the private sector was based on good commercial judgement and an expectation that the interest payments could be made". The media reported my comments widely and I was interviewed on radio and television.

There was a lot of lobbying behind the scenes; Bob White. Eric Mayer and I were invited to the Prime Minister's office with Paul Keating present and spoken to at length, but unsuccessfully. No doubt others went through the same process. There were urgent meetings of the business representatives who were worried that they may be said to have agreed to something they had not. On one occasion such a private consultation did not realise the Summit had re-convened; I was the only representative on the otherwise empty business benches. It appeared as if the Summit was being boycotted, but word was quickly passed and the other business people joined the meeting.

In the face of the opposition, the government withdrew its proposals and said it would reconsider and amend its plans. The Summit therefore did not come to a conclusion. There was a concerted attempt to blame the Business Council for this, although others had been as critical of the proposals as we. Interviewed extensively on radio and TV, I was able to point out that no-one agreed with the Government's options and make the point that, in any case, it was not a negotiation – the Government was in charge and had to make a decision. The purpose of the summit was to hear everyone's views.

A major event in 1985 was that sixteen foreign banks were given retail banking licences, previously restricted to Australian banks. The first to get into business was Chase AMP (jointly owned by Chase Manhattan Bank and the AMP Society) and Paul Keating opened their Sydney office in September. (Incidentally, I was appointed a non-executive director representing Chase Manhattan).

The economy continued to deteriorate. In May 1986 Treasurer Keating made his famous statement that Australia was in danger of becoming a banana republic:

"We must let Australians know truthfully, honestly, earnestly, just what sort of international hole Australia is in……if this government cannot get the adjustment, get manufacturing going again and keep moderate wage outcomes and a sensible economic policy then Australia is basically done for. We will just end up being a third rate economy....a banana republic".

I sent him a telex congratulating him on speaking the unvarnished truth and offering any help I could give. There was no response.

This was followed in June by solemn television addresses to the nation by the Prime Minister and the Leader of the Opposition. The Federal Government applied fiscal restraint; its expenditure actually decreased over the next several years. Modifications to the Accord were used to restrain wages. The situation was relieved by a short commodity boom which commenced a year later, until the break-up of the Soviet Union flooded the western markets with metals.

The industrial relations scene was still disruptive. At Kambalda in the mid-1980s there was a campaign of pinpricking disputes and stoppages, followed by a six-week strike, ostensibly about redundancy benefits but really just a flexing of muscle by a union organiser, Bruce Wilson, who had a great capacity for creating discontent.

To be fair, he was also a pain in the neck to many of the officials and members of his own union and eventually disappeared from the WA scene. He turned out to be a con-man: in 2007 it was reported in the Melbourne *Herald Sun* that he had become the Australian Workers' Union (AWU) Secretary in Victoria and defrauded the Union by blackmailing employers to pay bribes for industrial peace into phoney AWU accounts belonging to him. The missing money added up to $1.25 million.

A big change in the union-management balance in the minerals industry was led by Charles Copeman in the second half of 1986 at the Robe River iron ore mine in the Pilbara. The unions had over time introduced at Robe River two hundred restrictive work practices, many nonsensical, which were playing havoc with the Company's profitability. Copeman dismissed most of the senior management who had allowed this to happen and insisted that the unions work in accordance with agreements and awards. After a strenuous battle in the Industrial Relations Commission, the media, and on the site, the men went back to work. This was a very significant event for which Charles has not been given adequate credit. On a national scale there was in 1989 the protracted and very disruptive airline pilots' strike which caused ex-ACTU-President Prime Minister Hawke, openly on the side of the employers, to sanction strike breaking measures such as the use of Air Force aircraft and non-union pilots from overseas. I had several (not very comfortable) flights in Air Force Hercules rigged with temporary seating.

There were further tariff reductions, and corporatisation and privatisation of government-owned enterprises began.

In May 1989 I gave an address to the Melbourne Branch of the Liberal Party in Victoria which summarised the situation as I saw it at that time. Published by the Gold Producers' Association as a two page advertisement in *The Australian* and as a pamphlet sent to all Federal parliamentarians, it drew favourable comment.

"To clarify my position, I am not involved in party political activities. My friends who are involved delight in telling me that I do not understand politics, and this is no doubt true because what is said to be good politics quite often makes no sense to me at all.

In politics pursued on party lines the participants are at times obligated to support attitudes and policies regardless of whether or not they agree; there is pressure to pursue positions or to adopt tactics to gain an advantage over the opposing party, even if these are not in our long term

interest. This is what one of my friends calls the democratic disease. I want to be free to deal with issues on their merits, regardless of whether it suits the purposes of one political party or another. I also keep remembering what Bismarck said: "If one wants to retain one's respect for politics or sausages, one should not know too much about how either is made".

While not party political, I am a strong supporter of the democratic private enterprise system, not because of ideology, but arising out of the personal experience of having also lived under two other very different systems of government. The attempts in recent years for the state-owned economies in the Soviet Union, China, and elsewhere to move towards private enterprise are no more than belated recognition that it is the only system compatible with human nature and capable of delivering a high standard of living in an environment of freedom of body and spirit.

While a strong supporter of our system, I am also very much aware that amongst the many freedoms it generates are the freedom to make mistakes and the freedom to pursue nonsense causes. Some of the nonsense issues are such that they detract from and even endanger the system.

It is about some such issues that I would like to speak today. The views expressed are not particularly tailored to this audience; I would say exactly the same to a gathering of the Socialist Left or to the Supreme Soviet. To keep the record straight, I have so far not been invited to address either the Socialist Left or the Supreme Soviet.

What appears important to different people seems to relate to what they do. Politicians talk about "political reality" as superseding everything else; if you are not elected, other things do not seem to matter much. People in the industrial relations area regard what they call "industrial reality" as governing everything, which usually means awarding with great unction the lion's share to the lion. You might therefore say that when I am holding up "economic reality" as the key concern, I am simply reflecting my own background. This is probably true to some extent, but I submit to you that, in the end, economic reality is what governs all our lives, including those of politicians, union leaders, industrialists, and everyone else - even social workers. We can ignore this reality for a time - at a cost - but we cannot avoid it for any length of time. The cost of ignoring it in the short term will eventually have to be paid. Regrettably, it is never paid by those in power who make economically bad decisions but by the citizens: by you and me.

The quality of life in its many facets - material, social, cultural, intellectual, psychological, religious, family, and so on - depends on a strong economic base. All their supporters demand more resources. To use economic performance as an indicator of achievement and wellbeing is not an expression of greed or a mindless quest for material possessions, but simply a shorthand way of expressing our ability to achieve high standards across the

whole spectrum of human activity. Also, the weaker the economy the more possible it is that the democratic system will break down.

It is difficult to imagine a country in more advantageous circumstances than we are. We have the stewardship of a huge continent. We have the ability to produce far more food and fibres, such as wheat and wool, than we need. We have a great abundance of virtually every mineral and a high potential for finding more. We have far more than adequate land and an excellent climate, no pollution problems worth speaking about, relatively few natural disasters, no real racial problems, a literate population, and freedom from terrorism. We are a part of the Western Pacific region, economically the fastest growing area in the world, with no quarrelsome neighbours or discernible military threat at present. We have a truly democratic political system, an impressive record of economic development, high living standards, and a proven ability to establish and operate world-scale enterprises. We should be the envy of most of the people elsewhere in the world.

One of our major concerns is to convince the world that a small group of just over 16 million people deserve to be the guardians of such good fortune. We can do so only by making wise use of the advantages and by gaining the respect of the world for the way we conduct ourselves. Building a strong and prosperous economy is a vital part of gaining this respect.

A strong economic base will also enable us to gain respect through establishing a reasonable defence capability, which we do not have today. We would be extremely foolish to assume that the present lack of identifiable external threat will last forever.

Instead of being strong, the Australian economy is at present in deep trouble. In addition to importing investment goods which will subsequently earn their keep, we are also consuming considerably more than we are producing. The continued functioning of Australia depends on massive inflow of overseas money to pay for the difference. While this inflow enables us to keep going, it also adds to the already excessive and growing overseas debt which in turn makes the problem worse.

In June 1980 our net overseas debt was 6.3% of GDP - that is 6.3% of what we produce annually. By June 1985 it had leapt to 25% and is now over 30% of GDP. In these terms it has risen by five times in less than a decade. In money terms we have gone up fourteen times from a net debt of about $7 billion to what will be around $100 billion by the middle of this year. (The gross debt is well over $100 billion). The debt is increasing at the rate of $50 million a day. During the hour and half we are spending at this lunch, it will have increased by $3 million.

On this issue some of us in the business community have come to feel a little like Cassandra. You may remember from your classical education that in Greek mythology Cassandra was the Princess of Troy who was given the gift of prophecy by her suitor, Apollo. But she turned him down so Apollo, being

a god, and seeking revenge, caused her not to be believed. She kept on, to no avail, warning about the calamities she could see ahead.

A number of people started to express concern about Australia's growing overseas debt as long as five years ago. In this case it has been not so much a matter of not being believed than of being overshadowed by the so called political realities: the overwhelming desire not to upset the voters.

After a brief period of realistic public appraisals of the situation by Paul Keating, the Prime Minister, and the Leader of the Federal Opposition in mid-1986, there was virtually no mention of the debt problem by either major political party in the July, 1987, Federal election campaign. The issue was simply avoided. Following the subsequent unexpected upturn of commodity markets, we were advised last year by the Government that all problems had been as good as solved. It has dawned only quite recently on the broader community that, while benefiting from a major commodity boom, we have been at best only maintaining our position and most likely actually going backwards. What will happen when the commodity markets turn down, as they certainly will at some time in the future - perhaps in the near future? In the middle distance there is the additional problem of Bass Strait oil production running down which, in the absence of major new oil discoveries, will need to be replaced by imports.

The Australian economy has been recently characterised in various ways to describe its present condition. If I were asked to do so, my analogy would be an egg standing on its end, and the sharp end at that.

It is absolutely vital that we should face up to this very serious problem. There is a great danger that, with another Federal election looming, the major parties will once again sweep the unpleasant matters under the carpet. The Treasurer in his April Economic Statement devoted all of three sentences to it. The Leader of the Opposition in his Address in Reply was more outspoken. It remains to be seen how the issue will be dealt with at election time. Meanwhile, the cost of not dealing adequately with the economic reality keeps mounting. You and me and our children will be handed the bill.

It is a sobering thought that the reason this might happen is that the politicians believe we, the voters, do not want to face up to the problem. If this is true then in the end we ourselves are to blame. Do the politicians under-estimate us, or have they read us right? Are we really so foolish that we think hiding our heads in sand will make the reality go away?

There is no need for us as a nation to be negative about the future. The solutions to our problems are in our own hands. There are recent examples of countries which have succeeded spectacularly, starting from a far less advantageous position than ours. The challenges before us are in fact great opportunities to change the life of Australians very much for the better.

Our basic need is for much better performance. This includes working harder, but it means much more than that. It means improving our skills,

removing artificial obstacles to the efficient functioning of the economy and, above all, developing a community attitude which supports and applauds achievement. It means encouraging, not discouraging, the natural desire of individuals to improve themselves. It means making the most of our advantages and abilities in a common-sense environment.

In evaluating our performance we must compare ourselves not with what we did previously but with our competitors around the world who, of course, are improving their performance all the time. The target is moving continuously.

Many of these competitors are in countries with high wages and high living standards. We can have similar or better standards if we perform similarly or better. Our aim is not to pay people as little as possible, but to encourage them to lift their performance so that they can be paid more.

Our competitors are the best in the world. To succeed we need to match them and, indeed, be better than they are. This will make very high demands on the quality, determination, and skills of Australians.

This is the common thread through all our considerations of the future: we are very much a part of the world. We will succeed or fail depending on how we compare with the rest of the world There is nothing we can do to escape this reality; there is nowhere to hide from it.

It is true that progress has been made in recent years towards these goals, and that the Federal Government can take a substantial part of the credit for this. I do not in any way wish to minimise these achievements, but it is also true that we are a long way from where we need to be. Governments tend to follow the policy of gradualism because this minimises the internal political risks. On the other hand gradualism means a high external risk that the changes do not occur fast enough. Our critically important transport sector is so far a perfect example of this.

A fresh approach is clearly necessary. It seems to me that to make real progress in many such issues needs an openly and strongly bipartisan political approach. Not only must the interests of the nation be put above petty political bickering but what needs to be done must be presented in the true light as great opportunities.

In Australia we still have a tendency to look to someone else to solve our problems. We tend to think of the economy as something which is separate from us as individuals, and which is primarily the responsibility of the government. We expect government, industry, or unions, or other parts of the economic and social machinery to do things for us while we, the citizens, sort of look on. We have the tendency to behave as spectators instead of participants.

Many of us have developed an entitlement mentality; the way to get what you want is to demand it in a loud voice.

The transformation of Australia into a performance-oriented society requires a major change in this attitude. Superior performance is not achieved by governments, the industry, the unions or any other part of the machinery; it is achieved by individuals. The advantages we have as a country do not entitle us to anything; on the contrary, they represent an obligation to make full and wise use of these advantages.

We need single-minded dedication towards continually improving our performance, such as has been shown to succeed for example in Japan, South Korea, Singapore, and Taiwan. We need to understand that building a successful economy is not a one-off task which can be accomplished in a year or two, after which we can all relax and retire for the equivalent of the long weekend on the beach. On the contrary, it is an ongoing task which is never finished, requiring persistent high level effort day after day, week after week, month after month, year after year. It is something like walking up a down escalator: you've got to keep walking even to stand still and you've got to walk pretty fast to make progress.

We are a long way from having such dedication in Australia. In fact we have very active interest groups under various names which do not care or, at best, do not understand about the other consequences of pursuing their single interest ambitions, and at worst are strongly and openly anti-development.

These groups represent a disparate and amorphous adversary culture. In its milder forms this reflects genuine concerns about the community, the less privileged, the environment and so on; we are better off as a result. In its more extreme form we find groups which are politically focused, ideological, or just bitter and power-seeking, which are out to exploit the idealism of some and the apathy of the rest. The groups embrace the high moralist, the radical chic, elements of the old left and many in the well meaning, educated, middle classes. Many of their elements have moved from rational and concerned debate to the politics of protest and, ultimately, veto. This includes the extreme so-called environmentalists, whose mission in life is not to ensure good care of the environment but to prevent any activity at all. Virtually any new projects of substance, from mining developments to paper mills, to new train proposals, to space ports and so on, are automatically opposed as a matter of principle.

Dr. Goebbels, that celebrated master of the art of getting people to believe the outrageous, would be proud of the way such opposition is marketed today. The principle that the bigger the untruth the greater the acceptance continues to hold.

A very dangerous feature introduced in recent times has been that major new developments have been increasingly and successfully used by special interest groups as political footballs. Such developments are difficult enough to get off the ground in a fully supportive atmosphere. It is to be hoped for the sake of all of us that our political leaders will come to see that

the future of Australia depends on bipartisan support of the developments we desperately need.

In Australian Rules football a new specialisation by some players has developed in recent times, to which commentators have given the name of "roving negators". Their job is to tag the star players of the opposition, to do nothing positive themselves, but simply to negate their opponent's performance. In economic activity we are also constantly tagged by such roving negators who seem capable of moving quickly all over Australia.

To return to Greek mythology: Prometheus stole fire for mankind from the supreme god Zeus and taught mankind many things to help them improve their life. For punishment he was chained to a rock where each day a vulture came to feed on his liver, which was then restored for the vulture each succeeding night. There are famous paintings depicting this legend.

It is perhaps too dramatic to use this as a direct comparison with modern-day negators, but it certainly is true that a small but very active part of the community is busy out there devising punishments for those who are trying to improve our life.

A free democratic society must, of course, allow for all kinds of views and all forms of expression, however irrational and undesirable these may seem to some of us and even to the vast majority in the community. There can be no argument about that. There is, however, cause for great concern that many such groups are increasingly aided and abetted through funding and support by governments in a blatant attempt to gain votes. Thus we have the spectacle of some ministers and departments working hard to build and improve the economy, and others in the same government working, with considerable success, equally hard against it.

As a final analogy from Greek mythology, you may recall that King Sisyphus offended the gods and was condemned to roll a large stone to the top of a hill. Each time it reached the summit it rolled back down to the plain. The poor chap had to start rolling it up again so that his punishment was constant, eternal, and no doubt hugely frustrating. Some of the ministers dedicated to improving the economy must feel like that. I know that some of us in business and industry often do! The great rock represents the burden of unnecessary constraints, limitations, road blocks, excessive regulations, unproductive practices, and at times just bloody minded obstruction which make Australia's economic regeneration so hard to achieve.

The really worrying aspect of what is happening is that in circumstances where the country's highest priority should be to encourage activities helping to overcome the current account deficit, and where all our efforts should be dedicated single-mindedly to getting back on our economic feet, not only those anti-everything but even some people in government seem to be quite unconcerned about it. Far from mounting the supreme effort which is necessary, we continue shutting our eyes to the problem.

As an example, gold production in Australia has experienced ninefold growth since 1980. One important reason for this extraordinary performance which has made an invaluable contribution to the current account has been the taxation system applying to gold mining which has directly encouraged reinvestment of the profits in the industry. The price of gold has also been important, but has been only a part of the explanation as shown by the experience in Canada where the growth during the same time has been only threefold.

Contrary to the mistaken belief of many, profits from gold mining in Australia are not tax-free. They are taxed in the hands of the shareholders when they receive dividends or realise capital gains. The difference between gold mining taxation and general industry taxation is that there has been a strong incentive for gold companies to plough back profits into further investment, which is exactly what is needed. The system applying to the rest of industry actually discourages company savings. It encourages paying high dividends (with a tax rebate to recipients) and borrowing or otherwise raising money for new investment.

The Government's White Paper on taxation in 1985 concluded that an integration system (which is very similar to that now applied to gold mining) is the optimum for company taxation, and that the present imputation system should be regarded as a step towards it. One would therefore think that in the circumstances we find ourselves the Government would be working very hard to extend the gold taxation system to all industry. Instead, it has decided to take the retrograde step of subjecting gold mining from 1991 to the second best imputation system.

It has been said that to bring about the positive changes is too difficult and too complex. Personally, I have complete faith in the ability of our leaders and the administrators in Canberra to overcome any problems. We know that they are very good at this, because they admit it themselves.

There are some positive signs on the horizon. Our saving rate for a country in our circumstances is far too low, and much of the saving there is is invested in non-productive assets, either because this is part of our culture, or because these assets promise superior returns. A very important step in extricating ourselves from the unpleasant economic situation is to encourage Australians to save more of their income for investment in productive activities.

This needs a change of attitudes, the creation of conditions which make saving more attractive than spending, and an environment which encourages investment in productive enterprises. One of the pleasing consequences of the recent bad economic news is that public comment, including comments by some senior ministers in Canberra, has become supportive of encouraging saving. While there has also been some negative comment from Government, let us hope that the positive view can be put into

a form which conforms to the political reality as seen by both sides of politics. If so, it will be one of the best things we will have done to help ourselves.

I want to finish on an optimistic note. I am an optimist by nature, otherwise I could not have spent my working life in the mineral industry.

I think that this country has a great future. We can make it a resounding success if we dedicate ourselves to achieving this.

I think that Australians are people of much common sense who will not be misled by the extreme ideologies or excesses of either the left or the right, or attracted to causes which make no sense when examined in the overall context of what Australia needs. I think that Australians have the good sense to see the roving negators for what they are: not only non-contributors but a dreadful burden on the community. The negators do not disadvantage just business and industry; they work against the best interests of us all.

I believe that our young people are amongst the brightest and the best anywhere, anxious to make their contribution, needing only guidance and encouragement. The country will be in good hands when in due course they take over responsibility. Our main concern should be that we should not need to be ashamed of the legacy we leave them.

The future is in our own hands."

This was a part of the endeavour to encourage senior businessmen to speak up on public policy matters, as I had been doing for some time. The number of those who did was, however, quite small. One of the reasons for the reluctance was that quite often when something was said which did not please the government, the response would be a personal attack on the speaker. This kind of intimidation was and remains common in politics, particularly when needed to disguise the paucity of one's arguments. I was on the receiving end of such personal attacks from time to time but did not worry about it. Not everybody was so thick-skinned.

The Business Council was contemplating mounting a major community relations effort but, in the event, did not proceed, although there were Action Plans for the economy, forums, conferences and National Business Summits.

Further new government policy directions were formulated by special Premiers' Conferences in 1990 and 1991. The two-airlines policy was ended and barriers removed from aviation markets. A National Competition Policy was adopted in 1995.

In the early 1990s there was a great deal of largely Paul Keating-inspired comment that Australia should see its future as a part of Asia, accompanied by disparagement of past close links with Great Britain. I spoke on this issue on several occasions in 1992. One of the presentations was to the Australian-Asian Association in Melbourne under the

Chairmanship of Sir Edward Dunlop and I was pleased that both he and the Japanese Ambassador, who was present, strongly agreed with me. There was also favourable comment in the media. The thrust of the speech, reproduced below, remains relevant today. It also describes some of the related issues then current.

"Australia's relationship with Asia has become a fashionable topic in recent times. It seems opportune to consider whether Australia is, or should become, a part of Asia as is now being urged by some and, if so, just what does this mean.

The first question is: "What is Asia?". Some people appear to think of Asia as a coherent region of consistent interests and characteristics. In fact, it is many nations of different cultures and characteristics, at times - in the past, and at present - in conflict with each other. Some of these enmities go back a thousand years or more. Australia's success in forging closer and stronger ties in the region will depend in the first instance on overcoming what Jamie Mackie describes as the "crudity and ignorance that (has) characterised so much Australian image-making about Asians".

That Asians also are not necessarily well informed about Australia is illustrated by the experience related to me by a then Australian diplomat, Richard Broinowski, who recalls chatting to a fisherman on a beach in the Philippines in the 1970s. On learning that Richard came from Australia he firstly congratulated Richard on his good English, and then asked in which part of Europe Australia was. In endeavouring to explain that it was a very large country to the south of the Philippines, Richard used the example that a train would take three days and three nights to cross Australia from Sydney to Perth. "I understand", was the reply - "our trains in the Philippines also travel very slowly".

One common feature of many countries in the Asian region is their long history. Another is their ancient cultures, some of which pre-date those of Europe by thousands of years. More recently, some of the countries in Asia have stood out by their impressive economic development and corresponding rise in living standards. This pattern is now spreading rapidly to other countries in the region.

It appears to be participation in this economic growth which those now urging Australia to become a part of Asia seem to have foremost in their minds. Such participation cannot be in a non-existent entity called "Asia", but has to be in individual countries in accordance with their particular requirements and circumstances. This doesn't come easily to us, being used to geographical isolation and a small population sprinkled on the fringes of an enormous continent. Australians often appear puzzled and frustrated by smaller and more densely populated parts of the world. Though written by an

American, many Australians would, I think, sympathise with a description of Europe which notes:

> *"You can't swing a cat without sending it through customs .....Sometimes you need two or three (languages) just to get you through till lunch."*

Similarly, many Australians would prefer to deal with a single "Asia", rather than a number of different countries. But this is not the reality.

Those with experience in operating across national boundaries have an advantage in today's world. European countries, for instance, have become accustomed to thinking of themselves as the European Community. Instead of warring with one another as in the past, they have developed agreements, practices, and institutions to facilitate relations and to eliminate or reduce barriers between individual states. Europeans have no difficulty using two or three languages before lunch; many of them speak three or four. Some of the people living in border areas speak two languages with equal fluency from childhood and cross the border daily to go to work. Some farms in Europe actually straddle the borders.

There is the story about the farmer who had lived and worked all his life just on the Russian side of the Polish-Russian border. When the border was re-aligned, he was asked how
he now liked living on the Polish side. "It's great", said the farmer, "I could not possibly have stood any more of those terrible Russian winters".

By contrast, we in Australia have been generally less comfortable with other countries and people. There are exceptions; some of our activities, notably in the mineral industry, have always been internationally-oriented. Markets for Australian minerals are predominantly overseas, there has always been substantial overseas investment in our mineral industry and, more recently, Australian mineral producers have made considerable investments in other countries. They have had to learn since the early days the patience, discipline and persistence required to do business beyond national boundaries; for example, in the 1850s South Australia supplied 10% of the world's copper and BHP began shipping lead and silver to China more than one hundred years ago. But for the most part Australian industry, together with our politicians and public policy-makers, have been until quite recently inwardly-oriented.

This has been accentuated by our history. We started out as a series of colonies of Great Britain, linked to it closely by ethnic, cultural, and economic ties. The first major variation in this occurred during World War II when Prime Minister Curtin declared in 1941:

"Without any inhibitions of any kind, I make it quite clear that Australia looks to America, free of any pangs as to our traditional links or kinship with the United Kingdom".

From then on the American alliance has remained important to Australia and substantial trade, investment, and personal links have developed over the years.

While this continues to be so, the importance of Asia to Australia is not some kind of new insight, as is sometimes, deliberately or unconsciously, implied. Political leaders such as Sir Percy Spender and Lord Casey recognised soon after World War II the importance of establishing closer links with countries and nations in the Asian region. Thus Australia initiated and participated in the Colombo Plan, established in 1950, enabling students from the region to study in Australia and providing experts and aid to help Asian countries improve agricultural methods and health services. Lord Casey encouraged the formation of the Australian-Asian Association in 1954. In 1957 the then Minister for Trade and Deputy Prime Minister, Sir John McEwen, negotiated a Trade Agreement with Japan. Initially subject to considerable emotional criticism at home, this Agreement came at exactly the right time, ahead of Japan's rapid industrial development in the 1960s which created a large market for the major mineral discoveries in Australia in that decade.

The business communities in the two countries formed the Australia-Japan and Japan-Australia Business Co-operation Committees in 1962, thirty years ago. The two Committees meet together every year, in turn in Australia and in Japan; the 30th joint meeting was held in Melbourne in October. Between the joint meetings members are active in furthering not only economic relations and trade, but also cultural and people relationships between the two countries; for example, a student and personnel exchange scheme has been operating since 1965. The activities and the membership of the Committees are still growing after 30 years. Today Japan, the country we feared and fought in the first half of this century, is firmly Australia's largest trading partner. In 1991 Australia was also the third ranking destination of Japanese overseas investment after USA and the United Kingdom, well ahead of any other country.

The next major event was Britain joining The European Community in 1973, which lost Australia its preferred position in the British market. While this was a great emotional and psychological wrench at the time, the great mineral developments of the 1960s, and the by then well advanced trade relationship with Japan allowed this event to pass with minimal economic impact. The White Australia Policy which had been in existence since 1901, was progressively softened in the 1960s. It was finally ended in 1974.

In the 1980s we witnessed the emergence of what Kenichi Ohmae calls the "borderless world". Once it was said that the sun never set on the British Empire. Today the sun never sets on share, bond, currency, and commodity markets. We have 24-hour trading, with rises and falls in individual markets almost instantaneously influencing others. For better or worse, we also have round-the-clock television coverage from the world's trouble spots - as we saw during the Gulf War, and see today with the events in the Balkans. Enterprises increasingly operate across many national boundaries and regard the whole world as their area of operations. Technology is reducing the barrier of physical distances. Ease of travel and communications is bringing countries and markets into much closer contact with one another. These days, no-one has the option of sitting in "splendid isolation". We in Australia no longer live on a remote island in the South Pacific.

Our response to this changed world has been somewhat tentative; one gets the feeling that some of us wish the clock could be turned back. A growing number of Australian enterprises has, however, followed their overseas counterparts out into the world and is now operating in many countries across the globe.

In Asia also we have seen a trend of growing intraregional trade and investment. There are high levels of Japanese, Taiwanese and Korean investment throughout South East Asia (the Japanese investment in this area in 1991 was about twice Japan's investment in Australia), and a number of cross-border development regions such as Singapore/Johore/Batam and southern coastal China/Hong Kong/Taiwan are springing up. The latter constitutes the fastest growing region in the world, with a population of over 120 million and a gross domestic product of $US 320 billion (For comparison, Australia's population is about 17 million and our gross domestic product is about $US 290 billion.) Financial markets in Asia are also being opened up, and countries such as China and Vietnam are adopting market reforms and encouraging foreign investment. The Asian region is widely expected to become economically of equal importance to North America and Europe by early next century.

Australia's participation in this burgeoning growth and increasing economic integration in the Asian region has been so far mostly in trade. The region accounts for nearly 60% of our exports and some 40% of our imports. In minerals, we are an important supplier of long standing. In manufacturing, our trade is small but growing rapidly, as is the export of services, although again from a small base. Australian investment in the region is, however, very limited compared to that of Japan, Taiwan and others. Whilst our offshore investment grew quite strongly in the 1980s, the United States, United Kingdom and New Zealand were the preferred destinations.

The limited presence of Australian consumer products and investment means that for many countries in Asia, Australia is still "not even on the radar screen". Moreover, Asians do not necessarily welcome us with open arms. As far as some in Asia are concerned, they are not certain that we are doing them a favour by wanting to participate in their activities. The pattern of development in the region has been described as the flying geese formation. This has Japan at the head of the flock, with Hong Kong, Singapore, Taiwan and South Korea in the second line and Malaysia, Indonesia and Thailand following up. Australia is not included in that formation.

At a recent international economic seminar in Beijing, Lee Kuan Yew of Singapore reviewed the future developments in the region. Most countries were named several times; Australia did not get a mention. In the eyes of many in Asia, we are regarded as lacking in acumen, if not downright incompetent. Lee Kuan Yew's observations in a recent interview with Greg Sheridan of The Australian, are fairly typical:

> *"Australians, sitting on all those riches, believe the world owes them a living, as indeed it does because it buys those resources. But it is no longer a good living."*

The onus is well and truly upon us to convince the countries in Asia that it is in their interests, as well as ours, for Australia to increase its presence in Asia. Amongst other things, the reputation for unsatisfactory industrial relations is seen as one of the reasons why we are doing so poorly in managing this country. Australian Ministers and union leaders have repeatedly explained in overseas capitals that our industrial relations problems have been exaggerated and, in any case, are a matter of the past. Statistics show that the number of industrial disputes in Australia in 1991 was the lowest for 30 years.

Regrettably, such assurances and statistics sound hollow to people such as the large group of very senior businessmen and trade officials from all over the world, attending the "Asia 2010" conference in Melbourne at the end of July. The Qantas baggage handlers' strike had thrown overseas airline transportation into chaos. According to a report in the "Sunday Age", some missed a part of the conference, others arrived only minutes before they were due to speak. Many had to go overnight without their luggage. Years of ministerial visits and assurances will not change the negative stories about Australia which will be told in the boardrooms and offices around the world. We could not have done more damage to our reputation if we had tried.

Rapid economic development throughout the Asian region is ushering in political change as well. The economic strength which comes from decades of sustained growth has endowed countries such as Japan, and increasingly South Korea, Taiwan, and Malaysia, with increasing political importance.

They are becoming more confident and assertive members of the international community. The post-Cold War reshuffle is extending to Asia, with the roles of both the United States and Japan being recast. In addition, political liberalisation is evident in many countries, though this does not necessarily mean a headlong rush to Western-style liberal democracy as we practice it. Those not accustomed to our kind of democracy often have reservations about it; as George Burns once observed of our system:

> *"Too bad all the people who know how to run the country are too busy driving taxi-cabs or cutting hair."*

Also, as we have experienced with Indonesia, Malaysia, and mainland China, the freedom and propensity of our media and people to criticise openly anything and anybody is strange, to say the least, to many in Asia.

Growing regional economic integration in Asia has not been accompanied by political integration of any kind, nor is it likely to be. In contrast to Europe, economic integration in this region has been largely the result of private sector activity rather than official government policy. In Asia, governments have frequently lagged behind commercial reality. Factors which suggest that greater political integration is unlikely include the dominance of the Japanese economy vis-a-vis others in the region and the continuing strategic and economic role of the United States.

We are therefore seeing only tentative governmental institutional developments at the regional level. Apart from ASEAN which does not include Australia, the main intergovernmental body is the Asia-Pacific Economic Co-operation (APEC) group, formed in 1989 following an Australian initiative. Whilst APEC is not supported with the same enthusiasm by all participants, it is gaining recognition. APEC now has 15 member countries, including the United States and the "three Chinas". The ASEAN Secretariat, the PECC Secretariat (I will explain PECC in a minute), and the South Pacific Forum attend as observers. Given the pace of economic integration and the political shifts taking place, both in this region and elsewhere, it is important to have some such mechanisms.

At private enterprise level the Pacific Basin Economic Council, or PBEC, (which, incidentally, resulted from an initiative of the Australia-Japan and Japan-Australia Business Co-operation Committees in 1967, twenty-five years ago) has a somewhat similar role. It now has 14 members and one applicant. Another organisation, the Pacific Economic Committee, or PECC, was, formed in 1980 as a tripartite group of governmental business, and academic interests. It presently has 19 member countries, and 4 applicants.

As you can see, the regional organisations form a veritable alphabet soup. As a friend of mine pointed out, one must be careful not to stutter when

speaking about these! Nor have we finished yet: in August it was announced that a Roundtable would be formed between Australian and Asian businessmen. The acronym, if any, for this new body is not yet known.

In other moves involving Australia, we have recently established closer links with Taiwan, by upgrading our formal relationship and by finally establishing direct air links. We also have had a prominent role in peace efforts in Cambodia and are encouraging the United States to review its ban on trade and investment with Vietnam. Not surprisingly, there have also been some setbacks, tensions and difficulties. We can expect more in the future. David Frost once described diplomacy as, "the art of letting someone else have your way". It is not easy to get that right every time!

There is no likely shortage of ups and downs in the region, as typified by the current Spratley Islands dispute. Pressure points include China, Hong Kong and Taiwan, both leading up to and after the hand over of Hong Kong in 1997. We may see the reunification of Korea. There will no doubt be some interesting developments in the former Soviet Far East, continuing democratisation in a number of countries, and possible changes of regime in Vietnam and Myanmar (Burma). It is in our interests to be sufficiently involved with others in the region to help reduce some of the tensions which will inevitably arise. One extraordinary omission in most of our current considerations about Asia is India, a sub-continent with 800 million people not far from our western shores. India will unquestionably have an important influence on Australia's future. We will overlook it at our peril.

We should also be acutely aware that our effectiveness or otherwise in managing the vast resources and open spaces of Australia is undoubtedly the subject of continual critical review by the less endowed and crowded countries in the region. We should keep asking ourselves the question: are we seen by others as able and responsible guardians of Australia, deserving of our good fortune? If not, what implications may this have for our future?

What, then, can we say in answer to the question of whether Australia is or should be a part of Asia? Lee Kuan Yew summed it up when he said:

> *"Diplomatically, you are part of the region. You have been active all these years. But economically you are not fully engaged. Your gears have not meshed in to engage those in the region."*

At the same time we should not let our own political rhetoric and sloganism let us think that nothing has been done in the past. As noted earlier, nearly 60% our exports already go to Asia and some 40% of our imports come from Asia. The Business Co-operation Committees between Australia and Japan were the first in the region after World War II; they pre-dated, for example, similar arrangements between U.S. and Japan.

Subsequently, similar Business Councils have been formed between Australia and Indonesia (in 1970), China (1973), Philippines (1975), Korea (1978), ASEAN (1980), Thailand (1987), Malaysia (1988), and Vietnam (1992). We have certainly not been inactive in the region, but there can be no question that we must become even more involved; it is clearly in our interest to do so. Governments must help pave and ease the way, as the Trade Agreement with Japan did in 1957, but the major role in this is for individual enterprises because this is where the real economic and people ties are formed.

There is a tremendous potential to build on what exists at present. This is just as well because Australia's trade, not only with Asia but in total, urgently needs a boost; our share in world trade has slipped from 2.6% in 1953 to 1.3% at present. Our market share in North Asia is 3.7% and in ASEAN 2.7%. It is worth repeating that improving on this requires above all persistent effort at the individual enterprise level; there is no bureaucratic formula or magic which can take its place.

As Warren Tate observed thirty years ago:

> *"The first rule of business (is) to find out what the man (today he would no doubt say "person") you are dealing with wants, and give it to him."*

In that sense, then, I am a strong supporter of the view that we must become even more involved with countries in Asia. However, I do not agree with those who see our involvement in *Asia as taking the place of our interests elsewhere in the world. The Malaysian Minister for International Trade and Industry was recently quoted as asking:*

> *"Does Australia find enough common ground for her to feel a sense of affinity and belonging to a part of Asia? Or does Australia feel a sense of being east and west at the same time, preferring to be a straddler of the Pacific Ocean?"*

With great respect to the Minister, I see no conflict in Australia having strong economic, trade, and cultural interests in both the east and the west. The increasing prosperity of the Asian countries themselves is in no small measure due to the trade and economic relationships which they have enjoyed with the west. The notion that there should be a choice of one or the other appears mostly related to the fear that the world, instead of progressing towards freer trade, will relapse into defensive trading blocs. In that case, the reasoning goes, our natural place is not with Europe or the Americas, but with Asia.

I note recent suggestions that, should the Uruguay round of trade talks under the GATT banner fail, Australia should respond by supporting the

conversion of APEC into a free trade area. Let us hope that the GATT talks will not fail, because it is very much in the interests of the whole world that they should succeed. But if it comes to bilateral trade agreements, it seems to me that Australia should be prepared to conclude free trade agreements with any country prepared to do so, wherever they are. If, as the European Economic Community continues to assure us, the aim of their association is not to erect additional barriers against others but to reduce the barriers between themselves, regional free trade agreements assume a different complexion from being defensive trading blocks - or is this too naive a view?

Some people see our challenge in the Asian region in nationalistic terms; thus Senator Gareth Evans and Bruce Grant in their recent book, Australian Foreign Relations, say:

> *"It is one thing to recognise that our future lies in the (Asian) region. It is another to know how to manage that future so as best to protect and promote Australia's own national interests in a regional environment that is not only culturally and economically diverse, but economically dynamic, clever, and competitive, and politically and strategically fluid."*

It is probably natural for politicians and diplomats to see it from such a perspective. My own view is more pedestrian: I like to think that while governmental and national relationships must be favourable and supportive of forming closer links, the important ties are formed at the individual enterprise and people level. It is at that level where the success or otherwise of our relationships with our neighbours in the Asian region, and our national success, will be determined.

In my humble view the future for a country such as Australia is to be a vibrant and active part of the whole world, rather than to be limited to any one part of the world. We should not see ourselves as just a part of Asia. We must develop our links with Europe, North America, South America, and Africa simultaneously with those of Asia. There is no conflict in this but a great deal of potential complementarity and synergy. The borderless world is happening, despite obstacles and setbacks from time to time. The tide is flowing strongly and cannot be stopped or reversed."

On the industrial relations scene, in the early 1990s there was a move by WMC to change work practices in underground mining in Western Australia which had fallen far behind those in the eastern States. This involved changes to long standing Mines Regulation legislation. The Labor Government in Western Australia was in a cleft stick and found it very difficult to act in the face of union opposition. After three years of frustration, tortuous negotiations, stoppages and union politics, continuous 24 hours a day

7 days a week shift work was finally introduced in 1994 and quickly became very popular. Meanwhile, enterprise bargaining had been introduced in principle in 1991 and from 1995 onwards individual workplace agreements were introduced in WMC operations, reflecting similar developments elsewhere. Employees were given the choice of continuing under industrial Awards or changing to the Agreements, which offered staff conditions. Over a period practically everybody opted for the Agreements.

The Coalition Government under John Howard, elected in 1996, continued with and further embedded free market economic policies. The Senate majority achieved in July 2005 resulted in legislation introducing major labour market reforms, to commence on 1 January 2006. This *'Work Choices'* legislation was, predictably, strongly opposed by the ACTU and the opposition, who moved to abolish the reforms when elected. This was one of the major differences between the Coalition and Labor in the November 2007 Federal election, won by Labor.

Union membership in August 2006 had fallen to 20 per cent of the workforce, comprising 43 per cent of the employees in the public sector and only 15 per cent in business enterprises. At the time of writing (January 2008) the Rudd Labor government has not been in office long enough to know what it will actually do in the industrial relations area, and what effect this will have.

Meanwhile, Australia's current account has never returned to surplus. In 1996 the foreign debt was one of the winning Coalition's major campaign issues. Nevertheless, the debt has continued to grow and in 2006, after ten years of Coalition government, it had reached $473 billion or over 50 per cent of GDP – more than twice the proportion in 1989 and the second highest of any nation in the world. In February 2008 the current account deficit is in excess of $60 billion, foreign debt is more than $600 billion and continues to increase by about $50 billion per annum, at a time when Australia's export income from minerals is at an all time high.

Remarkably, the attitude of economists, policy makers and financial markets has made a complete U-turn. Australia's credit rating, which had been downgraded twice in the 1980s on concerns of budget and current account deficits, was reinstated as AAA in 2003. It is pointed out that Australia's foreign debt today is almost entirely in the private sector. As with private individuals, being in debt has become accepted – *'as long as we continue running good economic policies'*. The fact that the current account deficits continue while Australia is benefiting from an unprecedented resources boom is shrugged off. It is agreed that Australia cannot increase its foreign debt forever but *'it is not likely to matter if it rises a bit further'*. The trade surpluses required to stabilise the foreign debt are seen as *'not too onerous an adjustment task'.* If it is not too onerous, then why not do it? It

is a *'God make me virtuous – but not yet'* attitude I find very difficult to accept.

We are not on our own. The United States current account deficit has become a threat to the stability of the world economic system, yet a similar *'not yet'* attitude exists there.

Another complete U-turn during the last fifty years has been what has become known as globalisation. During the second Menzies government (1949-66). Deputy Prime Minister and Leader of the Country Party Sir John McEwen was the main spokesman for nationalism, coining the phrase *'selling the farm'* for foreign ownership of industry and property. During the Whitlam government (1972-75) nationalism was raised to a new level, particularly by the Minister of Minerals and Energy, R F X Connor (see *Change in Public Attitudes*). From the 1980s onwards the attitude towards foreign investment changed. Floating of the Australian dollar by the Hawke Labor government in December 1983 was a landmark event in opening up Australia to the rest of the world. Treasurer Paul Keating admitted sixteen foreign banks. While a Foreign Investment Review Board continued to exist, the guidelines were gradually relaxed. Australian enterprises began to be taken over by foreign companies and Australian companies increasingly went overseas; today quite a number of well known *'Australian'* companies have most of their activities and assets, and some even Head Offices, in other countries.

The experience, not only in Australia but worldwide, is that deregulation, free market policies and opening up the frontiers, together with technological progress, have greatly improved the living standards of people. But, as with everything, there have also been undesirable side effects. Practices which not so long ago were considered unethical, if not illegal, have become commonplace. As the recent US 'sub-prime' and subsequent credit crisis has brought home, thoroughly unsound financial structures have been built up to resemble the proverbial house of cards – not just by shady operators, but also by the world's leading banks and financial institutions. Write-offs of many tens, perhaps hundreds, of billions are likely to continue in 2008. Interestingly, several hitherto revered names have negotiated substantial injections of capital from Arab and Chinese sources.

A good proportion of the wealth generated has been amassed by manipulators who have not contributed to creating it. The rewards to many others have skyrocketed compared to average incomes. Superficialities of life appear to have taken over from fundamental values. Consumer debt has reached worrying levels. Partly in an effort to control the excesses there have appeared tens of thousands of pages of new laws and restrictions. The society has become litigious and various pressure groups have managed to instigate the introduction of wearisome processes and procedures which mainly serve to keep the members of such groups influential and occupied.

As with democracy, there is much to criticise in our present economic system. As with democracy, so far it is the best system we know.

Olympic Dam into production

When it became apparent that Olympic Dam would be a major development, WMC decided that, for financial reasons, it needed a partner. A number of large companies indicated their interest, among these several oil companies with very large cash flows following the increases in the price of oil. Most of the oil companies had decided to diversify into minerals. Discussions with potential partners, led on the WMC side by Hugh Morgan, took place in 1978 and 1979. I was involved in making the initial contact with British Petroleum (BP). The potential partners were asked to indicate the terms they were prepared to offer, followed by more detailed negotiations with a small number of companies on the short list. The only Australian company interested was BHP, but their offer was much less attractive than some of the others.

On 27 July 1979 it was announced that the Olympic Dam project would proceed as a joint venture owned 51 per cent by WMC and 49 per cent by BP, with BP assuming certain financing commitments on behalf of WMC who would manage the project. Detailed evaluation of the deposit by drilling and metallurgical testing began and an Environmental Impact Statement was commissioned. After the 560 page Statement had been made public and a supplement responding to the questions raised had been issued, environmental approvals were granted in June 1983.

The metallurgical processing of copper ore is very similar to nickel: after crushing and grinding a flotation process produces a concentrate which is smelted into a matte and the matte is refined into copper metal. The presence of uranium in the Olympic Dam ore, however, complicates this straightforward procedure. The copper concentrate before smelting and the flotation tailings both contain uranium and are leached in sulphuric acid to dissolve the uranium. The uranium bearing solution is then mixed with an organic solvent which absorbs the final traces of copper and leaves the uranium to be precipitated. Extremely thorough treatment is needed to ensure that the copper, gold and silver produced are completely free of radioactivity. Olympic Dam is a metallurgist’s heaven, employing many of the main metallurgical processes at the one site.

A feasibility study and further test work resulted in a decision to employ flash smelting (as in the Kalgoorlie nickel smelter but this time a variant developed for copper at Mt. Isa) and, after lengthy consideration, to include an electrolytic refinery to produce refined copper metal at the site.

The alternative of selling matte was discarded because it may have contained a very small amount of radioactive material, which would be removed during refining.

The Joint Venturers notified the SA Government on 8 December 1985 of their commitment to proceed into production, at a capital cost of $800 million. The initial scale of the operation was 55,000 tonnes of copper, 2000 tonnes of uranium oxide and about 90,000 ounces of gold per annum. The rate of production was well below the capacity of the orebody and would not result in attractive financial returns, but it was considered desirable to start on a modest scale, in effect running a kind of very large pilot plant. This would simplify overcoming any teething troubles and permit the project to establish itself as a reliable supplier of copper and uranium before considering expansion.

A design and procurement team was established in Adelaide and R J (Bob) Crew was appointed the first Resident Manager. Extensive underground development commenced and construction of the plant began in March 1986, including a 100 kilometres long water pipeline tapping an underground reservoir in the Great Artesian Basin. The Roxby Downs township to house the personnel included 440 houses, a caravan park, single quarters, a shopping centre, civic and government facilities, a motel, and a tavern.

There were various claims by aboriginal interests, although there was considerable uncertainty as to which tribe could claim previous association with which area. In 1979 it was claimed that *'the Roxby Downs deposits were most important to Tribal Aboriginal Sacred (Dreamtime) Histories for thousands of years'.* This statement overlooked that the deposit was covered by some 330 metres of barren rock and had no surface expression whatsoever. The licence conditions provided for the identification and protection of Aboriginal and historic relics. The Joint Venturers proposed that an anthropologist engaged by them work side by side with an anthropologist representing aboriginal interests to carry out the investigation. This was rejected because *'it did not provide adequate safeguards for confidentiality in identification and for related secret information'*. Eventually, however, all these matters were resolved.

Production commenced in June 1988 and the official opening by the Labor Premier of South Australia, John Bannon, took place on 5 November 1988. Some 650 people attended, including a number of overseas guests (mainly customer representatives) from Britain, Belgium, Sweden, Germany, and Japan. This required the organisation of quite an airlift, site tour, and celebratory luncheon which all went with military precision. On behalf of the Liberal Party a leaflet was distributed outside the marquee in which the opening ceremony took place, asking: *"How can Bannon open what he tried to close?"*.

There was unintended excitement at the end of the opening ceremony, just as the guests were embarking on buses to the concluding lunch at the Sports Hall in Roxby Downs. There was a leak of molten metal at the nearby smelter, resulting in flames and billowing clouds of smoke. It was a heaven-sent opportunity for the TV cameramen who, perhaps disappointed that there had been no demonstrators, made the most of it.

At the lunch there was another unintended happening: the order for 10 kilos of fresh crayfish had somehow become 100 kilos! The guests could not speak highly enough of the magnificence and abundance of the seafood 500 kilometres from the sea.

The discovery and development of Olympic Dam has been described by David Upton in his book *"The Olympic Dam Story"*, published by him in 2010.

WMC in petroleum

Spurred on by the Rough Range discovery of oil in Western Australia in 1953, WMC had a brief but unsuccessful foray into oil exploration in 1955. The interest was rekindled after Esso-BHP's highly successful Bass Strait field began production in 1970 and the perception of an 'energy crisis' became popular soon thereafter..

Roy Woodall believed that geological thinking developed in the minerals industry could be applied to advantage in petroleum exploration. The Board approved WMC's entry into oil and gas exploration in November 1972. The initial strategy was to explore onshore where costs were much lower and where, it was thought, the prospectivity of Australia was underestimated. (Only 500 onshore petroleum exploration wells were drilled in the first 50 years of oil exploration Australia, compared with 2,000 wells every year in Texas).

There was great excitement when one of the early wells in which the Company participated flowed gas in the Cooper Basin in September 1973, but it was too distant from a market at that time. It was not until 1984 that the first commercial oil was discovered by WMC in the Bodalla Block in south-west Queensland and brought quickly into production. This was, however, a minor producer and gradually the interest was focussed on offshore prospects in Western Australia where the Company had acquired Mesa Australia Limited in 1983.

A number of wells in the Barrow Basin were brought into production by WMC (the operator) and its partners in 1987. The productive capacity of these small structures was enhanced by an innovative technique developed by WMC's H W (Hugh) White of drilling horizontal holes from a centrally placed rig, which then became the production platform. Drilling further north in the Carnarvon Basin discovered gas and condensate in what became known as the East Spar structure, and in the mid-1990s this became the

source of gas for the Goldfields Gas Transmission pipeline. This latter project was initiated by WMC, with BHP Minerals and Normandy Mining as joint venture partners. Nearly 1400 kilometres long, the pipeline began delivering gas to Mt. Newman and a number of other localities down to and including Kalgoorlie and Kambalda in 1996. Exploration areas were acquired in the Timor Sea and offshore Malaysia and a 40 per cent interest in the undeveloped Kupe South and Toro oil and gas fields offshore North Island in New Zealand.

In 1986 Roy Woodall inspired WMC to become involved in oil and gas in the United States. The strategy was to acquire producing properties which had potential for increased production through more detailed exploration and application of improved technology. Consultants were engaged to advise on prospective properties and Greenhill Petroleum Corporation was registered in Delawere in July 1987. S M (Simon) Ashton was initially appointed in charge. Over the next ten years a number of properties were acquired and oil and gas production from these revitalised in the Permian Basin in West Texas and New Mexico, and offshore Louisiana.

With WMC's commitment to expansion at the now again fully owned Olympic Dam (see later), it was decided in 1996 that the Company was not able to finance this and the growth of the petroleum activities into a significant producer at the same time. The petroleum assets were therefore put up for sale, which was concluded for $603.7 million on 1 January 1997. The cumulative production of oil had been 21 million barrels in each of Australia and United States, and Greenhill had also produced 62 billion cubic feet of gas.

In dollars of the day the net result of the involvement in petroleum was a surplus of $163 million which, allowing for inflation, became a loss of $73 million. For that cost WMC had for some twenty six years had an opportunity to make a major petroleum discovery which would have lifted the Company to a new level of prosperity (as the Bass Strait discovery had lifted BHP). This was an attractive gamble for a company which owed its rapid growth in the previous thirty years largely to exploration successes.

Keith Parry

Keith Francis Parry was a Western Australian born in Geraldton, and a mining engineering graduate of the W A School of Mines in Kalgoorlie. He was one of the many who studied part time while working at a mine, in his case Gold Mines of Kalgoorlie.

After graduating, Keith had a short involvement elsewhere. He rejoined the WMC Group in 1967 (I actually re-employed him while in charge in Kalgoorlie) and held managerial posts in Kalgoorlie and Kambalda until appointed Western Mining's General Manager in Western Australia in

Perth in 1973, following Bill Blown. In 1976 Keith was invited to join the Board and became Director of Operations, in charge of all operations other than Exploration Division.

He and I worked very closely together and I depended heavily on him. We spent a great deal of time together, saw eye to eye on just about everything and used each other as a sounding board in any difficult situations, of which there were many. Keith had started out as a labourer and worked his way through the ranks to the highest level. He had a down to earth appreciation of what really mattered, abhorred pretence, and did not suffer fools gladly. He enjoyed music, was widely read and a keen sailor who built several boats, being a skilled craftsman in metal and wood.

Keith had told me towards the end of 1984 that he would like to retire at the age of 60 at the end of 1985, rather than at the normal retirement age of 65. He later extended this by about six months to 15 July 1986.

Returning from a visit to the United States, I was telephoned by Hugh Morgan while waiting for my connection to Melbourne in the Qantas Chairman's Lounge at Sydney airport in the early hours of Sunday morning, 11 May, with the news that Keith had died from a heart attack while I was in the air over the Pacific. This was a great shock to everybody. I felt the loss keenly, as if I had lost a brother. One of the things which would have contributed to the strain he was under when he died was the long strike at Kambalda. Ironically, the strike was settled a week later.

A tribute to him in the WMC Board minutes reads:

"Mr. Parry was a mining engineer and executive of the highest calibre, very highly respected both in Australia and overseas. His concern was with attaining the highest performance standards in the activities for which he was responsible, demanding performance from the people who worked for him while taking a deep interest in their welfare and development.

The Chairman said Mr. Parry had made a contribution to the Company far beyond the normal call of duty. He will be sorely missed, both professionally and personally".

Keith had been nominated for the Order of Australia and approved for an AO (Officer of the Order) which was awarded posthumously in June. Although not yet public at the time he died, I like to think that he knew about it because recipients are asked confidentially a month or so beforehand whether they are prepared to accept the awards. His funeral in Perth, attended by most WMC directors and many senior government and business representatives, underlined the esteem and respect in which he was held.

Retirement as Managing Director

I flew to Perth in the afternoon of 11 May and assumed temporarily the responsibilities of Director of Operations. On 5 June I recommended to the Board that I should retire as Managing Director and become Executive Chairman, that Hugh Morgan should be appointed Managing Director, that the workload of the Director of Operations had become too much for one man and that these responsibilities be for the time being shared between a number of General Managers of whom B J (Brian) Hurley would be Senior General Manager – W A. Another Director of Operations may be appointed later but, if so, this would be a Head Office appointment with duties different from those of Keith Parry. The Board approved this.

As my retirement was not far away, I made a point of giving Hugh as much latitude for independent decisionmaking as possible. In effect, the responsibilities of a Chief Executive were now shared between Hugh and myself.

Nickel expansion

After the construction of the refinery at Kwinana and smelter at Kalgoorlie in the early 1970s, both were expanded incrementally as more feed became available until the acquisition of the Agnew Mining Company's nickel leases at Leinster, 330 kilometres north of Kalgoorlie, and Australian Consolidated Minerals' nickel deposit 90 kilometres further north at Mt. Keith enabled a major step-up to be contemplated.

Leinster had come into production in 1978, at a time when there was a surplus of nickel on the world markets. WMC had been approached by the then owner, Seltrust Holdings Ltd, as a potential joint venture partner but declined because we believed that the timing was wrong from the market's point of view and MIM Holdings took up a 40 per cent interest. We did, however, smelt the concentrate for them in our Kalgoorlie smelter. Leinster operations, losing money, were discontinued in 1986. In 1988 WMC began negotiating with the two owners of the dormant property, MIM Holdings and BP Australia, the latter having acquired Seltrust Holdings.

Because I knew the Chairman and Chief Executive of MIM, Sir Bruce Watson well, Hugh Morgan and I agreed that I would pursue the discussions with him. After a number of meetings we agreed the terms for the MIM interest and the deal was announced in December 1988. On several occasions since then Bruce has reminded me that this was probably the last time when oral agreement between the principals was later faithfully translated into a legal agreement without a hitch. We both feel nostalgic about the olden times! I was not personally involved in the negotiations to purchase BP's 60 per cent, which were also completed by December. The

nickel market had improved and production at Leinster resumed in May 1989.

The Mt. Keith nickel deposit was acquired as a part of a joint takeover offer for Australian Consolidated Minerals by WMC and Normandy Poseidon Limited in 1991. WMC kept the nickel deposit and Normandy the other assets. A 50 per cent interest by Outokumpu Limited in Mt. Keith was bought out in 1993 and production began in February 1995. By then a major upgrade had resulted in an increased Kalgoorlie smelter capacity of 80,000 tonnes nickel in matte per annum.

This substantial expansion of the nickel operations took place against the background of the break-up of the Soviet Union in 1991 flooding western markets with metals no longer required by the Soviet military and depressing prices, followed by the Asian financial crisis in 1997. It was a considerable achievement to remain profitable in these circumstances. The smelter was further upgraded to 110,000 tonnes per annum by 1999. The refinery had been increased in a couple of steps to 47,000 tonnes per annum by 1994, became 60,000 tonnes per annum by the year 2000 and 70,000 tonnes per annum by 2004.

Visits to Estonia

After the first return to Estonia in 1969 I was a frequent visitor there. Business commitments took me often to, or through, Europe and it was usually possible to drop in for a few days about once a year or so on the way past. In the thirty-seven years from 1969 to 2006 I visited Estonia twenty-nine times.

A number of times the travel was by air through Moscow, but later it was mainly by ferry to and from Helsinki. Later again, the best connection became by air from Helsinki. In each case it meant an overnight stopover at least once, and often twice, in one of these two cities. In Helsinki I could usually combine some business with it, but Moscow was strictly a waystation.

An unpleasant surprise was Australia's *de jure* recognition of the Soviet occupation of the Baltic States after Gough Whitlam became Prime Minister in December 1972. Why he in effect endorsed the Molotov-Ribbentrop Pact has never been satisfactorily explained; it remains as mysterious as some of his other actions. Prime Minister Fraser reversed this in 1975 and Bill Hayden renounced it as Labor policy when he became Opposition Leader in 1978. The recognition fortunately did not make any difference to my ability to visit Estonia during the time it lasted.

The Soviet regime had a heavy hand. There was, of course, no freedom of speech. History, particularly the period of Estonian independence from 1918 to 1940, was re-written to suit communist ideology. (This was a continuing process – as people fell out of favour and were banished to labour

camps or shot, pages in history books and encyclopaedias were replaced and even photographs were re-touched to eliminate the offending figures.) A joke circulating among the people was that in the West it was difficult to predict the future. In the Soviet Union it was also difficult to predict the past.

The blue-black-white Estonian national flag and the anthem of the independent Estonian Republic were banned. Contacts with the western world and travel to the west were strictly limited. Letters to foreign countries were opened and read. Overseas telephone calls had to go through an exchange in Moscow where they were monitored. Elections to the Estonian Supreme Soviet (equivalent of the Parliament) were on the Soviet principle of one candidate only in each electoral district, selected by the Communist party. In any case, the Estonian Supreme Soviet had very limited powers - something like our local government. Decisions of any significance were made in Moscow.

Secretiveness was a feature of the system. Street maps were hard to get and those that existed were deliberately doctored to mislead "enemies of the people". Telephone directories were not available.

A close watch was kept on the people. Everybody had a passport and where they lived and worked had to be registered. Changes of address or employment had to be reported and often permission had to be obtained beforehand.

For visiting foreigners (like me) travel and accommodation had to be booked in detail in advance before a visa could even be applied for. Once the programme was approved it was unwise to try to have any variations sanctioned because the bureaucracy simply could not handle it; the better way was to just go ahead and do it. In all my many times in Soviet Estonia or Moscow I was not conscious of being watched, but the authorities did keep an eye on foreigners. When I broke a leg on an icy square in Tallinn in December 1981, my visa expired while I was in hospital. When I expressed concern about this, the response was: "Don't worry – we know all about you!".

Interestingly, an eye was also kept on me in Australia. On one occasion I was visited in my office by two gentlemen from the Australian Security Intelligence Organisation (ASIO.) They did not bluntly say so, but were in a roundabout way asking whether the Soviets may be putting pressure on me to pass information to them. I told them no, and that in any case they would be wasting their time because I did not know any secrets.

The regime was very sensitive about printed matter. Foreign magazines would be carefully perused by customs and sometimes confiscated. After one of the early visits one of my brothers presented me with a book by a well-known Estonian author which also had sentimental value because it had been on our father's bookshelf at home when we were boys. It was taken from me by the customs on the way out (in the Soviet

Union one had to go through customs coming and going), because it had been published before the Soviet era, and handed back to my brother who was seeing me off. Apparently such dangerous literature was all right for the locals, but not for the innocent foreigners! On another occasion a contemporary book containing photographs of nature in Estonia which had been presented to me by some officials of the Ministry for Foreign Trade was confiscated because it was an art work and there should have been a permit to take it out of the country! Again, it was handed back to the people seeing me off and I received it later by post.

Attempts to keep people ignorant of the western world were, however, frustrated, among other things by Estonians watching Finnish television. While this was prohibited, many did so secretly.

After the first visit I stayed in Tallinn in the twenty-two storey western-style tourist hotel "Viru", built in 1972 by Finnish contractors. Coming out of the lift on your floor in Soviet hotels at that time there was a desk with an elderly lady sitting behind it. One of her tasks - perhaps her main task - was to record in a notebook the comings and goings of the guests; this was standard practice in the Soviet Union.. When the Soviet Union vanished, so did the floor watchers. Another peculiarity of the hotels was that there were no bath plugs, which had been appropriated by some guest long ago. As there were no showers, knowledgeable travellers (including me) would carry a bath plug with them. Removable items disappearing was common; when leaving a car parked it was standard practice to detach the windscreen wiper blades and lock them inside.

A characteristic of the system was surliness. Even minor officials would consider themselves very important. Clerks behind desks would pretend to be immersed in documents or converse at length on the telephone or with each other before looking up and deigning to speak to whoever was standing before them. Shop attendants would never smile.

A part of the reason for unfriendliness was that the system was known to pressure people into informing on their fellow workers, neighbours, friends, and even family members. Schoolchildren who had informed on their parents were celebrated as Soviet heroes. Everybody was suspect; it was dangerous to trust anybody. (The Nazi regime in Germany employed similar methods).

People had a lot of roubles but not enough to buy with them. Many goods were in short supply and would be sold out within a short time of a consignment arriving in a shop. As this could happen at any time, some people would spend their spare time standing in queues in case there was something desirable to buy when they reached the counter. Street-smart people would always carry an empty bag with them, just in case. Those who could afford it would make it worth the shop assistants' while to put things away under the counter for them. "Deficit" goods, as these were known, included such simple things as spectacle frames, sewing needles and scissors. And Estonia (and

Latvia) had the highest standard of living in the USSR! A joke going around was that, should the communist system be imposed in the Sahara, there would soon be a shortage of sand. Western goods were particularly sought after, but these were available only for hard currency in special tourist shops. Western plastic shopping bags with illustrations or foreign language advertising on them were considered particularly "cool" by the younger people.

Shopping in a large store was a lengthy procedure: after standing in a queue to select the purchase one would be given a docket which, after standing in another queue, another attendant would price. There would be a third queue in front of the cashier who would stamp the docket, so that the item purchased could be collected at the end of the fourth queue. I must be fair, however, and say that overstaffing was not a monopoly of the Soviet Union. Checking passengers in at the gate at Bangkok airport on one occasion there were eight attendants. One checked the boarding passes (very slowly); another stacked the stubs, the third was on the telephone and the remaining five just looked bored! In the United States I marvelled at the procedure for taking a photograph of the Board for the Annual Report. The night before a crew of people arranged the chairs and lights and marked out where everybody was to sit or stand - "casually", of course. The next morning it took half an hour to take the photo (some 20 to 30 shots). There were five people involved. One was the photographer, another fiddled with the lights and the other three did absolutely nothing. Undoubtedly everybody was an important specialist in something, but what they contributed was certainly not obvious.

Passing through Moscow on one of the early visits to Estonia my daughter Ellen and I, in a taxi from Moscow's Sheremetjevo international airport to the Intourist Hotel, were overtaken by a police car with a siren and flashing lights. Ellen gripped my arm - she thought we were about to be arrested by the KGB! Actually, the driver sheepishly admitted that he had been speeding. Very early next morning we reported on time at Vnukovo, one of Moscow's domestic airports, only to find that the flight was delayed. My Russian was one-year schoolboy standard and the airline staff did not speak English or any other language I knew, but even then it was surprising that we could not find out how long the delay would be. After a while we realised that the problem was not the language difficulty; it was either that no-one knew but would not admit it, or if they knew, they were not going to give out this information without instructions from someone higher up.

We were in the part of the airport reserved for foreigners and thus had at least chairs to sit on and were able to get something to eat from a kind of buffet-bar. The problem was that we did not know what was happening and that there was nothing to read - the only literature available in English at the airport was Party propaganda. The locals in their waiting room next door had to literally lay down on the cement floor, although they also could buy food. In this egalitarian country there was a third waiting room especially

for Members of Parliament, which undoubtedly was the best of all. We finally left eight hours later.

On another occasion, travelling Aeroflot from Singapore to Moscow via Delhi on my way to Tallinn, I tried to adjust the air vent over my head and received a gush of cold water, after which came white vapour which gradually filled the cabin. I was sitting next to an Indian Army sergeant who spent the flight from Singapore to Delhi drinking neat brandy and telling me in a very loud voice what a dreadful airline Aeroflot was. I had to join him in drinking brandy to cover my embarrassment and because he would not accept a "no", and was glad to arrive in Delhi. I still had to continue by the same flight from there to Moscow, however.

Ellen was with me again for a longer stay in Tallinn over Christmas 1977 and New Year 1978. It was the first time she had seen snow – there was plenty of it - and walked on ice on a pond. She could not get over being able to walk on water! I had been made a Knight Bachelor in the New Year's list and my family in Estonia were not quite sure what that meant. My mother asked whether I now had a castle in England. Regrettably, I had to admit that there was no castle.

My visit to Tallinn in December 1981 became a much longer stay than intended. Walking with my two brothers down an icy square I somehow caught my foot in corrugations in the ice, twisted the right leg and broke it. It is amazing how easy it is to break a leg. Ever since I am horrified when I see girls in high heels running!

On admission to the hospital the doctor took an electric drill and drilled a hole through the heel for a clamp which enabled the leg to be kept under tension on a frame fitted to the bed. There was no pain, but I had to lie on my back. Any attempt to turn made the broken bone ends grate together, which was not pleasant.

The hospital was crowded, with beds for some patients in corridors. Surprisingly, considering the system in shops, it was grossly understaffed, but the nurses did the best they could. My doctor appeared very competent and told me that he had worked for a time in Sweden.

I was taken to a ward with four beds, with two others already occupied. The empty bed next to me was filled later that evening with a chap with exactly the same problem I had. It turned out that he was the captain of a Soviet merchant ship who spoke some English so that we could converse. His ship, which had been carrying cement and other materials to the Mediterranean and the west coast of Africa, down as far as Angola, had been in Tallinn picking up cargo and was due to leave next morning. The captain and his wife had been to a farewell party with some friends and were returning home by tram. On stepping off the tram he caught his right foot in corrugations in ice just as I had, and broke the leg in exactly the same way!

Over the next day or so he asked me about my background and I told him. He thought for a while and said: *"I bet your people at home think the communists got you!"*. This is exactly what happened. Martial law to suppress Solidarity had been declared in Poland on the day I had the accident, there were tanks in the streets and many arrests. There had been speculation in Melbourne that the broken leg story was made up and that actually I had been shot.

The medical decision was that my leg had to be operated on to screw the bone pieces together. It would be a month or so before I could leave. The inability to communicate with Australia (overseas telephone calls had to go through Moscow, there was an indefinite wait, and in any case the nearest telephone was some distance away in the corridor) was a serious problem for my business commitments. I therefore pursued the possibility of being moved to Finland where there would be instant telephone communication. The hospital agreed to let me go if a Finnish doctor came over and accepted responsibility for me.

This was arranged and the leg was put in heavy plaster for the trip. Four sailors carried me on a stretcher through the goods loading door in the side of the ferry and up some stairs into the ship's hospital. One of the burly sailors, on the corner of the stretcher where my leg in plaster (covered with blanket) added a considerable weight, called for a breather halfway up the stairs, wiped his brow, looked at me, and asked: *"Tell me, Dad, - how much do you actually weigh?"* There was a quite a strong wind, and waves on the Gulf resulted in the ferry arriving in Helsinki covered in ice, the last service before Christmas.

The Finnish doctors decided not to operate but to use the "Hoffmann Method", applied at the military hospital in Helsinki where they had all the right equipment. Fixing broken legs was apparently an everyday job in Finland for young boys doing National Service. I lay on my back on something like a medieval torture rack, with the torso held firmly in place and the foot of the broken leg in a clamp. By moving the clamp the leg was stretched and manipulated until the broken bone pieces were in the right position, an x-ray monitor displaying the progress on a screen. The leg and the bone pieces were then drilled through at appropriate places, leaving the drill bits in the leg and clamping them on the outside. I finished up looking a bit like Frankenstein's monster.

I had been for some years on the Board of our aluminium partner Aluminum Company of America in Pittsburgh, and was due to attend a Board meeting there early in January. After the procedure had been completed, Alcoa insisted on sending the Company plane to pick me up so I could have a medical check-up in the States on the way home. Saima, who had joined me from Melbourne, and I arrived in Pittsburgh via Iceland and Goose Bay in Canada in the first week of January in the middle of a blizzard, on their coldest day for 100 years.

One of the first questions my American friends asked was: "Who will you sue?" It had never occurred to me to even think about it – I was brought up to accept responsibility for what I did and it was my fault, I had forgotten to walk like a duck on icy ground. Regrettably, the litigious American system of finding someone else to blame reached Australia soon thereafter and is now flourishing.

The American doctors did not like the Finnish way of fixing my leg; they wanted to take the pins out, operate, and screw the bones together. In preparation, I was propped up in front of the X-ray machine to X- ray my chest. When I protested "No, no – it's the leg", the response was that while I was in their hospital, they were responsible for my total health! The Chief Surgeon was away but in his absence the lesser powers decided that the operation would go on. I was dressed in an operating gown, had a lead for anaesthetic inserted in my arm and was then invited to sign the authority to operate. I said I wanted to speak to the Chief first. When he arrived I asked whether, if the operation was necessary, it could not be done in Melbourne where I was close to my office and family and could carry on with my business commitments. He readily agreed and the morning's preparations were quickly reversed. The Melbourne surgeon agreed with what the Finns had done and there was no operation. The leg healed well and has given me no trouble. The doctor who eventually took the clamps and pins out said they would be very useful in attending to road accident victims, so I donated them to the hospital.

In September 1985 my nephew Arvo obtained a permit for me to visit the farm where I had grown up. My father had died but mother and two brothers came with me on this first visit for forty-one years. No-one lived there, the house had burned down many years ago and the stable and byres had been demolished but it was nevertheless a nostalgic occasion. An underground cellar adjacent to the house with a grain storage shed on top of it were still there, including some steps I had constructed nearly half a century earlier to be able to sunbathe on the roof of the shed.

Gorbachev's coming to power in 1985 was a major turning point. The initial steps towards more freedom were hesitant and it took some time for people to become convinced that there had been a genuine change. Lauded outside the Soviet Union because of his policies of *glasnost* (openness) and *perestroika* (restructuring), paradoxically he became very unpopular within the country.

Among his early reforms was an attempt to reduce the excessive consumption of alcohol which had long been (and continues to be) a problem in Russia. Tsar Nicholas II had introduced prohibition during World War I which did not last long and became one of the contributing causes to the revolution in 1917. Gorbachev did not prohibit vodka but the government monopoly doubled the price. Soviet propaganda had always maintained that one of the big advantages of the system was no inflation, prices did not

increase. So how could the price of vodka double? Simple – the quality had improved! Alcohol shops no longer opened early in the morning and officials were ordered to reduce consumption of alcohol during government functions.

On one of my visits soon after that I was invited to lunch by two officials from the Ministry of Foreign Trade. They were very apologetic because "Mihhail Mineral Water" had forbidden the use of alcohol during lunch. *"But"*, they said, *"you can have beer or wine!"*, which we did. On the stroke of 2 p.m., when the lunch hour had ended, out came vodka and cognac and they soon made up any lost ground.

The other anti-alcohol measures were no more successful. (A 1993 survey found that 80 per cent of Russians were drinkers and their average consumption was more than half a litre of alcohol per day. The very low average lifespan of Russian males in 2005, fifty-six years, was attributed to heavy drinking. The ethnic Russian population is diminishing rapidly, while the Muslim population is increasing). People started brewing their own. Sugar, one of the best raw materials, was sold out in the shops. Some of the home made vodka was insufficiently distilled and there were many cases of death from poisoning.

Nearly a quarter of government revenues had come from the State alcohol monopoly and the anti-alcohol campaign had a serious effect on the Soviet economy. Some of the large cash flow from illegal alcohol was used to corrupt government officials and finance criminals. The substantial reduction in the price of oil in the late 1980s reduced government revenue further. On top of this Gorbachev, aware of his unpopularity, allowed wages to rise steeply. The government deficit was met by printing more money. Official prices were controlled and did not rise; the result was that goods became even more scarce.

While the economy was in a mess, there were also very positive developments. By 1988 glasnost was in full swing and the regime had become much more open and liberal. The past could now be spoken about without fear of retribution and during my visit in December 1988 I was interviewed on Estonian television. Foreign visitors could now travel freely virtually anywhere in Estonia and Estonians could travel abroad. A world festival of Estonians in exile – ESTO - held in Melbourne at the end of 1988 was attended by some 200 people from Estonia. My nephew Arvo and his family visited us in Melbourne the following Christmas, followed a little later by my brother Jaanes, his wife and the widow of Oolu who had died from brain haemorrhage in 1986. He was only fifty-three and his time as a convict labourer in the coal mine in the Arctic may well have contributed to his early demise, which is uncharacteristic of the Parbos. My father lived to nearly ninety-one and my mother to ninety-six.

While still formally a part of the Soviet Union, in 1990 the Estonian Prime Minister invited a group of Estonians from abroad with western

economic and business experience, including myself, to advise him on the transition of the economy to a free market system. In July 1990 I was met at the airport by Government representatives instead of the 'fascist' banners which had greeted me during the first visit in 1969.

I was invited to visit the State-owned oil shale operations in north-eastern Estonia in the hope that the companies I was involved with would have an interest in investing in some way. This became impractical when the government decided that the production of oil shale should be curtailed, not expanded. I did, however, enjoy the visits.

During a visit in January 1991 a meeting with Prime Minister Savisaar was cancelled because he had unexpectedly gone to Moscow. The political atmosphere was tense: many Estonian, Latvian and Lithuanian boys called up for compulsory service in the Red Army had ignored it and there were rumours that a paratroop division would be sent to the Baltic States to round them up. Savisaar was negotiating with the Soviet Defence Minister, Marshal Yasov. Next morning, when I left for Helsinki, the situation was still unresolved. The following day, 12 January, Soviet troops occupied buildings in Vilnius in Lithuania and killed unarmed people. Fortunately, there was no military action or bloodshed in Estonia and gradually things calmed down. During a stopover in London I mailed the many letters I had been given in Estonia to post abroad. There was still apprehension about censorship and about the old regime perhaps coming back.

The ultimate in freedom – the reinstatement of independence – came in August 1991, as described in a subsequent section.

The Russian mafia

The following is an extract from Frederic Forsyth's book ***Icon,*** Corgi Books 1997,p.189 – 191:

"A vast criminal underworld had existed in Russia for centuries. Unlike the Sicilian Mafia it had no hierarchy and never exported itself abroad. But it existed, a great sprawling brotherhood with regional and gang chieftains and members loyal to the gangs unto death and with the appropriate tattoos to prove it.

Stalin attempted to destroy it, sending thousands of its members to the slave camps. The only result was that the zeki ended up virtually running the camps with the connivance of the guards, who preferred a quiet life to having their families traced and punished. In many cases the vory v zakone, the 'thieves by statute' or equivalents of the Mafia dons, actually ran their enterprises outside from their cabins in the camps.

One of the ironies of the Cold war is that Communism would probably have collapsed ten years earlier but for the underworld. Even the Party bosses finally had to make their covert pact with it.

The reason was simple: it was the only thing in the USSR that ran with any degree of efficiency. A factory manager, producing a vital product, might see his principal machine-tool grind to a halt owing to the breakdown of a simple valve. If he went through the bureaucratic channels he would wait for six to twelve months for his valve while his entire production plant stood idle.

Or he could have a word with his brother-in-law who knew a man who had contacts. The valve would arrive within a week. Later the factory manager would turn a blind eye to the disappearance of a consignment of his steel plate, which would find its way to another factory whose steel plate had not arrived. Then both factory managers would cook the books to show they had completed their 'norms'.

In any society where a combination of sclerotic bureaucracy and raw incompetence has caused all the cogs and wheels to seize up, the black market is the only lubricant. The USSR ran on this lubricant throughout its life and depended utterly upon it for the last ten years.

The mafia simply controlled the black market. All it did after 1991 was come out of the closet to prosper and expand. Expand it certainly did, moving rapidly from the usual areas of racketeering – alcohol, drugs, protection, prostitution – into every single facet of life.

What was impressive was the sheer speed and ruthlessness with which the virtual takeover of the economy was achieved. Three factors enabled this to happen. The first was the capacity for immediate and massive violence the Russian mafia demonstrated if it was frustrated in any way, a violence that would have made the American Cosa Nostra look positively squeamish. Anybody, Russian or foreign, objecting to mafia involvement in their enterprise was given one warning – usually a beating or outbreak of arson – and then executed. This applied right to the heads of major banks.

The second factor was the helplessness of the police who, underfunded, understaffed and without any experience or forewarning of the blizzard of violence and crime that was going to overwhelm them in the aftermath of communism, simply could not cope. The third factor was the pandemic Russian tradition of corruption. The massive inflation that followed 1991 until it steadied around 1995 assisted in this.

Under Communism the exchange rate stood at two US dollars to the rouble, a ridiculous and artificial rate in terms of value and purchasing power, but enforced within the USSR, where not lack of money but lack of goods to buy with it was the problem. Inflation wiped out savings and reduced fixed-salary employees to poverty.

When a street cop's weekly wage is worth less than his socks it is hard to persuade him not to take a banknote enclosed in an evidently forged driving licence.

But that was small beer. The Russian mafia ran the system right up to the senior civil servants, recruiting almost the entire bureaucracy as their allies. And the bureaucracy runs everything in Russia.

Thus permits, licences, civic real estate, franchises – all could quickly be bought from the issuing civil servant, enabling the mafia to create astronomical profits.

The other skill of the Russian mafia that impressed observers was the speed with which they moved from conventional racketeering (while keeping a firm hold on it) into legitimate business. It took the American Cosa Nostra a generation to realise that legitimate businesses, acquired from racket-profits, served both to increase profits and launder crime-money. The Russians did it in five years and by 1995 owned or controlled 40 per cent of the national economy. By then they had already gone international, favouring their three specialities of arms, drugs and embezzlement, backed up by instant violence, and targeting all Western Europe and North America.

The trouble was, by 1998 they had overdone it. The sheer greed had broken the economy off which they lived. By 1996 fifty billion US dollars' worth of Russian wealth, mainly gold, diamonds, precious metals, oil, gas and timber, was being stolen or illegally imported. The goods were bought with almost worthless roubles, and even then at knock-down prices, from the bureaucrats running the State organs, and sold for dollars abroad. Some of the dollars would be reconverted to a blizzard of roubles and brought back to fund more bribes and more crime. The rest were stashed abroad."

On the Board of BHP

Sir James (Jim) Balderstone, Chairman of The Broken Hill Proprietary Ltd. (BHP), called in my office at WMC on 29 June 1987. To my great surprise, he invited me to join the BHP Board as a non-executive director.

BHP was at that time the largest company in Australia, established in 1887 to mine a rich discovery of lead and silver at Broken Hill, New South Wales. Its leases in the central part of the several kilometres long boomerang-shaped 'line of lode' became mined out by the early 1900s and in 1915 BHP established Australia's first steelworks in Newcastle, combining South Australian iron ore with Hunter Valley coking coal. In the 1960s it discovered (in a joint venture with Esso) oil in the Bass Strait, acquired major iron ore deposits in the Pilbara in Western Australia and subsequently purchased major coking coal deposits in the Bowen Basin in Queensland.

I had not had much to do with BHP, although I knew a number of the directors and senior executives and had cordial relationships with them. I had worked together in the Australia-Japan Business Co-operation Committee with Sir Ian McLennan (then retired), who had been the undisputed leader of BHP for many years, and had succeeded him as President when he retired from that post in 1985. (Sir Ian, incidentally, was known within BHP for his saying: "If you are ten minutes early, you are late!").

My first reaction was an instinctive "no": BHP and WMC were competitors in the same industry and I did not see how I could be a director of both companies at the same time. Jim suggested that the conflict was perhaps less than it appeared and asked me to think about it. I agreed to do so.

On analysing the activities of the two companies, it became indeed apparent that they were not in direct competition. WMC was in gold, nickel, aluminium, talc, copper, uranium and oil and gas and had a project in phosphate rock. Of these BHP had no interests in aluminium, talc, and uranium, and its only small interest in nickel was in a joint venture with WMC. It had interests in gold (through a separate company, BHP gold) and major interests in copper, oil and gas but there was no direct conflict with WMC. On the other hand, WMC had no interests in BHP's major activities in iron ore, coking coal, steelmaking and manganese, or in mineral sands which was a then current BHP project. It seemed possible for me to sit on both Boards, provided I would excuse myself from any discussions where a conflict could arise.

With the approval of the WMC and ACOA Boards I accepted, and attended my first BHP Board meeting on 12 August 1987. The media, rightly, commented on my appointment as a "surprise" and "interesting". The reaction was, however, positive.

BHP was under challenge. A Western Australian entrepreneur, Robert Holmes á Court had, through a company called Bell Resources, in 1985 made an audacious takeover bid for the very much bigger BHP. Holmes á Court was a globally feared corporate raider, having either succeeded or walked away with a handsome profit in numerous share raids in Australia, UK and USA.

The takeover had been averted in 1986 by Elders IXL, led by another colourful entrepreneur, John Elliott, buying 20 per cent of BHP shares for $2 billion while BHP bought $1 billion's worth of Elders preference shares. Both Holmes á Court, who had acquired on the market a substantial shareholding in BHP, and John Elliott became directors of BHP. As I recall it, John said hardly anything at the meetings. Robert did, but he was sitting at the far end of the long rectangular Board table and spoke so quietly that I could not hear a word and kept watching the face of the Chairman, Jim

Balderstone, in the centre of the opposite side of the table, to assess his reaction to what was being said.

On 22 October 1987 the Board assembled at Pt. Kembla Steelworks for the official opening of its modernisation programme by the Federal Treasurer, Paul Keating, and for a Board meeting next day. The October 1987 stockmarket crash, with share prices diving 25 per cent in a day, had taken place a few days earlier. It had no effect on BHP but seriously affected overborrowed investors. Both John Elliott and Robert Holmes á Court attended the meeting and I recall Robert saying over drinks before lunch: "This has affected all values – do not think that it hasn't".

Holmes á Court had borrowed to acquire substantial assets which were valuable but did not generate commensurate income. Lenders to corporations were running for cover; Merrill Lynch, for example, withdrew a Bell Resources' $1 billion line of credit. Robert started to liquidate his positions. The Bell Group was taken over by Alan Bond and the State Government Insurance Commission. Holmes á Court survived the crash but died in 1990 from a heart attack. John Elliott's reaction was the exact opposite – he regarded the market downturn as a great buying opportunity. So it was if you were using your own funds, but corporate borrowing rates in Australia soon escalated to 20 per cent per annum.

In February 1988 the BHP Board decided to re-structure the Company to tidy up the situation. As a part of this, both Robert Holmes á Court and John Elliott resigned from the Board.

BHP Articles of Association provided that directors retire at the age of 70 and the Chairman at the age of 68. Jim Balderstone was due to retire on his 68th birthday on 1 May 1989.

In August 1988 the Board visited the Company's activities in USA. On the way over I travelled in BHP's Grumman GII jet which had to refuel at Pago Pago in Samoa and in Honolulu. During the refuelling stop in Pago Pago, at about 2 a.m., we got off the plane to stretch our legs. Strolling together with Jim Balderstone to the empty and half-dark airport building, he invited me to succeed him as Chairman. This again came as a complete surprise and I asked for time to think it over. There were several issues to consider.

The possible conflict of interests would be much more significant if I were the Chairman, rather than just a director. The proportion of my time available to WMC would be significantly less. Also, there may be others on the BHP Board who would feel more entitled to be considered for the job. Was I the best person available?

After talking to Saima and mulling it over for a while, I discussed it with the WMC Board and a number of other close colleagues. They all felt that I should accept the invitation. Jim Balderstone assured me that all BHP directors were in agreement on it. I did not want to leave WMC or become a

blockage to others at BHP and therefore suggested that the appointment should be for a fixed term of three years. The Board agreed and my appointment as Chairman-elect, to take office on 2 May 1989, was announced on 11 November 1988. The Managing Director, B T (Brian) Loton, was, in addition, appointed Deputy Chairman-elect from the same date. Simultaneously, the WMC Board announced that I would continue as Executive Chairman of WMC.

Corporate governance experts and the media today would have heart failure were anyone to be simultaneously on the Boards of companies such as BHP, WMC and Alcoa of Australia, let alone the Chairman of all three. In 1989 it did not even raise an eyebrow. As it happened, I did not have to absent myself from discussions at any of the three Boards even once during the five years at BHP. Such conflicts as there may have been between the companies were likely to arise during application for exploration tenements and the marketing of the products. The Boards had no involvement in either activity.

BHP worked its directors hard. In addition to numerous Board committees and monthly full day and occasional two-day Board meetings there were frequent visits to operations in Australia and overseas. Every visit would include a number of social gatherings with employees, business friends and civic and community leaders. Visits to several locations in a region were usually combined to share unproductive travelling time.

At the end of one of these visits to coal mines in Queensland and the manganese operation on Groote Eylandt we used the opportunity to call in at CRA's Argyle diamond mine in the Kimberleys. The American Ambassador, W (Bill) Lane, was travelling with us as a guest. When leaving the secure area at the mine where the diamonds were recovered, an electronic device selected people at random for a thorough strip–search. The only person so selected from our party was the American Ambassador! Bill took it in good humour and boasted afterwards that he was the only certified honest person in our group because he had been given a signed paper saying so afterwards. He returned to the States soon after that and no doubt dined out on this story for many years!

In addition to the normal programme there were events such as attendance at the launching of the BHP oil tanker *Iron Gippsland* in Kure, Japan and the International Advisory Committee meeting in Washington DC. Superimposed in the last few months of Jim Balderstone's tenure were functions to farewell him at a number of centres, for which I acted as host. Together with my WMC, Alcoa of Australia, and Aluminum Company of America commitments and a number of other directorships, I was a busy boy!

After taking over as BHP Chairman these commitments increased. I now worked out of two offices, one at WMC and another at BHP,

fortunately just a ten minute walk apart. My two secretaries, Barbara Giles and Vicki Barnard respectively, were both very efficient and worked well together which made a big difference.

The first BHP Annual General Meeting I chaired in September 1989 was attended by the by now to me familiar activists complaining about environmental issues, BHP's activities in South Africa, and so on. This was new to BH P but, compared to the anti-uranium protesters at WMC, it was pretty mild.

Also in September 1989 there was the inauguration in Perth of the North West Shelf natural gas project in which BHP was one of the six participants. This was a major event, with the official opening performed by Prime Minister Hawke. At the end of the month Saima and I hosted a visit by Governor General Bill Hayden and Mrs. Hayden to BHP's petroleum operations in the Timor Sea. We flew by light aircraft from Darwin to Trounton Island and from there by helicopter to the drilling rig and the oil tanker *Jabiru Venture* which was permanently anchored over the production site as the operations base and oil storage. Other tankers loaded oil from the *Jabiru Venture*. Everyone travelling on the helicopters had to be dressed in a bright red overall, to make it easier to spot them in case the aircraft had to ditch. We were given the overalls (unused) to take home as a memento.

During the strong demand for uranium for military purposes immediately after World War II extensive prospecting in Northern Territory and Queensland had led to a number of discoveries, including in the South Alligator region, 240 kilometres south-east of Darwin. The first discovery in this area, made on the day of the coronation of Queen Elizabeth II on 2 June 1953, was named Coronation Hill. This deposit was mined as an open cut in the late 1950s and early 1960s. Other uranium discoveries were made, and mined, in the vicinity.

By the time I joined the BHP Board in 1987, exploration by a joint venture in which BHP's subsidiary BHP Gold had a 45 per cent interest and was the manager had found economic gold, platinum and palladium mineralisation in the rocks surrounding the old uranium open cut. When Stage III of the Kakadu National Park was proclaimed on election eve in June 1987, the old mining area was excluded as an "exploration zone" so that further exploration and, if warranted, mining could proceed. On 9 October Prime Minister Hawke reaffirmed by letter to Brian Loton that *"there has been no change in government policy on the exploration zone concept or in relation to Coronation Hill"*.

The project employed a number of Jaywon aboriginal people and during a visit by directors in August 1988 we had lunch at nearby El Sherana camp with them and with Jaywon Association representatives (including the lady Chairperson) who had travelled from Katherine where they lived. All the aboriginals were very much in favour of the project and the Chairperson

spoke particularly strongly about the importance of providing meaningful employment for their young people, who would otherwise have nothing to do but drink and get in trouble. There was no mention of objections, spirits in the ground, or 'sickness area'.

By September 1989, when a final decision on the Kakadu National Park boundaries in Northern Territory was to be made, the Labor Party 'numbers man' Senator Graham Richardson had become convinced that the Government's success at the next election depended on the support of the extreme environmentalist lobby which opposed any mining in the Kakadu area. Banning mining there was vehemently opposed by the economic Ministers as well as BHP, but blatant politics won the day.

The night before the vital Cabinet meeting Bob Hawke reportedly had a 90 minute phone conversation with Philip Toyne of the Australian Conservation Foundation. I tried to speak to Hawke on behalf of BHP but he was not available and the call was not returned. It has been reported that in the Cabinet meeting Hawke, who had lobbied Ministers beforehand, pre-empted the discussion by speaking first, at length, and forcefully. The decision to reduce the exploration zone from 2252 square kilometres to 37, and to defer a decision on mining for 12 months while the Resources Assessment Commission conducted an enquiry, was announced at a late night press conference on 5 October.

Next day I was interviewed by John Jost on a morning radio programme. In answer to the question of what I thought of the decision, I said one could only draw three conclusions from it: one, that you can't trust the Government's word because they had very clearly said, not only once but twice, not just orally but in writing, that this project would be allowed to proceed; two, that the Government rated doing something about our disastrous current account deficit much lower than playing politics and, third, that we in Australia were very good at commissioning inquiries and investigations. If only we could find a way of exporting enquiries, there would be a great current account surplus. I made similar comments on Channel Ten's *Face to Face* programme on television that night.

The decision was also widely criticised by media commentators and other spokesmen and even by Labor Ministers. John Kerin said so in public. Peter Walsh in his memoirs records:

"The project had cleared all the normal hurdles, plus some extra obstacles erected at the insistence of greenmailers. Final approval should have been a mere formality …….the 1989 Coronation Hill decision justified Labor's removal from office."

My well publicised comments that the Government could not be trusted must have hurt because Bob Hawke was quite upset. He tried to

deflect the criticism of the decision by the well established political method of attacking me personally, saying on radio that I could not be trusted because I had incorrectly claimed that I had asked him to call me back when I had simply left a message when I could not speak to him. My criticism obviously really worried him and he telephoned me, asking me to correct the suggestion that he had refused to return a phone call. I was happy to do so on an ABC radio programme because I had not specifically asked him to call back and Bob subsequently expressed his 'unqualified gratitude' for me. This did not, however, have anything to do with the important issue that the Government had gone back on its word.

The end of the story came in June 1991 when mining at Coronation Hill was finally banned, not because of environmental effects which the Resources Assessment Commission had found not to be significant, but because a small group of the Jaywon people was said to have told consultant anthropologists that the area was occupied by a Dreamtime spirit named Bula who would visit great sickness and destruction on them if Coronation Hill was disturbed. It subsequently transpired that Bula had never been associated with that particular site until the late 1970s and it certainly had not reacted to uranium mining there in the 1950s and 1960s. The 'sickness area' had mysteriously grown to eight times its original size in thirty years. The strong support for mining by most of the Jaywon people, including the Chairman of the Jaywon Association, Andy Andrews, was simply ignored. Ron Brunton, who publicised these findings, was confronted by a fellow anthropologist in the Australian National University tearoom. "*You may well be telling the truth"*, his colleague said, *"but you should not be telling it".*

Peter Walsh called the June1991 decision even worse than that in 1989.

There was a substantial additional workload in 1990 when I was President of The Australasian Institute of Mining and Metallurgy. I decided to visit all thirty eight Branches in Australia, New Zealand, Fiji and Papua New Guinea, delivering addresses describing the local mineral heritage. In capital city branches the addresses covered broader issues such as government relations, education, safety and health, and so on. The preparation of the papers and organisation of the visits was a major undertaking, carried out with the help of my two secretaries and many people knowledgeable about the particular areas and issues, and particularly by one of my colleagues at WMC, Gilbert Ralph. In the end I failed to visit one of the Branches, at Bougainville, when it was found that there were no members there because an insurrection had closed down the Bougainville copper mine. Again mainly due to Gilbert Ralph, the addresses were later collected in a book *Down Under*, published in 1992 as an AusIMM Monograph.

The BHP International Advisory Committee meeting in 1990 was held in Ford Motor Company World Headquarters in Dearborn, Michigan (the CEO of Ford, Harold Poling, was one of the members and kindly made the facilities available). We used the opportunity to visit Ford operations and I spent some time in the fascinating Henry Ford museum at Greenfield Village.

In March 1991 I participated in the opening of the Escondida copper mine in Chile, of which BHP is the largest shareholder and the manager. Travelling to Chile involved an overnight stop in Papeete in Tahiti, continuing next day via Easter Island, famous for its statues, to Santiago.

When visiting the project in early 1989, Brian Loton and I had returned from the mine site in the foothills of the of the Andes, on the eastern fringe of the Atacama desert, to the nearest town, Antofagasta, by car. The Atacama is a really desolate place, not a blade of grass, not even sand but a kind of dark grit which has been produced by wind erosion of stones over the millennia. It is said to be the driest place on earth. The story is that the average rainfall there is one one-hundredth of an inch a year – it rained an inch a hundred years ago, and there has been no rain since then! The mine gets its water from an underground reservoir replenished by snow melting in the Andes. While driving back to the coast we called in to see now abandoned nitrate mines which had supplied much of the nitrogenous fertilizer to Europe until the Germans during World War I developed a process for capturing nitrogen from air. Desolate, and our guide had many dreadful stories about the working conditions.

The opening went very well and Escondida is today one of the great copper mines in the world. In Santiago we hosted a reception and were received by the President in Moneda Palace. The Chilean Army is modelled on the pre-war German Army and it was strange to see the palace guards goose stepping in Teutonic manner. I was told the model for Chilean Navy had been the British navy and for the Air Force the American Air Force, so in every area they had picked the best!

Later in 1991 I combined a visit to WMC activities in Brazil with calling in to see BHP's partly owned iron ore mine near Belo Horizonte, and the associated pellet plant on the Atlantic coast. During this visit I stayed overnight at Ouro Preto, the Brazilian equivalent of Clausthal with a famous mining school, a picturesque small 16th Century town in hilly country. The many visits to other BHP operating locations included the OK Tedi copper mine in Papua New Guinea, an oil refinery acquired in Honolulu, a natural gas platform in the North Sea (again by helicopter from Edinburgh, this time dressed in a skin tight immersion suit), a coal mine on a Navajo reservation in the Four Corners area (where Utah, Colorado, Arizona and New Mexico meet) in US and a copper mine at the northern tip of Vancouver Island in

Canada. Meanwhile the Company performed well, reported increased profits and paid increased dividends in every year while I was on the Board.

My three years as Chairman were coming to an end and during late February/early March 1992 I spoke to all directors individually. A special Board meeting on 10 March approved my recommendation that I would retire at the end of the BHP financial year on 31 May and would be succeeded by Brian Loton. Announced at a press conference later that morning, it did not come as a surprise.

Inevitably there were many farewell dinners during April and May. A year earlier I had officiated at numerous farewell functions on Brian Loton's retirement as Managing Director when he was succeeded in that post by J (John) Prescott; now it was Brian's turn to farewell me. I think we were both glad when the last occasion was behind us.

WMC overseas

The first WMC involvement outside Australia was in minerals exploration in New Zealand in 1969. A mercury prospect was located, but work ceased in 1975.

Roy Woodall followed up other exploration opportunities overseas and in 1980 a joint exploration venture with Alcoa was formed in Brazil. Initially for copper, the focus was subsequently changed to gold and Alcoa withdrew in 1985. WMC persisted on its own, found a small gold deposit, purchased another, and operated these in the State of Goias. The investigation of many prospects throughout Brazil over some twenty years did not, however, yield a big discovery.

In 1983 a joint venture was formed over the operating Vatukoula gold mine in Fiji and a separate joint venture explored the area surrounding the mine. The Vatukoula mine, discovered in 1932, had been in continuous operation since that time. The mineralisation occurred in a caldera – the crater of an extinct volcano - and the groundwater was still almost boiling hot. The mine, treatment plant and management practices were all in need of modernisation. WMC undertook this, but our main interest was in the exploration potential in the vicinity. The operation was caught up in intense politicking, including by left wing Australian unions supporting local leftists against the Fijian government.

After extensive exploration for eight years which resulted in one modest size high grade discovery, both joint ventures were terminated in 1991.

From the second half of the 1980s onwards numerous exploration projects, mainly for gold, nickel and copper, were pursued in USA, Canada and Chile. In the Philippines the Tampakan project on the island of Mindanao succeeded in discovering extensive copper mineralisation but

further progress was frustrated by opposition to the project by various non-government organisations, local catholic church, and other activist church groups from as far as Germany. WMC had built and staffed a medical clinic for the indigenous B'laan people and built schools and plant nurseries which were turned over to the locals to operate. During a visit in 1998 I called on our main local church opponent, the Bishop of Marbel, who accused WMC of having done all this to bribe the people! The opponents also challenged in court the constitutional validity of the title issued to the Company by the Government. WMC sold the project soon after my retirement in 1999 to Indophil Resources Ltd, a company established and run by ex-WMC geologists. After further exploration indicated a very large copper-gold resource, X-Strata Plc acquired in 2007 a 62.5 per cent interest and commenced a feasibility study.

Meanwhile, in 2006 environmental, church and indigenous activists formed a coalition to lead protests against mining projects on Mindanao. The Maoist communist New People's Army attacked the Tampakan property on 1 January 2008, burning several buildings, and promised further action. Mining in the Philippines is unlikely to be dull !

A short-lived exploration joint venture with the Government of Liberia for alluvial diamonds and gold in 1989-1990 was discontinued because of insurrection and civil war. President Doe, who had gained power in a bloody coup in 1980, was himself assassinated in 1990. A civil war continued until 1997. The WMC agreement was formally dissolved in 2002.

In 1987 WMC, in partnership with Homestake Mining, contemplated tendering for the El Indio gold mine at an elevation of 14,000 feet (4250 metres) in the Andes in Chile. The whole Board visited Chile in preparation for a decision. The military Junta was still in power and we had lunch with one of the four members, Air Force General Matthei. A visit to the mine had to be cancelled because an avalanche of snow had buried the access road, but we were extensively briefed on conditions in Chile and met with Ministers, political leaders, public servants, businessmen, El Indio management, the Human Rights Commission, and Australian and New Zealand Ambassadors. The tender process was short circuited by Alan Bond flying into Santiago and making the owners, Fluor International, an offer which overcame any scruples they may have had over this grossly unethical behaviour. On the way home we had a WMC Board meeting in San Francisco (the first ever overseas) and dinner with the Homestake Board.

In 1988 WMC acquired two operating mines in Canada and two in the US, none of which turned out to be successful. The gold operations in California and Nevada were discontinued some years later, the gold-copper mine in Quebec was sold and the Seabright Resources gold mine in Nova Scotia became the subject of litigation, some aspects of which were not finally concluded until 17 years later.

The bids for all the companies were made on the basis of publicly available information in official reports by the companies to regulating authorities and shareholders. When the bid to Seabright was announced its directors, as required by Canadian law, signed and issued a Directors' Circular which stated that there had been no material change of circumstances likely to affect the value of the shares.

On assuming control of Seabright in February 1988 we became immediately aware that the published ore reserves at the main operation, the Beaver Dam mine, could not be confirmed and that this had been known and been under investigation for some time. Internal documents stated that the ore reserve plans were useless for mine planning purposes. Outside consultants, who had orally advised the President of Seabright just before the takeover approach was made that the economic viability of the mine was in serious doubt, had been instructed not to submit their report in writing until later. (It was submitted the day after the takeover offer closed). After taking advice from one of Toronto's leading law firms, WMC decided in July to sue the former Seabright directors in Ontario. A few weeks later the Seabright directors counter-sued WMC in Nova Scotia.

In 1989 the Ontario Securities Commission investigated the former President of Seabright Resources regarding the alleged misrepresentations and omissions in Seabright's documents filed with the Commission in 1986-87. A settlement was agreed, according to later evidence in court by a Commission official because they were certain that WMC's Ontario claim would succeed.

The WMC action in Ontario could not be listed for hearing before the Nova Scotia counterclaim, which proceeded first. Even then the wheels turned slowly and the judgement in Nova Scotia was not handed down until March 1993. To the utter disbelief of our legal advisers and ourselves, the judge held that

"although there were some signs that some of the company's properties may not be as profitable as estimated, no such fact had become established at the time of the takeover" and that *"the plaintiffs at all times acted honestly and in good faith".*

He then proceeded to tip the bucket on WMC for

"this multi-billion Australian company (having) set out deliberately and intentionally…..to crush the plaintiffs, causing them great injury, and with that their predominant intent".

The judge awarded damages and costs against WMC.

The reaction of some media commentators was also disbelief. Trevor Sykes in a radio interview said:

"(This) looks like a real home town decision……All I can say is it's lucky the Canadians don't play cricket 'cause I'd hate to see what their umpires are like".

Others enjoyed the opportunity for colourful headlines.

Remarkably, the Appeal Court in January 1994 upheld the decision, using the occasion to dump another bucket on WMC. There was the opportunity to appeal to the Supreme Court of Canada and strong legal advice was to do so. The Board, however, felt that regardless of the merits of the case, it was in the commercial interests of the Company to let the matter lie. In retrospect this was not a good decision because a few months later the Supreme Court in another very similar case handed down a judgement which, in effect, supported the WMC view.

In 1989 WMC investigated the possibility of becoming involved in chromium production in USA and the Kingdom of Swaziland, but did not proceed.

In the early 1990s WMC contemplated entering into a joint venture over the copper mining, smelting, refining and fabricating complex of Kombinat Gorniczo-Hutniczy Miedz (KGHM) in the Lubin district of Poland, in what had been before the war German Silesia. This large State-owned enterprise producing 325,000 tonnes/year copper was to be privatised and WMC was discussing acquiring a 46 per cent interest in a joint venture. Besides the mines and plants the enterprise was on the normal communist pattern also involved in all kinds of fringe activities: it also owned a bank, a football ground, holiday resorts, and so on, employing in total 40,000 people. The challenge was to reorganise this into a viable and focussed free market profit-oriented operation. WMC presented an analysis of what had to be done and the whole Board of WMC visited Poland in 1992 to see the operations and conditions at first hand.

The fundamental challenge of reorganisation and changing the mindset of people was greatly complicated by the politics of privatisation and frequent changes in top political leadership. During a meeting in Warsaw a member of Polish Parliament told the Board that there were two ways for Poland to do what needed to be done: the realistic way and the miraculous way. The realistic way was for Jesus Christ and his disciples to come down from heaven and do it. The miraculous way was for the Poles to do it themselves!

Hugh Morgan and I met with the Prime Minister who had not been in that post for long (and did not stay in it for long) and other Ministers and officials. No-one seemed firmly in charge of the matter. The frustrations with the privatisation procedures continued after our visit. The whole top management of KGHM was changed and there was industrial unrest because the unions were reported to be fiercely opposed to foreign participation in the Kombinat. No progress was being made or even looked likely and WMC withdrew in 1993.

In the mid-1990s WMC became a joint venturer with the Government of Cuba in the investigation and development of a lateritic nickel project

near Mayari in eastern Cuba. Saima and I called in there in 1997 on our way to an Alcoa Board visit to Brazil. We were very well looked after, flown to the region in a Russian jet and helicopter and shown around. We were the guests of honour at a gathering of local school children wearing red scarves and, on cue, chanting in chorus which reminded us of the compulsory communist Young Pioneers in Estonian schools in 1940-41. On the way back to Havana we stopped overnight in the newly built luxurious holiday resort of Varadero on the northern coast, built to attract foreign tourists (or, more correctly, their foreign exchange).

The *piece de resistance* of the visit was a private dinner with Fidel Castro in his Palace in Havana. We were notified of this just a few hours beforehand, which apparently was standard practice. '*El Comandante',* as he was called in Cuba, spoke through an interpreter, although I think he understood English.

He explained that the WMC project was in an area where he grew up (his father had a large property there) and that he disliked the thought of the forest where he had roamed as a boy being destroyed. However, he said, he understood the need for it. (The Soviet Union, which had subsidised his regime, no longer existed and Cuba had to fend for itself). I was able to assure him that our practices and experience in Australia would ensure that the land would be rehabilitated and the forest regenerated. He asked many perceptive questions about the nickel markets and the structure and the outlook for the world industry. There was no sign of the illness he was rumoured to be suffering from just before we arrived in Cuba. He was a charming host and the dinner concluded at midnight. It was difficult to remember his bloody record and propensity for making rambling six hour speeches. Mentioning this visit later to my brother in Estonia, his comment was: *"We Old Bolsheviks must stick together!".*

In 1995 WMC became a 50 per cent participant in and manager of a joint venture with two Canadian companies in a gold discovery at Meliadine, close to the Arctic Circle on the north-western shore of Hudson Bay. The area had been in North-West Territories but in 1999 it became a part of the newly established Nunavat Territory governed by the indigenous Inuit (Eskimo) people. Visiting there in 1997, I was particularly impressed with the attitude of the local Inuit who were very much in favour of development, in refreshing contrast to people in some other areas, including in Australia. Many of the services to the project were provided by Inuit enterprises.

The climatic conditions were severe, with permafrost and winter temperatures down to - 40^{o}C. During my visit in mid-summer at the end of June, the daytime temperature was around +5^{o}C. There was no road access from the nearest town (Rankin Inlet) and everyone travelled to and from the site by helicopter, which was also the means for moving drilling rigs and supplies around. The main supplies to the camp were moved in the winter

when the ground was frozen and trucks could travel on a bulldozed snow-road. A substantial good grade ore reserve was being built up by the time I retired. The WMC interest was sold in 2003.

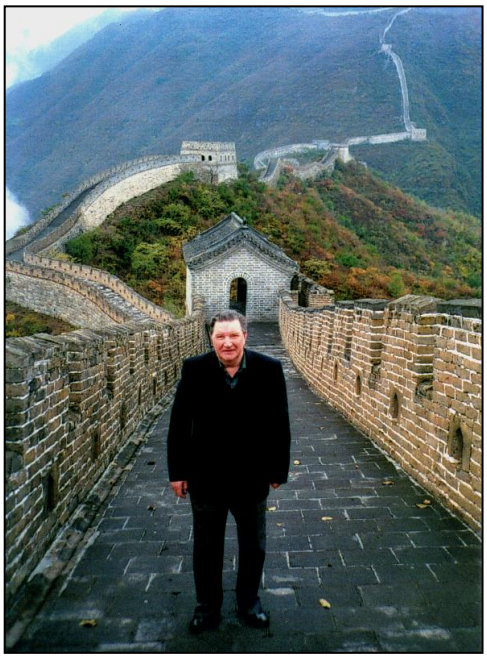
On the way to and from Meliadine I stopped over in Yellowknife in North-West Territories and Whitehorse in Yukon Territory, both legendary 19th Century frontier mining towns. The highlight of the stay in Whitehorse was attendance at a variety show on gold mining themes, the centrepiece of which was an enactment of Robert Service's ballad *The Cremation of Sam McGee* about a prospector from the south who could not get warm until he finally arrived in the cremating oven.

In 1996, following a major two year study of international mineral exploration strategy initiated by Roy Woodall, overseas exploration was carried out in fifteen countries including in Central Asia and East and West Africa. A contrast to the arctic conditions at Meladine was provided by gold exploration in the jungles of tropical French Guyana. The resulting increase in exploration expenditure was not sustainable and by 1999 the activity had been reduced to six countries.

In 1997 the Company contemplated tendering for the purchase of shares in Brazil's largest company Companhia Vale do Rio Doce (CVRD), which was being privatised. CVRD was the world's largest iron ore producer, with other substantial interests in bauxite, copper and gold and various industrial enterprises. (In 2006 it took over Inco.) We could have acquired only a small interest at best and I was relieved when, in the event, WMC did not proceed.

In 1999 an agreement was signed to develop a gold deposit in Uzbekistan in a joint venture with the Uzbek government, from which the Company subsequently withdrew.

Relations with China



On the Great Wall 13 Oct 1991

WMC's relationships with China began with a visit to Australia by the Chinese Minister for Foreign Trade in July 1973. Attending a dinner for the delegation, I expressed WMC's interest in supplying nickel to China. Following further representations, we received in December 1973 an order for 600 tons. There were no further orders, although various contacts continued.

In 1978 a Chinese Metallurgical Mission, some ten people led by Vice Minister Hsu Chih, visited WMC Melbourne

Office. We had an hour's discussion, following which I hosted a lunch in a private room at the Melbourne Club. To their credit, the Club members did not blink an eyelid when a group of guests in Mao suits marched into this bastion of capitalism.

During the visit I told the Vice Minister that WMC would be interested in applying in China our long experience and established technology in gold exploration and mining. A part of the reason was that we regarded China as a large and growing market for nickel and thought that establishing a relationship in gold would assist in becoming a regular supplier of nickel to China. Mr Hsu expressed particular interest in alluvial gold dredging technology and we undertook to send him information, which was done through the Chinese Embassy.

While I was describing our background and operations to the Vice Minister, he asked how many people worked for WMC. I gave the number (from memory, of the order of 6000) and politely enquired how many employees there were in his Ministry. "I am not sure", was the reply, "but I think about four million!"

In 1979 WMC received an oral invitation from the Gold Corporation, a part of the China Ministry of Metallurgy, to send a technical mission to China, with particular emphasis on gold exploration and production. We submitted a programme which included detailed presentations on all aspects of gold production. To show our expertise, it was decided to prepare a comprehensive manual covering gold exploration, mining, and metallurgy. Fifty copies of a copyrighted two volume manual of about 400 pages were produced. Thirty eight of these were left in China. Copies were placed in the National Library.

The delegation, led by Roy Woodall, spent twenty-two days in China in March 1980, visiting prospects and conducting seminars in Beijing. The Chinese accepted an invitation to send a delegation to visit WMC operations in Australia, which took place in October 1980. Ostensibly a delegation from the Gold Bureau, their interest while in Western Australia was, however, focused on nickel and they particularly went to great lengths to obtain detailed information on our nickel smelter and refinery.

It transpired that the China Non Ferrous Metals Import and Export Corporation (CNIEC) had a nickel operation at Jinchuan in Gansu Province in northern China. It consisted of an underground mining operation in very bad ground and a smelter and refinery which they had constructed themselves using a Canadian textbook *The Winning of Nickel* as their sole source of technical information! An expansion programme included the construction of a flash smelter. Being very impressed with our Kalgoorlie Nickel Smelter, they wanted WMC to help them design and commission the smelter.

We pointed out that we had obtained the know-how for the flash smelting process from Outokumpu and could not do what they wanted without Outokumpu's permission. We also pointed out that we were not consultants

and our relevant staff was fully occupied with running our nickel operations. We advised the Chinese to go to a professional engineering design and consulting firm. They insisted that they were particularly impressed with our operation and wanted a smelter *'just like WMC's'*.

We then agreed to advise and supervise their own design team on a cost plus a $1 million fee basis, half-hoping that this would put them off. It didn't - some twenty Chinese draughtsmen and engineers arrived, worked in our Belmont office in Perth for some months in 1985, and took the design back to China. Our people were impressed with the way in which they conducted themselves, both professionally and as people for the first time in a strange country. They lived in rented self-contained accommodation not far from the office and cooked Chinese food for themselves. When the team went back to China, the accommodation was left in meticulous order.

There was a delay in constructing the smelter, but some years later we were asked to accept Chinese smelter staff for training in our Kalgoorlie smelter and some of our staff went to China to help with their commissioning. As far as I know, their smelter has been a success.

We persisted with our interest in gold mining in China and received an invitation to consider involvement in four existing gold mining operations. The proposal was that we would supply management to increase the output of these operations, would not have an equity in the projects, but would receive half the net profit from the additional gold produced for an agreed number of years. We were invited to inspect the operations before proceeding further. Before doing so, we decided to ask for information which would enable us to assess the practicability of achieving additional production and profit. One of the questions was: *"What is the price of gold in China?"*. Our interest in the proposal disappeared when we were told that the price of gold in China was a State secret. This was the end of this particular episode.

Subsequently WMC did sell nickel to China from time to time but our attempts at becoming involved in gold mining in China probably had nothing to do with this. As in all government bureaucracies, in China also different matters are dealt with in different compartments and there is probably not much spin-off from one compartment to another. However, when WMC in 1994 again became interested in gold exploration in China, our people were told in discussions that the Mission to China in 1980 was well and favourably remembered. In 2003, well after I had retired, WMC concluded a long term sales contract and a joint venture for nickel exploration in China with the Jinchuan Group. Thus the contacts first made in 1973 produced thirty years later the outcome we were looking for. On Chinese time scales, this may well have been fast progress!

I first visited China in May 1988 as a member of Chase Manhattan Bank's International Advisory Committee. Cultural Revolution was finished, admitted by the Party to have been a grave mistake. Chairman Mao was dead

and China under Chairman of the Military Commission of the Central Communist Party of China, Deng Xiao Ping, himself a victim of the Cultural Revolution, had declared *'open door policy'*. A typically singleminded effort had been mounted to improve the economy and attract foreign investment and trade.

Sarah Lloyd, who spent eight months travelling in China just before then, describes it in her book *Chinese Characters* (Collins 1987):

"*So fast were the changes brought on by Open Policy all over the land that even during the eight months I felt their force. The Chineseness of cities was being swamped in a way that no outside culture could ever endanger the Englishness of ours but would simply enrich it, containerised in zones for us to sample and ignore. For the first time in China I saw signs in English at stations and English announcements on trains. "Time is money", read a notice in a window, and Chinese were chivvied to get moving and achieve. Shops displayed foreign electrical goods for the get-it-while-you-can consumer urge, disguised by the Party as economic growth. Advertising was beginning to employ romantic imagery, following the West in its search for the ultimate dream. A fast food store appeared in Beijing with synthetic ivy and moulded chairs, selling hot dogs and chicken legs to modish leather and jeans clientele. Western movies played at cinemas and Beatles music bellowed from rock bars. Foreigners flooded in with hotels and cafés and craft shops in their wake. A German traveller was asked for a tip. Luxury hotels boasted swimming pools, and cocktails were sipped among potted palms; private taxis brought clients to the door and porters carried their bags. "*

However, a large portrait of Chairman Mao, today said to have caused the deaths of at least seventy million Chinese, still decorated (and still decorates) the Gate of Heavenly Peace into the Forbidden City, his mausoleum, with long queues of visitors to view his embalmed body, still stands just across the road in Tiananmen Square, and his portrait appears on Chinese banknotes. The official view is that Mao was *'70 per cent right and 30 per cent wrong'.*

Our visit to Beijing was hosted by the State-owned China International Trust and Investment Corporation (CITIC) and we met China's top leadership, headed by a chain smoking Deng Xiao Ping, Premier Li Peng and General Secretary of the Central Communist Party Zhao Ziyang. The arch-capitalists David Rockefeller, Henry Kissinger, Bill Butcher (Chairman of Chase Manhattan) and senior businessmen from seventeen countries who made up the membership of the Committee were feted in a grand manner. To understand the magnitude of the change, during the Cultural Revolution a hospital in Beijing funded by the Rockefeller Foundation in the 1920s had

been named the Anti-Imperialist Hospital, located on Anti-Imperialist Street. John D Rockefeller's grandson was now an honoured guest.

Words frequently used by the Chinese talking to us were *'economic progress', 'competition', 'productivity', 'profit', 'market forces'.* I did not once hear the word *'communism'*. Socialism was referred to only in the context that the aim was to improve the *'socialist market economy of China'* which was said to represent *'socialism with Chinese characteristics'*. The observation that what they were about looked very much like the doings of capitalists was greeted with loud laughter. People in Asia laugh not only when amused but sometimes also when embarrassed or sad, so it was not clear which kind of laughter this was. It may have been relevant that Mao had repeatedly expressed the fear that capitalism would come back to China.

Deng said this was *'the only way for China'*. There was no turning back. Taiwanese investment on the mainland was welcome and actively encouraged, although it was *'etched in granite'* that Taiwan was a part of *'one China'*. However, while the economic system was being opened up, the government system was to remain *'people's democratic dictatorship'*, a phrase invented by Mao in 1949. Yet, in the same year Mao had also said: *"When man reaches old age, he will die and the same is true of a party".*

The windows of the suite Saima and I had in the Sheraton Great Wall Hotel overlooked the construction site of a large building across the street. When we arrived, the foundations had been poured. Hundreds of workers in yellow safety hats swarmed over the site twenty four hours a day and one could literally see the building growing out of the ground. It was well up when we left five days later.

There were many *'banquets'*, including one in the Great Hall of the People, a massive government building on the western side of Tiananmen Square built in ten months the 1950s, using 12,000 workmen toiling for twelve hours a day. I liked the system: commencement at 6 p.m., short speeches and just two toasts (to guests and hosts) and finish by 8.30 p.m. Very civilised! A dozen or more courses of excellent food are served, in small serves, and one is not expected to eat everything - in fact, if you happen to be talking about something interesting with your neighbour, a course may well be whisked away before you have eaten any of it! The English translation of the menu is not always helpful because some of the dishes may be given poetic names such as *'fragrant meat', 'lion's head'* and so on. I have been told that it is polite not to eat everything so that the hosts know that you have been offered more than enough, but have not checked this.

Beer was Chinese and very good but served lukewarm, not really the preference of someone used to it at a few degrees above freezing point as is the practice in Kalgoorlie. Wine in 1988 was French, although today Chinese wine is increasingly served. Mao tai is a fiery 70 proof Chinese spirit, not to my

liking. Distilled from rice, it originated in the township of Maotai in Sichuan province. It is used for drinking toasts, fortunately in very small glasses.

Towards the end of the banquet the host is expected to visit all tables and have a chat and a drink. If there are numerous tables, this adds up to a lot of drink! At a very large banquet the host may visit only a number of selected tables. If the guests do not look like leaving at the right time, it is not unusual for the host to get up and say: *"Ladies and gentlemen, the banquet is over!"*.

We were whisked to the official meetings and functions in a convoy of black limousines, preceded by police cars with sirens. Policemen on duty at crossroads stopped the traffic, mostly a solid mass of cyclists, in our favour, red lights or not. It was embarrassing, but appeared to be accepted as normal by the locals. At night the cycles had no lights which added a special thrill.

For shopping there was the Friendship Store, a department store and supermarket specially for foreigners where the shop assistants spoke English and there were interpreters for other languages. When we first visited there, the abacus was still in use and the attendants were really expert with it.

In June 1990, as Chairman of BHP, I opened BHP's new office in Beijing. I was one of the first senior Australian businessmen to visit China after the Tiananmen Square massacre a year earlier. My official host was the Minister for Metallurgical Industry and it had been arranged for me to stay at Diaoyutai State Guest House. The Diaoyutai (the name means *'fishing pavilion'*, so named when it served as a recreational area for the imperial household) is a compound on the western side of the city. Elegant western-style villas are arranged along a chain of small lakes surrounded by gardens and lawns. The lakes are connected by narrow channels over which there are ornate humpback bridges. It is used to house visiting Heads of State and high dignitaries; Henry Kissinger stayed and met with Zhou Enlai there during his secret visit in July1971 and President Nixon was accommodated at Diaoyutai in February 1972.

My diary says: *'Living in great luxury.'* No doubt about these egalitarian communist countries! I was told that Queen Elizabeth had once occupied the same suite.

I was driven around in a *Hongchi* (Red Flag) limousine which comes in different sizes and models. Mine appeared to be the Chinese copy of the Rolls Royce, which I understood to be a great compliment. The driver yelled at the traffic through a megaphone and cyclists duly dispersed in panic to clear the way. Fortunately the windows had curtains, which saved me some of the initial embarrassment. After a while I almost started to like it!

After meetings with CITIC, the Minister for Metallurgical Industry, lunch hosted by the Minister and a meeting with a State Councillor (equivalent to a cabinet minister) there was a ribbon cutting ceremony by the Minister and myself in the afternoon. In the evening I hosted a banquet at which the

Minister was, of course, the guest of honour. He and I must have been thoroughly sick of each other at the end of the day!

While waiting for the ribbon-cutting ceremony I had a meeting with some Chinese officials about a Chinese iron ore carrier which had sunk with BHP iron ore in the Indian ocean. The crew was picked up by a Japanese ship and taken to Cape Town. BHP insurers were trying to obtain statements from the crew, who were reluctant to say anything, before they left South Africa. The Chinese claimed that BHP had caused the crew to be imprisoned. I agreed to disagree with the officials and the meeting, while not notable for bonhomie, went off reasonably well.

My departure from Beijing was impressive: after all passengers had boarded, I was taken in a big black limousine to the steps of the aircraft standing on the tarmac some distance from the terminal, with everyone else on board and the door open. When I walked up the steps, the farewell party saluted! The passengers looking out of their windows must have wondered who this big communist functionary was? As soon as I got on board the door closed and the plane took off.

In October 1991 I was again in China, to celebrate BHP's 100 years of business with China, to be present at the signing of an agreement in Chengdu to explore for lead and zinc in Sichuan province, and to visit the new Baoshan steel mill in Shanghai which was a good customer for BHP iron ore and coking coal.

The banquet I hosted to mark BHP's 100 years with China was quite an occasion. BHP had been established in 1885 to mine lead and silver at Broken Hill in New South Wales. Six years later, in 1891, the freighter *Changsha* had sailed from Australia for China with the first shipment of 300 tons of BHP lead aboard. There were the required speeches and toasts and I managed to have a drink at every one of the 30 tables.

Next morning I visited the Great Wall for the first time. Then to Chengdu where we were looked after by Sichuan Provincial Government and accommodated at the Jin Niu Ba *('Gold Ox'*) Guest House. There were two main guest suites in Jin Niu Ba - one impressively decorated and furnished in Chinese style, which was allocated to me. I was told that President Bush had also stayed in this. Another suite was furnished in European style and I was told that this was where Chairman Mao had liked to stay. BHP China representative Clinton Dines was given this accommodation. Sichuan is famous for its spicy cuisine and we duly sampled it at a dinner we gave to our hosts in a Chengdu restaurant.

Incidentally, while the written language is the same everywhere in China, the spoken language varies. The official language is Mandarin, a northern dialect. Another major language is Cantonese. In Hong Kong, where Cantonese is spoken, I was told that the local Chinese often converse with mainland Chinese in English. The ideographs having the same meaning,

people from different areas sometimes use fingers to draw characters on the palm of their hand to communicate. Also, Chinese, Japanese and Koreans can read each other's writing.

Export of precious metals from China was forbidden. Silver, the early monetary metal in China, was included. As any lead-zinc concentrate produced if the exploration in Sichuan was successful would contain some silver, the State Council (equivalent to our Cabinet) had to make special provision for exports of such concentrate to be exempted.

After Chengdu I called in Shanghai and visited the Baoshan steelworks, a major customer for BHP iron ore and coking coal. The steelworks were very modern, the first unit quite recently designed and built by the Japanese. In a country teeming with people, there were hardly any workers in the highly automated steelworks. The Chinese learnt very quickly and did the subsequent major expansions themselves..

In September 1992 I was CITIC's invited guest at an International Economic Forum in Beijing, again accommodated in Diaoyutai State Guest House but not in the Queen's suite. My diary records that, driving in from the airport (about thirty km from the city centre), there were (unarmed) soldiers facing outwards on both sides of the road about 50 metres apart. This was puzzling until I found out that the President of South Korea was visiting Beijing and was due to arrive shortly after me. He was, in fact, staying in the next building at the State Guest House.

I also attended the second CITIC Forum, held in Beijing in October 1994, which also marked CITIC's 15th Anniversary. In the following year CITIC invited me to become a member of their newly established International Advisory Council, the first meeting of which took place in Beijing in March 1996. There were a further five meetings over the next six years.

Members of the CITIC International Advisory Council included besides senior business leaders from Europe, North America and Asia such luminaries as the retired US Secretary of State George Schultz, former Prime Minister of Canada Brian Mulroney and former Prime Minister of the Republic of Korea Lee Hong-Koo. Some meetings were also attended by special guests such as Lee Kuan Yew and Helmut Schmidt. There was always a meeting with *'State Leaders',* usually President Jiang Zemin, which included a group photograph on a special dais. On one occasion the President happened to be in Shanghai at the time and the whole group was flown to meet him there. Many other photos were taken during the meetings and it was impressive that the departing participants were always handed an album at the airport, including photos taken on the previous evening. We met on a number of occasions Premier Zhu Rong Ji who was very impressive. I hosted him at BHP's Head Office in Melbourne when he visited Australia.

The year 1999 was the 50th anniversary of People's Republic China. It was obviously a big event, not only for the officials but also for ordinary

Chinese. Rehearsals were held while we were there just before the formal celebrations, with tank columns parading in the streets, the air force flying overhead, and fireworks in Tiananmen square in the evening.

In 1994 WMC Exploration Division's attention had been directed to the Tian Shan auriferous belt in Xinjiang province (Xinjiang Uighur Autonomous Region, previously Eastern Turkestan) in the extreme north-west corner of China. The Chinese Mineral Resources Law had been amended on 1 January 1997 and foreign companies were now welcome to participate in the minerals industry in China. The new law had been patterned largely on the Mining Act in Western Australia which, after a thorough investigation throughout the world, the Chinese had found met their requirements best.

A Joint Venture between WMC (75 per cent) and three Chinese government partners (25 per cent) was formed and low key exploration commenced in 1998. I visited the project, named Tulasi, in September 1998. This happened to be the best time of the year, with long days, clear skies and comfortable temperatures.

The north-west frontier area has been long regarded in China in the same way as Siberia is in Russia. The Xinjiang Province is China's largest, covering one sixth of the country. Rich in natural resources and relatively uninhabited, it contains harsh deserts and huge mountain ranges. As with Siberia, superlatives abound: the most arid province, the hottest and the coldest places, the longest inland river, the largest inland lake, the largest desert, the second highest mountain peak and the second lowest place below sea level. It borders Mongolia, Kazakhstan, Kyrgyzstan, Uzbekistan, Tadzhikistan, Afghanistan and India. The border with Kazakhstan near the project area (and, I presume, elsewhere) was heavily guarded. In the early 1980s there had been an uprising of the predominant Muslim minority, 12 million Uighurs of Turkic origin (80 per cent of the population before the influx of Han Chinese). Further troubles followed. In 1998 there was a sense of potential unrest not far below the surface.

One of the peculiarities of the area was that, while many time zones to the west, Xinjiang is officially run on Beijing time. Thus in the summer months the sun does not rise until 9 a.m. and it is still light at midnight. However, I was told that the local people use their own system.

The capital of Xinjiang, Urumqi, on the northern branch of the ancient Silk Road (there are several alternative Chinese parts of the Road) was a surprisingly modern town of one million inhabitants, with high rise buildings and at least one excellent western style hotel (the *Holiday Inn*). We visited the history museum where one can see the mummified bodies of people from 2000 BC, preserved in brightly coloured clothing by the naturally salty soil. Surprisingly, they appear similar to the blue-eyed Celts described by the Romans a long way further west nearly two millennia later. The men appear

to have been tall with blond or light brown hair and the women's hair is woven in long blond braids.

I met the Governor, various officials (including several Uighurs) and Joint Venture partners in Urumqui and Yining, 500 kilometres to the west and close to the Kazakhstan border. From Yining I visited the Kanbouchazouta prospect about 40 kilometres north, near the operating Arxi gold mine. It was a tough all day trip in four wheel drive vehicles on badly water-eroded tracks in attractive undulating grass country in which Kazakh herdsmen were grazing their sheep, with snowcapped Tian Shan mountains in the distance. One of the herdsmen joined us for a sandwich lunch near the prospect. Back in Yining in the evening I hosted a dinner for the Secretary and other local dignitaries of the Communist Party, who insisted on accompanying us to the airport to catch the midnight flight to Beijing.

As is the fate of most minerals exploration, the Tulasi project did not live up to expectations and WMC subsequently retired from it.

Non-executive Chairman

I was due to retire as an executive on my 65th birthday on 10 February 1991. For various reasons I actually retired a few weeks earlier, on 28 December 1990. Hugh Morgan was now Chief Executive of WMC.

The Board had earlier in the year invited me to continue as non-executive Chairman after retirement. When the date approached I suggested to the Board that they should re-consider because, if a change was to be made, this was a good time to do it. They confirmed the invitation and I accepted.

I was very conscious that in a non-executive role I should not interfere in management matters and made a deliberate effort not to do so. It was very difficult at times! In retrospect there were occasions when I should have been more intrusive, but on the whole I like to think that the relationships worked well during the nine years I was non-executive Chairman of WMC.

Buying back Olympic Dam

Towards the end of the 1980s the large oil companies, which ten years earlier had been keen to diversify into minerals, all decided that the rewards in that industry were insufficient and decided to withdraw. In December 1988 BP announced that it was negotiating for the sale of its worldwide minerals interests to RTZ. In January 1989 agreement had been reached. WMC had pre-emptive rights over BP's 49 per cent interest in Olympic Dam but had not been consulted and was not given notice that BP wished to assign its interest to RTZ until July 1989. The price put on the 49 per cent was US$601 million.

WMC believed that the notice and the way in which the price had been calculated were invalid for a number of reasons. After some legal manoeuvring the notice was withdrawn in September and there was a hiatus until December 1992 when BP advised that it had reached conditional agreement with Minorco. In March 1993 WMC announced that it had decided to exercise its pre-emptive right. The purchase price was US$240 million and BP's loans of US$273 million were bought back for US$190 million. Barry Fitzgerald of *The Age* commented wryly that RTZ must have been celebrating in London because they had offered US$600 million for what had just been sold for US$240 million. WMC again owned all of Olympic Dam.

The troubles

In mid-1993 WMC received very adverse publicity when it had to relinquish its interest in a copper discovery known as Ernest Henry in Queensland and pay damages and legal costs. WMC had entered into an option agreement over ground adjacent to its own area and was accused of having trespassed to conduct a geophysical survey on the optioned ground, where the discovery was made, before the agreement had been signed. The Company's defence was that mineral lease in question in difficult bush country had not been marked out properly, the lease pegs were not evident, and any trespass was unintentional.

In court the WMC geologist in charge of the project, at the end of three days of grilling in the witness box, agreed with the cross-examiner that, contrary to his previous statements, he had deliberately decided not to disclose vital information to the joint venturers. Later he could not explain why he said this, but by then it was too late.

Coming on top of the adverse Nova Scotia judgement (see *WMC Overseas)*, this understandably caused a major furore. The Board appointed a three-member Committee of Enquiry comprising of a just appointed director (I G R (Ian) Burgess) as Chairman, a retired judge, and a retired exploration geologist. They reported at the end of August, concluding that neither the geologist concerned nor any other officers had behaved unethically or dishonestly but that there had been laxity of procedures, and making a number of recommendations. On behalf of the Board I advised shareholders by letter of measures decided upon to correct the shortcomings. Some staff, either directly involved or in the line of authority, including the Managing Director as the person finally responsible for everything, were disqualified from staff share issues for two years.

Not everybody within the Company was happy and the reaction of shareholders varied. Some thought the Board had not gone far enough and others thought it had gone too far. One shareholder wanted to have a motion at the next Annual General Meeting to rescind the Board's actions. I

managed to dissuade him. At the Annual General Meeting which had a large attendance, possibly because of speculation in the media about expected fireworks, only one shareholder made critical comments.

Things were settling down when the Nova Scotia Appeal Court decision in January 1994 caused a new wave of scathing criticism. An editorial in the *Financial Review* said: *"Hugh Morgan should resign and so, arguably, should the Western Mining board*". I was told of this while on a visit to the United States, cancelled the rest of my itinerary and returned to chair a special Board meeting to review the situation. It was clearly the low spot of all my years with WMC. Remarkably, however, in spite of the dreadful publicity, by mid-February WMC's share price had doubled compared with just before Christmas.

Everybody was keenly conscious that it would take some time to work our way through this. Companies today have *'crisis management'* teams comprising of a large number of people and bring in specialist outside consultants to advise on how to deal with such situations. In the then much simpler world we retained just one adviser, S E K Hulme QC, to provide a second legal opinion to our own lawyers and handled everything in a normal manner. I personally dealt with shareholders and the media and, as in the letter to shareholders in August 1993, adopted the policy of being open and telling the truth. Hugh Morgan, under great pressure and subject to criticism in the media and elsewhere, conducted himself with dignity. The Board and management pulled together and, in due course, we did recover from it. One of the consequences, however, was that the dangers inherent in the now much more litigious society in Australia had been vividly demonstrated and WMC became a much more formalised and even bureaucratic organisation. A number of other companies probably thanked their lucky stars that they had not been caught and followed the same path.

Overseas commitments

In 1983 I was invited to join Chase Manhattan Bank's International Advisory Committee, succeeding Sir James Vernon as the member from Australia. The Committee was chaired by David Rockefeller who had initiated it when Chairman of the Bank. It had a membership of one eminent businessman from each of seventeen countries outside United States and six representatives from the United States besides David Rockefeller and Henry Kissinger, the latter with the title of Counsellor. The Committee met twice a year, *'spring'* and *'fall'* meetings, normally in New York but also in Paris, Beijing and Washington. Ladies were invited but there was no organised programme for them except for one joint dinner, always held in some memorable location. On one occasion this was the John D Rockefeller estate

in Pocantico Hills north of New York City, complete with vast grounds which he had landscaped himself and a large underground art gallery.

After the Gulf War in early 1990 it was decided that the security risk of taking such an eminent gathering elsewhere made the organisation too difficult and all the meetings thereafter were in New York.

When Chase Manhattan Bank and the AMP Society in the second half of the 1980s established a joint Chase AMP Bank in Australia, I was one of the directors. As a new bank in Australia it advertised extensively and the advertising agents would exhibit their proposals to the Board before release. We all thought that this was to benefit from our superior judgement and did not find out until later that it was because in their view anything the directors liked would not appeal to the general public and was therefore canned!

The Committee was a unique window to the world because all the members were hand picked and a large number of important countries (except Russia and China) were represented. I attended thirty meetings before retiring in 2000. Hopefully the Bank benefited from the discussions; I certainly did.

In 1988 I was invited to join the Supervisory Board *(Aufsichtsrat)* of Degussa AG in Frankfurt/Main, Germany. Degussa had started out in 1873 as a precious metals refiner and this was still one of its activities. It had expanded into chemicals, pharmaceuticals and precision instruments, acquired operations in the United States and had interests elsewhere, including Australia. The two-Board system, with a Supervisory Board to which reported an Executive Board comprising of senior executives, was introduced into Germany by the Allies after the War.

The Supervisory Board consisted of equal numbers of representatives of shareholders elected at Annual General Meetings and representatives of the workers (Unions) who were appointed by the workforce. A member elected by shareholders was the Chairman and the Deputy Chairman was a union representative. The Supervisory Board met quarterly and was effective in helping to align the unions with the Company, which appeared to be its main purpose. I succeeded the only previous non-German on the Board, a French-American, who was retiring. One of the reasons given for my appointment was that Degussa had acquired interests in mining projects in Australia and Papua-New Guinea. Meetings were held in Frankfurt, except for one meeting in Dresden.

The well attended Annual General Meetings, held in the Frankfurt Opera House which was one of the few buildings to have more or less survived the wartime bombing, were a new experience for me. During discussion time representatives of shareholder organisations would not just ask questions but make long speeches, without time limitation. The reason, I was told, was that if the Chairman tried to limit them there could be a legal challenge to the validity of the meeting and, if successful, the meeting may have to be held again! The

main purpose of the speeches appeared to be to impress their members with criticisms of the Company, not unlike similar organisations in Australia. The good news was that there were no noisy protesters as I was used to in Australia. I retired from the Degussa *Aufsichtsrat* in 1993.

In 1991 I was invited to join the Board of Sara Lee Corporation, with headquarters in Chicago. Sara Lee, named after the daughter of the founder, had started in 1939 in bakery products in New York. Through mergers and acquisitions it had grown to a major worldwide corporation with interests in food and packaged meats, coffee and tea, sports and leisure wear, intimate apparel (including pantyhose and the Wonder Bra, which I was told was an engineering feat with forty-two separate components) and personal care and household products. It had acquired the long-established Douwe Egberts company in Holland, based in Utrecht, which supplied 60 per cent of the coffee in Europe. Some 40 per cent of Sara Lee sales were outside United States. I had no expertise in any of these businesses, but Sara Lee was keen to expand its activities in Australia and South East Asia and wanted to have somebody familiar with this part of the world on the Board.

There were six Board meetings a year and I was able to fit most of these in with my other overseas commitments. Most of the meetings were in Chicago, but the Board occasionally also met elsewhere in USA and there were meetings and operations visits in Holland, Spain and France.

Chatting to the Chairman and Chief Executive, John Bryan, just before joining, I happened to mention that I was going to visit Estonia after the Board meeting in December 1991. John said he was a *'collector of places'* and we arranged to travel there together. John had a speaking commitment in Florida first and I went to Boca Raton with him. Travelling in the corporate Grumman jet, we arrived in Tallinn after a refuelling stop in Iceland.

The programme for us had been planned by the Department of Foreign Relations of the Republic of Estonia which had only just re-gained its independence in August. We were well received, accommodated in a government guesthouse (undoubtedly patronised by Communist Party dignitaries only a few months earlier) and had a full schedule of visits to factories and businesses of interest to Sara Lee. There was time for sightseeing and visits to shops etc., the latter still displaying Soviet emptiness. It was quite cold, dark of course, and there was snow on the ground. Before leaving for Estonia John Bryan and I had spent an hour or so looking around Palm Beach in Florida, the haven for the super-rich. The contrast between the shops and the street scene there and in Tallinn could not have been greater! John, one of the most successful American business leaders, was very conscious of the lot of ordinary people and remarked on it.

We also met the Chairman of what was still called the Estonian Supreme Soviet, Arnold Rüütel, who had just returned from a meeting with Russian President Yeltsin in Moscow and was giving a television interview

before seeing us. As we sat down in the Cabinet room to wait for him, the lights went out - the TV people had over-loaded the circuit!

We visited a number of factories and businesses of potential interest to Sara Lee. The Government provided an interpreter and I filled in on one occasion when she did not make it.

There was a humorous incident before John Bryan left (I stayed behind to see my family). Katrin, the interpreter, had gone out to the plane standing on the tarmac to see the inside of it and the pilots, unaware that she was not leaving with them, closed the door. The border guard waiting to take Katrin back to the terminal must have had a bad moment - possibly having the first defector from the Republic of Estonia on his hands!

Sara Lee supplied the clothing for the US team for the Atlanta Olympic Games in 1996 and used the opportunity for promotion. A part of it was that directors were to attend in small groups throughout the Games to host functions for the customers. Saima and I were there for the opening ceremony and the first three or four days, seeing a number of the events. We had left by the time the pipe bomb exploded in the square outside the main stadium.

I continued as a director of Sara Lee Corporation until retirement at the age of 72 in 1998. There was a farewell dinner for three retiring directors, of whom I was one, at the Chicago Arts Institute. I was suffering from a very painful left hip which was to be replaced in a month or so and walking with a stick. In my farewell comments I pointed out that this was what happened to Sara Lee directors after serving for seven years!

A by-product of my Sara Lee involvement was foundation membership of the Egon Zehnder Global Corporate Governance Advisory Board, the brainchild of Ken Taylor of Egon Zehnder's Chicago office who had intermediated my appointment to the Sara Lee Board. Corporate governance was beginning to be a popular issue and the Board organised by Ken comprised of business leaders from twenty or so countries all around the world who met annually in London to discuss governance issues. Membership included such eminent people in this area as Sir Adrian Cadbury and Percy Barnevik. The first meeting, held in 1998, was co-chaired by fellow Sara Lee director Newton Minow and myself. I retired from this Board in 2000 but attended one more meeting by invitation in 2001.

I was President of the Australian Academy of Technological Sciences and Engineering for three years from 1 January 1995 to 31 December 1997. This is one of four *'learned'* Academies in Australia, the others being the Academy of Science, Academy of Humanities and Academy of Social Sciences. With minimal paid staff, this was quite a time-consuming activity, made easier for me because Barbara Giles and the then Administrator of the Academy, the late Joy Dudine, worked extremely well together and because

the Vice Presidents and other members of the Executive Committee and Council more than pulled their weight.

In June 1997 Saima and I attended a meeting of the International Council of such academies which took place at Kiruna, a mining town north of the Arctic Circle in Sweden. At Kiruna there is a highly automated and computerised underground iron ore mine producing twenty million tonnes per annum, the largest underground mine in the world. (For comparison, Olympic Dam after the expansion in 1998-99 produced just over nine million tonnes per annum). The hotel in Kiruna is appropriately named Hotel Ferrum and I felt at home when the first thing we noticed on arrival was a large sign advertising Fosters Lager. I went to the bar and ordered one, just to make sure they had it! At one stage during the proceedings we were taken for drinks on top of Kirunavaara mountain at midnight. Regrettably we did not see the midnight sun because of clouds but even then it was light enough to read a newspaper. (In January 2007 it was announced that the whole town of Kiruna, including the historic town hall and the church, would be moved progressively to a new location near Luossajärvi because it will be increasingly affected by subsidence due to progress of mining.)

On another occasion I headed a group of Academy Fellows to meet with our Czech counterparts in Prague. We admired this ancient and historical city which had survived World War II without the destruction which was the fate of many other capitals in Europe.

Independence again for Estonia

Since World War II the Soviet Union had experienced a number of events indicating accumulating stresses under the surface. In 1948 Tito broke with Moscow. In 1953 there were riots in East Germany. In 1956 there were rebellions in Poland and Hungary and in 1968 in Czechoslovakia. The Solidarity movement in Poland resulted in declaration of martial law in December 1981.

The origin of the events leading to the restoration of independence in Estonia goes back to 1980, long before Gorbachev came to power in 1985 and his book *Perestroika* was published in 1987. It is a characteristic of the Estonian community that cultural and educational leaders are held in high esteem. They in turn have much broader interest and assume a greater responsibility in matters of national importance than in most of the western world. In that year forty Estonian cultural figures - writers, painters, sculptors, actors, and composers - signed a public document calling for an end to the Russification of Estonia. The only immediate result was interrogation, detention, and loss of employment for most of the signatories.

In 1987 it was again Estonian writers who alerted the population to a proposed massive expansion of the mining of phosphate rock which occurs in

extensive surface and near-surface deposits. The plans were made in Moscow, there was no consultation with the local population, no satisfactory proposals for rehabilitation, and the phosphate was to be produced for use elsewhere in the Soviet Union. Seen as an action by Moscow to destroy the Estonian countryside on top of the Russification of the population, there was a very strong adverse public reaction. The Estonian Heritage Society (*Eesti Muinsuskaitse Selts*), founded in 1987 by a group of people unconnected with any government activities, was very active in criticising the project. State organisations such as Tartu University and the Estonian Academy of Sciences joined students at universities and high schools and the public in opposing the mining. The decision was shelved by the USSR Council of Ministers in October 1987.

Following the introduction of the concepts of perestroika and glasnost in the same year, further events followed fast.

The anniversary of the Molotov-Ribbentrop Pact on 23 August 1987 was the occasion for a demonstration in Tallinn by between 2000 and 5000 protesters, including some dissidents only recently released from prison, the first major public occasion of this kind. The demonstration was broken up by police for being '*anti-Soviet'*. In September 1987 four Estonian economists published a plan for economic independence of Estonia. While remaining in the Soviet Union, the country would make its own economic decisions and would become self-financing, self-supplying and self-administering, conducting its own trade policy with the rest of the Soviet Union and with countries outside it.

The quest for freedom and independence now came strongly into the open. In April 1988 Estonian associations of creative artists held a major conference at which many spoke in an unprecedentedly open and truthful manner about the past and the present and demanded that Estonians should be allowed to run their own country. Speakers freely criticized the ruling Communist bureaucracy and called for sovereignty, multicandidate elections and guaranteed cultural rights to all nationalities in the Soviet Union. This conference was in many ways a major turning point.

In the following summer months the Popular Front (*Rahvarinne*) was formed, the forbidden blue-black-white national flag was increasingly flown, and on 23 June 1988 these were again designated the official national colours. In June 1988 the very unpopular Estonian Communist Party leader, an old style Russian-Estonian communist, was replaced with Vaino Väljas, a supporter of Gorbachev. A delegation of the Estonian Communist Party sent to Moscow to argue for self-government and economic independence was farewelled by 150,000 people. In August 1988 another new political party - the Estonian National Independence Party - was formed, which sought secession from the Soviet Union. There were again demonstrations on the anniversary of the Molotov-Ribbentrop pact, this time with official approval.

The secret protocols were published in Estonian newspapers, for the first time in the Soviet Union.

In September 1988 some 300,000 people, nearly one third of the Estonian-speaking population, attended a peaceful rally in Tallinn. The meeting was addressed by leaders of the Popular Front and the Estonian Heritage Society and was attended by the leader of the Estonian Communist Party, Vaino Väljas, who applauded but did not speak. Speeches demanding Estonian self-government alternated with choir singing and musical presentations. The rally gave later rise to the term *'singing revolution'* to describe the events in Estonia. In October, 1988 the Estonian National Independence Party stated at a press conference that, now that the secret clauses of the Molotov-Ribbentrop pact had been made known, there was no further reason for depriving the Baltic States of their independence.

There were two views: the Popular Front (and the reformist members, including the now leaders of the Estonian Communist Party) were thinking of an autonomous Estonia with a confederate status within the Soviet Union, while nationalist groups (parties) insisted on restoration of independence.

Moscow published proposed changes to the Soviet constitution and electoral laws, further restricting the limited rights of the Soviet Republics. Estonians decided to oppose these. A petition with 861,000 signatures (!) asked that the proposed changes be re-drafted and adequate time be available for public discussion. On 16th November 1988 the Estonian Supreme Soviet declared Estonia *'sovereign'*, declaring the laws of Estonia superior to the laws of the Soviet Union and saying it will control its own affairs except military and foreign policy. Estonia was to control its own land, natural resources, factories, banks, farms, and housing. The right to own private property was to be written into the Estonian constitution. The Estonian Supreme Soviet rejected by 258 votes to 1 amendments to the Soviet constitution and electoral laws, stating that it had the right to veto Soviet laws.

Although declared null and void by the USSR Supreme Soviet ten days later, this in hindsight was the beginning of the end. The equivalent of the Prime Minister of Estonia, another old style communist, was replaced by Indrek Toome, an ally of the new party leader Vaino Väljas.

In December 1988 the USSR Supreme Soviet in Moscow voted to accept the constitutional and electoral law changes. The request for re-drafting and adequate public discussion was ignored. The Estonian Parliament again confirmed that it stood by its earlier decision that changes in Soviet law will in the future only apply in Estonia when approved by the Estonian Parliament. In January 1989 Estonian was declared the official language in Estonia. While Russian may also be used, officials and other dealing with the public who could not speak Estonian had to learn to do so within four years.

It had become possible to speak and write openly and truthfully about the independence period, the Soviet occupation in 1940, the contrived application to join the Soviet Union, the deportations and executions under the communist regime, the repression of truth and freedom, the falsification of history, and so on. These matters were freely and truthfully discussed in the media, although it was still owned and controlled by the State. There was a major effort to fill in what were known as *'the blank spots in history'*. History text books were scrapped in 1988 and history examinations were not held until new, truthful, material could be provided. Memorials to the War of Independence in 1918-20 and to past leading citizens, including the last President of the Estonian Republic, which had been blown up after the re-occupation by the Red Army in 1944, were re-built through public subscription. A re-built famous memorial to the President in his birthplace was opened in June 1989. Russified street names were changed back to the original Estonian names and street signs, then both in Russian and Estonian, were in the future to be only in Estonian. A number of towns re-named after the war after communist heroes were changed back to the original names.

Travelling abroad became possible. The fifth Estonian World Festival (ESTO) held in Melbourne over the 1988-89 Christmas-New Year period was for the first time attended openly by some 200 people from Estonia: a boys' choir, writers, musicians, journalists, and so on. The visitors participated as openly and freely as Estonians from various parts of the western world. Reports of the festival in Estonian newspapers were factual and favourable. On return, the participants arranged in Tallinn a major reporting-back meeting on the Festival and on their experience, held in a hall seating 8000 people.

There was considerable concern by some about the sheer audacity of the demands. Estonia was the 'Rhode Island' of the Soviet Union. Armenia and Moldavia had smaller land areas, but Estonia's population was by far the smallest of the 15 Soviet Socialist Republics, a veritable David versus Goliath situation! There was a view that the opening up was too good to last: that either Gorbachev will be deposed or will have to backpedal and that the regime will again tighten. The extreme view was that Estonia was going through a *'let a hundred flowers bloom'* period.

The people, as always, had a keen sense of humour. One story which was doing the rounds was that no-one, including Gorbachev, knew what 'perestroika' meant. The Estonians therefore could do what they wanted and call it perestroika. Another proposed that Estonia should secede from the Soviet Union. Five minutes after announcing this they should declare war on Sweden, and five minutes after that they should surrender.

On 24 February 1989, the 71st anniversary of the declaration of Estonian independence, the blue-black-white national flag officially replaced the red flag on Pikk Hermann, the tower of the ancient fortress dominating Tallinn. On the same day the establishment of Committees of Citizens was

announced, consisting of those who were Estonian citizens in June 1940 and their descendants, to restore Estonian independence on the basis of legal continuity. On 23 August 1989, the 50th anniversary of the Molotov-Ribbentrop Pact, some two million people holding hands in Estonia, Latvia, and Lithuania formed a 600-kilometre-long human chain from Tallinn via Riga to Vilnius. Many moves towards independence took place over the next eighteen months in all three Baltic countries, against orders and pressure from Moscow.

In February 1990 members of Committees of Citizens elected the Congress of Estonia. The aim of the Congress was to restore the independent Republic of Estonia.

In March 1990 there were the first general elections in Estonia since the communist takeover in 1940 where non-communist candidates could stand for election. The newly elected Supreme Soviet declared its aim to be regaining complete freedom and independence. The government appointed by the Supreme Soviet was seen as interim, until this aim had been achieved. The Congress of Estonia agreed to co-operate.

The three Baltic States declared on 30 June 1990 that their independence had not been legally terminated by the Soviet military occupation and jointly sought discussions with the Soviet Union regarding restoration of this independence. In a referendum on 3 March 1991, 77.83 per cent voted in favour of restoring Estonia's independence; of those entitled to a vote, 82.86 per cent participated in the referendum. In addition to ethnic Estonians, nearly thirty per cent of the non-Estonians supported independence.

The end of the Soviet regime in Latvia and Lithuania came with some violence and fatalities. In Estonia it came fortunately without bloodletting, although there were tense moments. In January 1991 a threatening Red Army tank unit arrived in Tallinn but the situation calmed down. Soviet forces arrived again at the time of the coup in Moscow on 19 August and the Soviet Navy blockaded the harbour of Tallinn. On 20 August Estonia declared its independence restored. On 21 August Soviet troops seized the television tower in Tallinn, but the radio station remained in Estonian hands and kept the public informed. Barricades were erected in front of the seat of government in Toompea Castle, but were fortunately not needed. The coup in Moscow failed and the Soviet troops withdrew. Iceland was the first to recognise Estonia's independence on 22 August, the Russian Federation did so on 24 August, the European Union on 27 August, the US on 2 September, and the disintegrating Soviet Union on 6 September.

Although it took until 1994 before the last Soviet troops left Estonia, nearly 50 years of Soviet occupation were at an end. On 13 September 1991 a group of officials began to draft a new Constitution and on 17 September Estonia and the other Baltic States were admitted to the United Nations. There was no vote; the admittance was by sustained applause.

On 20 June 1992 Estonia introduced its own currency - the *kroon* - with a fixed parity of 8 kroons to 1 Deutschmark. Everybody was entitled to exchange 1500 rubles for 150 kroons. Done against the advice of virtually all the world experts, this bold step freed Estonia from the rouble zone and set it on the road to economic independence and recovery.

In Russia by the early 1990s there was a 'rouble overhang': people had increasing amounts of money, but not much to buy with it. On 2 January 1992 Acting Prime Minister Igor Gaidar, urged on by some western economists, applied 'shock therapy': virtually all price controls were discontinued. By the end of 1992 most prices had increased between 20 and 50 times. Consumer goods were now available but not affordable; people's savings had lost their purchasing power. The Soviet GDP decreased 19 per cent in 1992, 9 per cent in 1993, 13 per cent in 1994, and so on for most of the 1990s.

Price controls on 'strategic materials', including oil and metals, were not lifted. Traders with good political connections and willing to pay bribes could buy these from government-owned producers at domestic prices and sell them abroad for much higher prices in dollars. Unbelievable profits were made overnight by the traders and filtered through to the bureaucrats and politicians. Privatisation of State-owned enterprises later in the 1990s offered another avenue for corruption and making great fortunes. In Estonia, also, some people became amazingly well off very quickly but the worst of the Russian excesses were avoided.

In a referendum on 28 June 1992, 91.2 per cent of those voting (66.38 per cent of those entitled to vote) were in favour of the new Constitution. The new Parliament *(Riigikogu)* was convened on 5 October 1992. Lennart Meri was elected President of the Republic of Estonia. Mart Laar became the Prime Minister.

Fertilizer project

In December 1996 the WMC Board approved a project to produce high analysis fertilizers from the phosphate rock deposit in Queensland, acquired in the BH South takeover in 1980. The project was still under construction when I retired in April 1999. It was using well-established technology well tried all over the world but, surprisingly, there were technical and commissioning problems and it took some years after the start-up at the end of 1999 before design capacity was reached.

Alcoa World Alumina

During one of my visits to Pittsburgh in 1993 Dick Fischer raised with me the possibility of ACOA and WMC combining their alumina and alumina chemicals interests in a jointly owned enterprise, thus eliminating

potential conflicts of interests. WMC and ACOA would become exclusive worldwide partners in all their future bauxite, alumina and alumina chemicals activities. My reaction was to see all kinds of problems, but I agreed that it should be investigated. However, because of my directorships of WMC, ACOA, and A/A I could not be involved in any discussions. Hugh Morgan represented WMC.

Hugh and WMC's Director of Finance, D M (Don) Morley met with Dick in August 1993. In subsequent discussions the various difficulties were overcome and the Alcoa World Alumina and Chemicals (AWAC) agreement was announced on 6 July 1994. WMC's interest in AWAC in terms of relative asset values contributed (in the case of WMC its 48.25 per cent interest in A/A) would have been around 30 per cent, but WMC wanted it to be greater and contributed cash to increase its interest to 40 per cent. Interestingly enough, the market's reaction to the announcement was cautious and there were doubtful voices. It proved to be a very positive development for WMC. The agreement became effective from 1 January 1995. Eventually the chemicals business was sold and the entity became Alcoa World Alumina.

After the AWAC agreement came into force there was no longer a need for non-executive directors on the Board of A/A. Thus I and all outside directors retired on 6 June 1996. R.A.G (Roger) Vines, an Australian, became Chairman and Managing Director. A/A continued to operate as before, but after June 1996 it had an all-executive Board and its policies were integrated at the AWAC level. A Strategic Council for which WMC provided two of the five members, including the Deputy Chairman, determined policy matters.

Expansion of Olympic Dam

In the first half of the 1990s the Olympic Dam operation underwent two *'optimisations'*, in effect removals of bottlenecks, which lifted the production capacity to 84,000 tonnes of copper and 1500 tonnes of uranium oxide per annum, plus by-product gold and silver. Concurrently a feasibility study was carried out into a major expansion, which was announced in July 1996. At the end of this expansion the production rate would be 200,000 tonnes of copper, 3700 tonnes of uranium oxide, 75,000 ounces of gold and 950,000 ounces of silver per annum.

Construction started on 1 January 1997. It was a major undertaking, with a peak of some 2500 construction workers on the site. Ships were chartered to bring equipment purchased overseas to Australia. Minimising disruptions to operations while the major construction work proceeded was a real challenge. Various sub-assemblies of plant prepared at a special construction site at Port Augusta were trucked to Olympic Dam for finishing and installation, the largest being a part of the waste heat boiler for the new

smelter weighing 535 tonnes. A 1000 tonne crane lifted it into place on arrival at Olympic Dam. The cost of the expansion was $1.94 billion.

Commissioning commenced progressively towards the end of 1998 and the expansion was officially opened by the Prime Minister, John Howard, on 26 March 1999. There were many guests from Australia and overseas. Unlike at the opening of the project in November 1988, the smelter people did not stage fireworks for the media.

Apart from my final Annual General Meeting in April, this was the last major public event at which I represented the Board. Unknown to me, the Prime Minister had been briefed about my coming retirement and said kind words about me.

Calling it a day

The practice for WMC non-executive directors was to retire at the end of the next Annual General Meeting after reaching the age of 72. For me this was on 15 April 1999 because the financial year of WMC was being changed to a calendar year and the 1997-98 financial year was eighteen months long. By this time I had also retired from all of my other directorships.

The final Annual General Meeting was uneventful, not a protester in sight. Some people spoke kindly of my time with WMC and I was, to my surprise, given a round of applause. A representative of the Australian Shareholders Association was more pragmatic, pointed out that the shares had been only $4.95 that morning and asked when they would improve. I assured him that they would improve, although I could not say when. As it happened, the improvement began immediately: the price after the meeting was $5.27 and next day it was $6.20! Luckily other mining company shares improved also, otherwise it may have been concluded that the increase was caused by my retirement.

The official retirement dinner in the main dining room at the Melbourne Club that evening was attended by many friends and all my family, except the grandchildren who were too small. The late Campbell McComas pretended to be a German professor from Clausthal and made his usual very witty speech. Hugh Morgan made the main speech and I responded. An edited version of my comments sums it up:

"This function is the final event in a long series which started with my retirement as an executive of WMC just over eight years ago. I worked out the other day that since then this is the twentieth time that I have been farewelled on retirement from various companies and bodies. You might say that I can claim reasonable experience in this business of retiring. Perhaps I can set up as a consultant!

The most pertinent story I have heard about retirement was told by Admiral Crowe after he retired as the Chairman of the United States Joint Chiefs of Staff. At the end of the next day, he said, having spent the day in the office tidying up his affairs, he went to his car, sat in the back seat as usual, and started reading some papers. His retired status was impressed on him when he looked up twenty minutes later and found that there was no driver!

I appreciate so many of my friends and colleagues being here tonight and members of my family being invited to witness the old man getting on his horse and riding off into the sunset. I know that some of my family are apprehensive that I might use what might be the last opportunity of having a captive audience to tell my life story in excruciating detail. Having suffered through some such occasions myself, let me assure that I won't be doing that, or telling any war stories.

Various people have been saying kind things about me and my service with WMC. It is very difficult to keep one's perspective and not to get a swollen head listening to all this, but I do appreciate the sentiments, even if the comments are far too kind.

One of the comments which has been made is that I am a modest man. This reminds me of the story about Winston Churchill when he was beaten by Clement Attlee in the first British post-World War II elections. A friend of Winston's, trying to console him, made the point that at least Attlee was a modest man and did not publicly boast about it. "Yes", said Churchill, "he is a modest man, but then he has much to be modest about!"

For my part, I feel truly privileged to have been able to spend the greatest part of my working life in the minerals industry, almost all of it with WMC. I have always enjoyed whatever I have been doing and appreciated the opportunity to work with people I respect and admire - real professionals in whatever their function in the industry and in the Company.

In all my time with WMC I cannot remember a day when I was not looking forward to going to work. (Mind you, on some days I was looking forward to it more than on others!) I have appreciated the comradeship and the high ethical standards which were established right at the beginning when the Company was formed sixty six years ago. I have been proud to be a part of WMC.

I have been fortunate that my working life included the great growth of the Australian minerals industry in the 1960s and 1970s which lifted the country to a new level of prosperity. Looking back, it was a unique period which is unlikely to occur again. The wonderful can-do atmosphere and the professional and personal satisfaction of those who participated in the discovery of major new orebodies and in the establishment of great new industries in a very short time is hard to explain to those who were not there. We did not have to go through endless enquiries, studies, hearings, and committee meetings, and use up forests of paper in the process; the emphasis

was on getting things done with a minimum of fuss. Today it is hard to believe that the industry then actually had the wholehearted support and encouragement of the whole community. I admit that I am still nostalgic about those days!

This does not mean that life was easy then, and it certainly has not been easy since then. Quite apart from the extraordinary change in sentiment from support for the industry to active opposition by many groups in the community, there have been the periodical ups and downs in the world markets for minerals and metals which, I am sure, are very familiar to everyone here. We are in the midst of one of these downs at present.

The current downturn has been very severe and rather longer than previous similar periods. The prices of our products are the lowest for many years, in some cases for many decades. The question is being asked whether a fundamental change has occurred in world economic and business activity, and whether this means a permanent change in the longer term outlook for the minerals industry. As you would expect, the experts differ on this. Those promoting the idea argue that inflation is dead, that we are on the threshold of a deflationary age, and that this has changed everything.

I do not pretend to be an expert but my view, for what it is worth, is that while many people in the developed countries of the world may well be approaching a saturation point in their standard of living which may affect economic activity and the demand for minerals, this does not apply to the majority of the world's population. Less well off people in the developed countries and virtually the whole population of the developing countries have a long way to go before reaching a reasonable living standard. The population of some developed countries has reached a plateau and in some countries has started to decrease, but the population of the developing countries is still increasing rapidly. All in all, there is no doubt that the world demand for the products of the minerals industry will continue to grow.

We have been told by all kinds of experts for some 30 years or more that the world is running out of resources. All I can say is that I have been waiting for this to happen, but regrettably it does not even look like happening as far as one can see.

Technological improvements and continually improving efficiencies will mean that there will be no fundamental shortage of supplies and that the trend of decreasing real prices of minerals and metals, which has been evident for many decades, will continue.

At the same time, the minerals industry clearly cannot continue with the present very poor returns to shareholders. If increased demand does not result in improved prices of mineral products, a contraction of the industry will have to occur. In either case the extraordinarily low present commodity prices cannot persist for ever, and that part of the reduction in inflation due to low commodity prices will be reversed.

In these circumstances it is difficult to visualise anything other than the continuation of the cyclicity of markets for minerals and metals. Imperfections of the market mechanism will mean periodical short term surpluses and shortages, as in the past.

There have been many changes in the world, in business, and in WMC during my working life. I won't bore you with the details, but we now work in a very different environment and WMC is a very different Company from when I joined it in 1956. This is, of course, inevitable and one should not be surprised about it. The main issue is that when changes occur they should be for the better.

Many of the changes I have seen have been for the better. For WMC there has been great growth and diversification. The tools we now have available to us are vastly better and the hard physical work which was the norm in the minerals industry when I worked my first shift underground fifty two years ago has virtually disappeared. I often think that I am probably a member of the last generation to get a sweat up working in a mine.

Community perceptions have changed. Many of the changes have clearly been for the better, although this area has also become a playground for people whose main objective seems to be to gain publicity and influence by being against, or at the very least, highly critical of the industry and of economic activity generally. The resulting bending over backwards by governments and the companies to try to satisfy the critics has resulted, amongst other things, in a situation where Paul Kelly, in his book "The End of Certainty" concludes that Australia has become a young country with geriatric arteries. It is worrying to think that he may be right.

Lastly, but not least there have been changes in management practices. Many of these have been brought about by the need to make best use of the new tools and to recognise the way in which people think and behave today, which appears to be noticeably different from when I was active in management. Inevitably, there has also been an element of changing fashions and I have been around long enough to see some of these come the full circle, as fashions have the habit of doing. I hope that as the changes continue, we will be able to distinguish between those for the purpose of producing better results and those which are merely fashionable. There is no merit whatsoever in doing something simply because everybody else is doing it.

The critical question in assessing all this is not how what we do now is different from how it was done previously, but how successful a particular generation is in meeting the challenges of their time and what kind of a legacy they eventually hand to their successors.

I am glad to leave the Company in very capable hands, from the next Chairman, Ian Burgess, to the Board of Directors and, most importantly, to the management led by Hugh Morgan. I have no doubt that they will be successful in overcoming whatever difficulties may face them at present and in the future,

as we were always able to do in the past, and that in the not too distant future the shareholders, who have been very patient, will enjoy the benefits from all the hard work which has gone into building a future for the Company. As a modest shareholder myself, I am looking forward to this.

I will be following WMC's progress with great interest. May I particularly congratulate Ian on his assumption of the Chair and wish him the very best in this responsibility.

Let me conclude by saying thank you to all the people who have made my working life such a tremendous experience. There are far too many to name them; from the people I have worked for over the years, to my past and present colleagues in WMC and in other organisations I have been involved with, and to many of the rank and file it has been my privilege to know and to learn from. Virtually everyone here tonight is in one of these categories, including some colleagues going back to early Dreamtime.

I am particularly pleased that one of those present is Sir Laurence Brodie Hall, my first boss in WMC and my mentor, valued colleague and friend during the last forty three years. Brodie has a few years on me but, as you can see, he is as active as ever. I will be seeking to follow his example in retirement also. One of my early projects after today is for Brodie and me and our wives to spend some time inspecting Western Australian vineyards and sampling the produce. We intend to do it slowly and thoroughly.

I do not regard retirement from work so much as the end of anything but as the beginning of an opportunity to do other things and to enjoy other experiences, including all the things one has put aside over the years because there was no time for them. I am looking forward to this. I have all sorts of plans; the problem will not be lack of activity, but whether there will be enough time even now to do all one would like to do. Many of my retired friends have told me that they wonder how they ever found enough time to go to work!

Thank you to all of you, and to my many other friends and colleagues over the years who are not here tonight. I am indebted to you all."

Thus ended my 43 years with WMC.

13. IN RETIREMENT

As forecast at the retirement dinner, life has continued to be busy. There is no shortage of things to do and I am enjoying this new lifestyle. One does not have to be young to enjoy what one is doing; there are challenges and advantages at every stage of life. The passage of time continues to remind me, however, that the number of days left is diminishing and that I need to be selective in how I use them.

Longwood

We still live in the large old house on the large block of land at Longwood where I have now spent almost exactly half of my life. Saima still looks after the grounds, with some outside help from time to time to lop and remove trees etc. I still mow the grass with a ride-on mower.

It is not as much of a chore as it sounds because more than one acre of the three acres is covered by bush and taken up by buildings. During the summer it is too hot and dry for the grass to grow on the rest of the area – the grounds often become brown instead of green. In the winter it is too cold for the grass to grow much. In the spring and autumn, however, it has to be mown about once a fortnight, which takes me about three hours.

Longwood

Family gatherings

We are fortunate that our family all live in Melbourne and we are able to continue the tradition of everyone meeting at our place on Sundays, started by Saima many years ago. Actually Peeter, who is single, occupies the upstairs in our house and Martin, his wife Gabrielle, and their two sons Hillar and Ashley have a house on our block of land next door to us, so they are

really not even away. Both Peeter and Martin are computer nerds, so whenever I need assistance it is close at hand. Ellen, her husband Shane and their four children Kiera, Rory, Edmund and Casey are about half an hour away by car.

The Sunday gatherings are becoming less well attended. Kiera, after graduating with a BA and MSc (in Chemistry) from Cambridge, is about to do a PhD in Japan. Casey is having a "gap' year after graduating from Scotch College, spending time helping to establish a school in an aboriginal community on Melville Island north of mainland Australia. While Rory, Edmund (Ned), and Hillar are doing University courses in Melbourne and Ashley is in the final year at Wesley College, they all increasingly have outside commitments from time to time. There is, however, still full house at least on Christmas Day!

In the early 1990s Saima became the owner of two holiday houses next to each other at Portsea, near the entrance to Port Phillip Bay 100 kilometres from Melbourne. Between them, there is more than enough room for the extended family. I am not a beach person but Ellen's and Martin's family love spending school holidays and long week-ends there. The houses are well used.

Parbo Family January 2009
Standing: Hillar, Casey, Rory, Shane, Arvi
Sitting: Peeter, Ellen, Gabrielle, Saima, Martin, Ashley, Edmund (Ned)

Visiting Estonia

Having both done a great deal of travelling in the past, Saima and I enjoy staying at home and have limited our recent travel mainly to visits to Estonia. One of the pleasures for us has been taking our three children, their spouses, and six grandchildren back to Estonia, to show them where we came from and to let them see something of the country and the people. Some of them had been there before but to most of them it has been a great new experience. The grandchildren do not speak Estonian and both, the children and grandchildren, are thoroughly Australian, but they are all interested in their heritage and ancestry. A part of this has been the sense of continuity with the past in Estonia.

People there visit on birthdays and other special days well kept family plots in peaceful park-like cemeteries under tall trees to tend the flowers, light candles and pay their respects to their ancestors. The ashes of Saima's mother, who died in Melbourne, were returned to Estonia and buried in an ancient cemetery next to her mother. Our family visits always include a pilgrimage to great-grandma's grave, whom our grandchildren all remember.

Family history

Some years ago I started to trace my family history. The early records in that part of the world were limited to church books where marriages and births and deaths were recorded. During the early battles of the Great Northern War between Sweden and Russia in the early 1700s which took place in Estonia, many of the churches were burnt and the records perished with them. This means that I can only trace my family tree back for just over 300 years, to 1696. For that period, however, I have been able to piece together much of the story. Archives in Estonia are surprisingly well preserved and organised and Communist Party archives for the Soviet occupation period are now open to the public. The latter are in Russian, but my brother Jaanes has translated the relevant documents, mainly referring to the arrests, imprisonment, and often death of family members. Jaanes and other relatives in Estonia have contributed their own recollections and experiences, including their time in Siberia and in forced labour camps, as well as surviving photos and documents. He and I have visited the areas on the island of Hiiumaa where our ancestors lived but found only one Parbo still there. One of my retirement projects has been to write down all we know so that this knowledge will not disappear with our generation and, hopefully, to encourage our successors to continue the record.

WMC recollections

For several years after retirement WMC provided me with an office, access to all files and the assistance of Barbara Giles to record my recollections of the twenty-five years I was Chairman of WMC. Gilbert Ralph materially contributed to this, both by making available the historical material he had collected as WMC's Consultant Group Historian and by making many valuable suggestions. Without Gilbert's and Barbara's input this project would not have been possible. The resulting record is not in a form and too detailed to be suitable for publication but I hope that it will be useful source material if and when a history of Western Mining Corporation is written. After the takeover of WMC Resources Ltd. in 2005 the WMC archives, including my recollections, were taken over by BHP Billiton.

Meanwhile, parts of the history of the Company have been told in several books by various authors, including Sir Lindesay Clark in *Built on Gold,* and there is an excellent history of Alcoa of Australia until 1996 (*White Gold,* Allen & Unwin 1997) by Geoffrey Blainey. Other relevant books have been mentioned in appropriate places in these recollections. There are also oral history recordings by Sir Lindesay Clark and myself in the National Library and Roy Woodall at Stanford University, and a number of papers in various publications by Gilbert Ralph and others. In addition, Gilbert has compiled a pictorial history of WMC as a 35 minute power point presentation.

Community activities

In the 1980s and 1990s I became Patron of a number of community activities, including the Australian Drug Foundation, Landcare Foundation (Victoria), Strathdon Community (an aged care centre near where we live) and the Sir Edward Dunlop Medical Research Foundation. After many years I have retired from all these and continue only as Patron of the Mining Club of Melbourne and of the Estonian Retirement Village and aged care centre at Thirlmere, 100 kilometres south of Sydney.

Living longer

Since Federation just over a hundred years ago, life expectancy in Australia has increased by one year every five years and is now the fifth highest in the world. In Victoria, boys born today can expect to live on average 78 years and girls nearly 84 years. People also remain healthy for longer; a newspaper report in 2006 noted that in Victoria there were 88,770

people over 80 licensed to drive, of whom 6984 were aged between 90 and 104, including 44 a hundred years old or older.

The growing number of older Australians is often thought of and spoken about as a problem and it does, of course, present challenges. However, we should remember that this is what we have been all striving for. Bernard Shaw, when asked how he felt about the problems of growing old, is said to have replied that they were indeed considerable but greatly to be preferred to the alternative.

Until quite recently it was unusual for children to know their grandparents; I did not know mine. In the future it will be increasingly common for them to know their great-grandparents and even beyond; my grandchildren all remember Saima's mother - their great-grandmother. Surely this is a wonderful enhancement of the human condition?

We have been, and still are, working hard to eliminate drudgery and hard physical work and raise our standard of living. We have been, and still are, investing extensive resources in better health care and in medical research to eliminate many illnesses and find cures for others. The increasing lifespan is not an accident and should not come as a surprise. Having an increasing number of older people in the community, living to a greater age and remaining healthy for longer, is the happy result of the success of our efforts.

Estonia today

On 1 January 2000 there were in Estonia 1,439,197 people, 669,583 males and 769,614 females. The ethnic composition was 66 per cent Estonians, 29 per cent Russians, 3 per cent Ukrainians, and 2 per cent others. In 1989, 71.6 per cent lived in urban centres. The population density was 35 people per square kilometre.

During the half a century of striving to regain their freedom, Estonians had come to think that, once independence was regained, there would be unity in governing and developing the country and a quick improvement in the standard of living. After independence was restored in 1991, there was considerable disappointment when this expectation was shown to be unrealistic.

As after the War of Independence in 1918-1920, the almost complete economic and trade dependence on Russia had to be changed. Once again, the Russians made it as difficult as possible. The change from the Soviet lifestyle and way of thinking and the conversion to a free market economy was not simple and could not be accomplished overnight. Most government and economic leaders had been prominent in the Soviet era. Many officials simply carried on, and this caused mistrust and doubts. Soviet armed forces were still in Estonia and their departure uncertain. One third of the population was ethnically non-Estonian. The many political parties bickered among themselves

about nothing very much except their own position in the power structure. Some people had unexplainably become rich in a short time while most had difficulty in making ends meet. Encouraged by some politicians in Russia, the Second World War continued to be fought from time to time in word battles by some of those who had been on opposite sides of the front line. It became apparent that to achieve a standard of living equal to the western world would take a long time, just as those countries themselves had worked for many years to achieve it.

Although the restoration of the independence of Estonia had been recognised by both the Russian Republic and the Soviet Union in 1991, the withdrawal of Russian military was deliberately delayed by all means possible; the last troops did not leave until 1994. Many officers chose to be demobilised in Estonia and, in accordance with the withdrawal agreement, were given residence permits.

Gradually the economy and trade were re-oriented to western markets, assisted by the introduction in 1992 of the Estonian *kroon*, with a fixed parity to the German mark. This created monetary stability and encouraged foreign investment. Privatisation and restoration of confiscated property to the owners was completed, although not without some controversy. The standard of living, which fell after August 1991, is still below western levels but much higher than previously and improving fast. Almost all tariffs were abolished unilaterally. A flat corporate and personal income tax rate of 26 per cent and company profits not being taxed until distributed as dividends have encouraged investment. The Prime Minister at the time of the introduction of the flat tax, Mart Laar, is a historian who had read only one book on economics, *Free to Choose* by Milton Friedman. He liked Friedman's ideas, particularly because he knew that these had been despised by the Soviets. The reforms were barely approved by Parliament against predictions of huge budget deficits and massive unemployment. Today there are budget surpluses and the main concern is labour shortages. Since then, the flat tax has also been introduced in Latvia, Lithuania, the Ukraine, Russia, and Slovakia. The tax in Estonia from 1 January 2008 is twenty-one per cent, and the tax legislation provides for it to be reduced by 1 per cent per year until 2011.

Educational, scientific, and cultural life have also made good progress, Estonian composers and dirigents are world famous and Estonian athletes are known around the world. Relations with the non-Estonian population have been satisfactory and many have become or are becoming Estonian citizens. Political parties have decreased in numbers and governments, although coalitions of at least three parties, have become somewhat more stable, although the public is still very critical. The record shows that for stability in a democracy single party governments such as in USA, Great Britain and (in effect) in Australia work best. Multi-party coalitions are inherently unstable and, as in France before De Gaulle, can be farcical.

Estonia is a member of many international organisations. A momentous event occurred on 1 May 2004 when Estonia (and Latvia and Lithuania) were admitted to the European Union. They also became members of NATO. While being a part of the European Union has its problems, it is overwhelmingly important to these small countries that, after centuries in the cultural and political borderland between the west and the east, they are now clearly a part of the western world. This is just as well because odd things are happening in Russia.

Stalin, the greatest mass murderer in history after Mao Tse Tung (Hitler comes a distant third), is being rehabilitated and there are said to be plans to erect a monument to him in Moscow. (Just one of Stalin's actions - the deliberately starving to death of 7 million Ukrainians in the 1930s - is a heinous crime comparable to Hitler's extermination of 6 million Jews. Stalin is on record saying that the way to fix problems was to get rid of people: *"No people – no problems"*.) President Putin recently denied what everybody knows and his predecessors admitted, that the Baltic States were forcibly occupied by the Soviet Union. Estonians are being accused of being *'fascists'*, a Sovietspeak term meaning enemies.

Quite a few of Russia's recent actions are reminiscent of the bullying in communist times. Internally, the elections in December 2007 were a good example. A government-promoted and -encouraged youth organisation, *'Naši'* (*'Ours'*) is reminiscent of the *Young Pioneers*. Externally, there was harassment of Estonia in April 2007 after a Red Army memorial was relocated from a prominent place in the centre of the capital, Tallinn, to a military cemetery. There were riots by Russian youths clearly organised from Russia, and the first ever large scale cyber attack on a country's communications. There are those in Russia who would clearly love to re-enact the events of 1939 and 1940. This time, however, Estonia is not standing alone: the harassment has been roundly condemned by both the European Parliament and the US Congress.

The inconsistencies are not limited to Russia.

The horrors of Hitler's regime, which lasted 12 years, are well known. Nazi atrocities and ideology are rightly condemned and its symbolism is virtually or actually banned in many countries. Prince Harry of England was recently widely criticised for wearing a German uniform and swastika armband to a fancy dress party.

The atrocities of the communist regimes in the Soviet Union and elsewhere, which over nearly 75 years destroyed many times more lives than the Nazis, are also well known but communist ideology and symbolism are not only not equally condemned but seem to be treated with a kind of amused tolerance. The five pointed red star is to many tens of millions who suffered under communism just as offensive as the swastika is to victims of nazism. Yet it, and hammer and sickle emblems on badges and t-shirts and items of

NKVD and other communist uniforms, are favourite tourist purchases in Eastern Europe and Russia. Had Prince Harry chosen to appear in KGB uniform at the fancy dress party, it most likely would have been seen as hilarious. Is there not something wrong with this?

Both nazism and communism were responsible for untold suffering and the death of tens of millions of people in the 20th century. There was a close similarity between the two totalitarian systems which were both characterised by complete ruthlessness and utter lack of morality. They both depended on unrestricted State power and State terror. Power was everything, and the end justified the means. They stand equally condemned.

Time will resolve some of the other concerns in Estonia today. In another ten years or so there will be hardly any alive who fought on opposite sides in World War II. The descendants of non-Estonians will increasingly speak the language and become citizens; a recent survey found that 80 per cent of the people in Estonia regarded Estonian as their mother tongue, 14 per cent more than two years earlier. In 2006 Toomas Hendrik Ilves, an Estonian born to refugee parents in Sweden who grew up and was educated in USA and thus has direct knowledge and experience of the western world, was elected the third President of the Republic of Estonia since re-gaining independence. Also in 2006 the Liberty Index, measuring political and economic freedom, ranked Estonia in first place, ahead of Ireland and seven places ahead of the US.

But other matters will loom larger: enterprising young Estonians are increasingly free to seek better economic and professional opportunities elsewhere, and do. This aggravates the problem that the birth rate is insufficient to maintain the population, which has been decreasing for some time.

Diminishing populations are a major issue today in virtually all Europe, Japan, and in Russia. The developed world, with the exception of the US (and Australia), is shrinking.

In immediate terms this is more serious for a small ethnic group than for nations counted in tens or hundreds of millions. If the decline cannot be corrected, Estonians are in danger of disappearing in due course as numerous kindred groups, most recently the Livonians, have in the past.

Use of (often very unattractive) adaptations of foreign, mainly English, words in a problem in Estonian today, as it is in many other languages. Sometimes these are used where perfectly good Estonian words already exist. New Estonian words are being created to deal with concepts which did not exist until recently, but lazy (and perhaps modish) usage of English adaptations continues.

The end of WMC

Very few people will recall the birth of Western Mining Corporation Limited (WMC) on 2 March 1933. The takeover of one of its two successor

companies, WMC Resources Ltd (WMCR), by BHP Billiton in 2005 was front page news in Australia and widely followed by the mining and investment community around the world. WMC had been divided into two companies in December 2002. While the other half of what had been WMC, Alumina Ltd, continues as an independent public company, the takeover in effect marked the end of the 72 year life of the Company.

WMC had been vulnerable to a takeover at various times during its history. When exploration of the bauxite in the Darling Range had indicated a large resource and before Alcoa of Australia had been formed in 1961, the potential value of the Company greatly exceeded its market value. It became vulnerable again in the 1970s, 1980s and 1990s when periodical world economic downturns were aggravated by the oil price increases and the breakdown of the Soviet Union unleashed a flood of Russian metals to the western markets. The depressed price of nickel kept the share price low while the almost continuous development of Olympic Dam was absorbing cash rather than contributing to profits. The substantial dividends from Alcoa of Australia beginning in 1987 were very helpful but for most of this period the Company's share price was well below its long term value. The low $A: $US exchange rate in the late 1990s increased the takeover danger. However, no bid was made, probably because the potential bidders all had problems themselves. There was also questioning of the advisability of investment in the minerals industry generally, which had for some time underperformed as a whole.

In 1998 the Aluminum Company of America (ACOA) became concerned that a competitor may acquire WMC and therefore become ACOA's unwelcome partner in Alcoa World Alumina (AWA). The merger of BHP and Billiton in 2001 no doubt reinforced these concerns. Also, during the takeover of Reynolds Aluminum by ACOA, the US anti-trust authorities had required them to sell the Reynolds alumina interest in Worsley. This meant that WMC's 40 per cent interest in AWA was now the only large alumina interest ACOA could acquire without anti-trust issues arising.

ACOA was until recently the largest aluminium company in the world since it started the industry in 1888, but it has never been involved in other metals or minerals (other than the related light metal magnesium). It is a chemical processing, metallurgical and aluminium fabricating company *par excellence* rather than a mining company. I know from my time on the Board that they felt very uncomfortable with anything other than aluminium.

However, in October 2001 the Chairman and Chief Executive of ACOA, Alain Belda, visited Australia to tell the WMC Board that ACOA would be prepared to bid $10.20 per WMC share if the Board recommended it to shareholders. The approach was well timed because the minerals markets had been in a downturn since 1996. Although there had been some recovery, the China boom had not yet started. The exchange rate of the Australian dollar

was close to its all time low at around 51 US cents, making a bid financed in US dollars particularly attractive to the bidder.

The price put only a moderate value on WMC's non-aluminium assets, the intention apparently being that ACOA would dispose of these. The WMC Board declined to endorse the offer and obtained an independent valuation of between $11.18 and $12.91 per share for the Company. In announcing this valuation the Chairman, Ian Burgess, also advised WMC shareholders that it had been decided to incorporate the AWAC holding into a separate company so that its value and that of the rest of the assets could be better assessed by the market. ACOA retired from the scene after some unfortunate and, in my view, unnecessary public acrimony. The demerger into WMC Resources Limited (WMCR) and Alumina Limited (AWC) was overwhelmingly approved by WMC shareholders and took effect in December 2002.

The demerger made it inevitable that there would be another takeover bid. In October 2004 the recently established Swiss-backed mining company X-Strata made an offer of $6.35 per share (later increased to $7.20 per share) for WMCR. An offer being made was not surprising but the timing, in the middle of a strong upturn in the minerals markets and with the Australian dollar now at 75 US cents, was unexpected.

WMCR shares had been around $5 per share on the market, but the WMCR Board advised shareholders not to accept because the bid was "inadequate". They obtained an independent valuation of between $7.17 and $8.24 per share. In March 2005 BHP Billiton topped X-Strata by an offer of $7.85 per share. Including a 20 cent dividend which WMCR had declared and which would have been deducted from the X Strata offer, this was equivalent to $8.05 per share. In the absence of a higher offer, the WMCR Board recommended acceptance.

Any valuations, of course, depend on a large number of assumptions. Opinions on long term metal prices and exchange rates can vary widely. In addition, they also suffer from the peculiarities of the methodology used because the discounted cash flow (d.c.f.) calculations do not ascribe value to any income received after 15 to 20 years. An orebody with a 50 or 100 year life is therefore given the same value as an orebody with a 15 or 20 year life. This is obviously not correct. In the long term the value of WMCR's long life assets will be therefore greater than the valuations and the BHP Billiton offer. Even the short term value has since then been shown to exceed the valuations because of the great increases in the prices of many metals since 2005, caused by the spectacular demand in China.

At the final Annual General Meeting on 30 May 2005 a number of shareholders, some with family holdings going back to the initial float, were dismayed by the takeover and wanted the Company to remain independent. By now, however, about 80% of the shares were held by institutions and hedge funds whose time horizon was much shorter. They were primarily interested in

being able to record a handsome profit in the current half-year or year on which their bonuses depended. Any undervaluation of the long term value of the WMCR assets was not of concern to them because they were also large holders of BHPB shares.

By 3 June BHP Billiton had 76.25 per cent of WMCR and the offer was declared unconditional. The WMCR Board resigned on 6 June. BHP Billiton appointed its representatives as directors and assumed control. Later in June, with ownership exceeding 90 per cent, BHP Billiton proceeded to compulsory acquisition of the remaining shares. The last trading of WMCR shares on the Stock Exchange occurred on 24 June.

During its lifetime WMC had both successes and failures but the successes greatly outweighed the failures. After operating a number of gold mines in Western Australia, by 1960 (just before Alcoa of Australia was formed) the market value of the Company was $4.9 million (about $50 million in today's dollars). When BHP Billiton assumed control, the combined value of the WMC Resources and Alumina Limited shares was around $16 billion, 320 times greater.

Since then, the prices of most metals have doubled or trebled. If these prices persist, the actual value was considerably higher. BHPB got a bargain!

The founder of Western Mining, W S Robinson, was a believer in scientific minerals exploration and this remained the Company's distinguishing feature throughout its life. While judicious acquisitions were essential in building up the nickel business, by far the largest part of the $16 billion value had been created by the Company's grassroots exploration.

The risks in minerals exploration are high. Very few prospects become orebodies but the rewards from major discoveries can be great. The history of Western Mining Corporation is a good example.

Financial success is essential in business, but I know that those who were a part of WMC over the years were equally proud of, and derived much satisfaction from, having helped to improve the lives of people and contributed to making Australia a better place in which to live. Tens of thousands of staff and employees over the years in mines and plants, exploration camps and offices, unsung and not visible to the public, were all essential to the progress of the Company. There were quite a few families where three generations had been WMC employees. It was a privilege for me to work for and with many of them during my 43 years with Western Mining. The Company was also a great training ground: a surprising number of people in the industry today have at one time or another worked for WMC.

I would also like to pay tribute to the many shareholders who supported the Company through thick and thin. Loyalty may be out of date in today's world, but it was one of the fundamental values of my generation.

14. REFLECTIONS

Looking back

On 12 November 1940 Winston Churchill spoke in the House of Commons of his predecessor, Neville Chamberlain of the Munich appeasement stain, who had died, in these words:

"It is not given to human beings, happily for them, for otherwise life would be intolerable, to foresee or to predict to any large extent the unfolding course of events. In one phase men seem to have been right, in another they seem to have been wrong. Then again, a few years later, when the perspective of time has lengthened, all stands in a different setting. There is a new proportion. There is another scale of values. History with its flickering lamp stumbles along the trail of the past, trying to reconstruct its scenes, to revive its echoes, and kindle with pale gleams the passion of former days. What is the worth of all this? The only guide to man is his conscience; the only shield to his memory is the rectitude and sincerity of his actions. It is very imprudent to walk through life without this shield, because we are so often mocked by the failure of our hopes and the upsetting of our calculations; but with this shield, however the fates may play, we march always in the ranks of honour."

Looking back, there are many things in the past which, with hindsight, could have been done differently or better. But, as Churchill so eloquently explains, hindsight is not the proper measuring stick. People and events can be fairly judged only against the background, the standards and the knowledge of their time. As Madeleine Albright has said, history is written backwards, but life is lived forwards.

The frugal, simple and self-sufficient upbringing on the farm influenced me to disdain pretensions and social ambitions. It taught me to assess people not by their birth or status but by how they behaved. It also taught self reliance and responsibility for one's actions; there was no-one else to blame or depend upon. Money was important but by no means most, and certainly not solely, important. One should pay one's way; being in debt was to be avoided if at all possible. Forthrightness, while avoiding hurting people, was a virtue. Self promotion was not acceptable; if one did something meritorious or praiseworthy, it was for others to say so. Accumulation of possessions for their own sake had no merit. Houses were for living in and motor cars for transport, not objects of pretence or adoration. In later life I had a very clear understanding of what really mattered to me.

My teenage years during World War II and the finishing school in the refugee camps confirmed these beliefs. For some of this time the highest priority was to survive, and for a number of years the second highest priority was to get enough to eat. I succeeded in the first, but not always in the second. Exposure to these conditions was a fundamental test of character. In the camps there were people who had previously been rich and powerful, or university professors, or socialites, almost coming to blows in food queues. The veneer of 'civilization' was shown to be very thin indeed. On the other hand, otherwise unremarkable people often behaved admirably.

While I, and others like me, missed out on many of the normal pleasures and activities of youth, we also benefited from learning early in life how to face adversity. On balance, I think we came out in front.

There have been many changes in my lifetime, some of which have been described above when referring to particular events. Many of the changes have been for the better while in other areas the record is not so clear. There are aspects of the world today I find amusing, others that are annoying, and others yet make me uncomfortable. Let me mention just some which, to me, do not seem to be an improvement.

Authority of all kinds is increasingly being questioned, if not disdained. People are appointed or elected to do a job but many unelected, often self-appointed activist groups insist on being involved in decisionmaking. Very skilful in gaining publicity, they usually depend for their very existence on being anti-something and characteristically pursue just a single issue, without regard to its consequences in other areas.

There is theoretically free speech, but in reality one has to be brave to speak up against 'political correctness', some of which has now been enshrined in legislation. There is a climate of intimidation, particularly if you are working for an organisation that can be affected by skilful and loud adverse publicity. Many people today keep quiet to stay out of trouble.

Exaggeration is a part of our daily lives. To gain attention, it is increasingly necessary to talk in superlatives or paint disaster scenarios. To ensure continued attention these become more exaggerated as time goes on. To name the main scares in the last 50 years there were the population bomb and global starvation, the world running out of resources (Club of Rome), the coming ice age, the energy crisis, the end-of-century computer collapse (Y2K), and now global warming. All were real issues but blown out of all proportion. Concepts are devalued and words increasingly lose their original meanings. The word "hero" once meant something very rare; in today's media it is used to denote anybody who has done something praiseworthy. Such obvious exaggeration fosters suspicion and cynicism; people may not be able to assess the truth, but they know that what they are told is embellished in one way or another.

Publicity hype sometimes results in real comedy. The new Terminal 5 at Heathrow airport became operational at the end of March 2008. For months, photographers and journalists had been brought from all over the world to promote this 'most advanced in the world' facility. On opening day staff arrived late because of inadequate parking space, the sophisticated computer-operated baggage system failed disastrously, escalators and travelling walkways broke down, only one of 18 lifts was working, electronic message boards failed. There were two-hour queues, at least 34 flights were cancelled, seven flights left without passengers' luggage.

People flock to see celebrities of all kinds and even pay large sums of money to sit at a table, or to be in the same room, with them. Many are paid fabulous sums to make meaningless speeches. I met quite a few famous men and women in the course of my working life. Many were impressive, able and gifted, and some had done extraordinary things but they were still just human beings, hardly to be worshipped like gods.

There is a perception that everything in life is like a football game, and that the important thing is to "win" at all costs. Competition, rather than cooperation, is seen as the essence of life. One wonders what happened to the Olympic credo that the important thing is not so much to win, but to take part and do one's very best? What is the meaning of being one one-hundredth of a second faster than someone else? Not so long ago one had to be an amateur to participate in events such as the Davis Cup; sport of all kinds has now become a highly paid occupation.

To take a risk seems to be regarded almost criminal. If you can't guarantee the outcome, don't do it. As has been pointed out, if farmers had this attitude they would not sow wheat, because they can never be certain about the weather.

There is a fear, not only of criticism, but also of litigation which has reached worrying proportions. Relationships, even marriages, are seen as contracts to be negotiated in which one should strive for maximum advantage. Fairness, loyalty and honourable conduct are outdated concepts. If something goes wrong, the first question is who else can be blamed for it. The legal system is being blatantly used for making money. Legal suits are often settled out of court regardless of the rights or wrongs, because this is considerably cheaper than defending the case. When people are becoming afraid to organise school sports, something is not right.

The cumulative result is that decisionmaking has become longwinded and ponderous. We seem to be spending much of our time and energies on devising and following complicated procedures, the main purpose of at least some of which appears to be to delay, if not prevent, decision-making. One could be excused for concluding that the process, rather than the outcome, has become important.

John Stuart Mill, the English philosopher of last century noted that:

"It often happens that the universal belief of one age, a belief from which no one was free or could be free without extraordinary effort of genius or courage, becomes to a subsequent age so palpable an absurdity that the only difficulty is to imagine how such an idea could be credible."

It is to be hoped that this will be true of Australia, and that some time in the future our successors can look back and wonder how such extraordinary notions could have held so much sway in our community today.

I will say no more. As people get older they are often tempted to lecture the younger generation. It is a temptation to be resisted. Succeeding generations live in different worlds and must find their own way through their challenges and problems, many of which are different from those in the past. People rarely learn from the experience of others; they learn best from their own triumphs and mistakes. They certainly do not want to be lectured by their predecessors. There are many examples of this. Churchill, a wise man in other ways, is one who could not accept that times had changed. He tried to turn the clock back and in the end became an embarrassment to everyone.

To be fair, many things have also changed for the better, and overall there is no doubt that the human condition has improved greatly in my lifetime.

It is fashionable today to predict calamity and the end of the world: what we eat or drink is poisonous or at least not good for us, the air we breathe is polluted, new illnesses are attacking us, our jobs are unhealthy or too stressful, and so on and so on. What no-one has been able to explain to me is that, if we are exposed to all these dreadful things, why is it then that on the average people now live much longer, and the average lifespan in Australia continues to increase by one year every five years as it has since Federation in 1901.

There are only two possible answers: either what we are told is not true or grossly exaggerated, or the adverse effects must be more than made up for by beneficial influences we never hear about. Either way, there is no doubt that we are better off now than we were previously.

A hundred years ago even the privileged few did not have many of the facilities and comforts most of us in the developed world enjoy today, and the developing world is catching up fast. What has not improved, however, is the way humans relate to one another. None of the security measures today in office, airports and public gatherings and even in the streets were necessary just a few decades ago. We have lost a great deal of freedom because of the actions of a small number of fanatics. The 20th century was the bloodiest period in human history and today the horror stories of cruelty and sadism continue.

On a personal basis, it is natural and good for people to want to improve their lives, develop their talents to the fullest, and strive for various goals. One should, however, keep in mind that there are few things in life that really matter. Keeping up with the Joneses and obsession with what is termed "success" are not among these. The most important thing in life, I believe, is to be at peace with one's self.

Working conditions in the minerals industry

Physical working conditions in the minerals industry have improved out of sight during my time.

When I first started underground 60 years ago, the pick and the shovel were still widely used tools. On smaller mines ore trucks were still pushed by men from the loading point to the hoisting shaft and horses were used in some coal mines. Ventilation in remote working places was often ragged. Drilling was done with hardened steel using heavy bar mounted machines. In hard rock this meant transporting a large quantity of drill steels to the working place and back for sharpening every shift. Lighting was by carbide lamps; I was too late for the candlelight era.

Soon thereafter tungsten carbide tipped drill steels and light airleg mounted machines revolutionised rock drilling. Electric cap lamps became standard and electric locomotives commonplace. Then came drilling jumbos, mechanical loaders, and the use of electric and diesel equipment underground.

Both underground and surface mining equipment has become very much larger in capacity, much more automated and more recently computerised, reducing the number of human operators. The cost of mining has decreased in real terms, turning lower grade mineralisation into ore. Computers have revolutionised accounting, ore reserve calculations, technical and financial evaluations, metallurgical process control and equipment operation. Laser instruments have made surveying easy.

A mining Rip van Winkle, waking after a sleep of fifty years, would not believe his eyes observing at work underground fully computerised drilling jumbos, fifty ton capacity diesel haulage trucks, fully automated crushing and hoisting systems, laser survey instruments and miners travelling to and from underground in jeeps or trucks along inclined roadways. He may be even more surprised to see visitors taken underground in suits and ties in an air conditioned Mercedes Benz tourist bus!

The nature of a miner's work has changed much for the better. Instead of hard physical work, today it is mostly a matter of pushing buttons and pulling levers. There in an element of women's liberation in the emergence of women doing equal work with men in mines and metallurgical plants but it has been made possible by the disappearance of the heavy physical content of the work which was the norm fifty years ago. Women are now also engineers and

managers of mines and metallurgical plants. The only complaint I have heard from men working for them is, that they tend to be too tough!

Besides eliminating the physical toil, science and technology have also made the industry much more efficient. A good example of this is the great advances in mineral exploration technology. Fifty years ago geochemistry and geophysics were scientific curiosities, without established practical value. Even the practical use of geology in the minerals industry is not much more than fifty years old. Today geology is indispensable in ore finding and production. The marvellous technical advances in geochemistry and geophysics have made them into powerful and practical everyday tools.

This is just as well, because the future of the industry depends increasingly on the discovery of hidden ore deposits, often with no surface indications. The growing ability to look deeper into the earth's crust is not only impressive, but absolutely necessary for the future. When such search has located suitable targets, the much improved drilling technology and down-the-hole geophysical survey instruments have enhanced the testing process.

Living conditions of people in the industry have also improved out of sight. Modern mining towns in remote areas, where the vast majority of orebodies occur in countries such as Australia, have virtually all the services and comforts of large cities, without many of the disadvantages such as noise, air pollution, and traffic jams. The ease of air travel has brought the city facilities within easy reach when required. Satellites mean instant communications. Our Rip van Winkle from the mining camps of fifty years ago would suffer a massive culture shock. In spite of this fly in – fly out practices, with families living in the cities and the workers flying out to spend a week or ten days at a time on the site, have become increasingly popular.

Science and technology are powerful tools for making the life of people easier and better.

Not all has changed for the better, however. The various restrictions and procedures which have been imposed on minerals developments seriously delay, if not prohibit, these, for no benefit to anyone.

It is a sobering commentary that almost certainly it would not be possible to repeat the Alcoa of Australia success story today. It would not be possible to get permission to mine the bauxite covered by jarrah forest and partly in the catchment area of Perth water supply without proving conclusively that the environmental concerns can be met, and it would be not be possible to prove this without permission to mine. The financial markets and the shareholders would not have the patience and long term vision to keep building for the future and wait for 27 years from the Company’s establishment for adequate returns. Would Australia and Australians have been better or worse off if today’s conditions had applied in 1961? I leave it to readers to decide.

Had the Kambalda discovery been made under today's requirements for progressing such a project, the market would have turned down (as it did in the early 1970s) long before all the consultations and studies could have been completed and all the necessary approvals received. The opportunity to develop this new industry in Australia, supplying refined nickel metal to the world just over four years after the first drillhole intersection, would have been delayed for many years, yet virtually nothing would have been done differently in developing the project. Would this have benefited the community? Again, I leave it to readers to decide. And what did the anti-uranium campaign in the 1970s and 1980s achieve, besides wasting a great deal of time and effort? Could not this time and effort have been directed into positive channels?

Incidentally, excessive regulation and wearisome processes are is not limited to the minerals industry. I am the Patron of an Estonian retirement village and aged care centre in a country town in New South Wales, 100 kilometres from Sydney. There is a need to expand, the State Government, the local Shire, and the local community are all in favour, and the finance is available. There is vacant land for the expansion right next door to the present facility and the owner is happy to sell. The land, however, is zoned 'rural' and has to be re-zoned 'residential'. We are advised that, with everybody in favour of it and the process expedited as much as possible, the re-zoning will take two years!

The author and newspaper commentator Paul Kelly has described Australia as a young country with geriatric arteries. I regret to say that I think he is right.

The good news is that we can do something about it. The difficulty is that eliminating unnecessary regulation is a hard slog and for politicians there are no photo opportunities or headlines in it. It will be opposed by groups whose existence and influence and people whose careers depend on increasing, not reducing the regulatory tangles. As it is, we are still going backwards, both federally and in the states.

This is a real worry because our prosperity today depends on high demand and prices for our mineral exports. If there is a setback to these, and experience shows that minerals markets are subject to ups and downs, we will be in deep trouble. The only remedy is to make sure that we are competitive in world markets in everything we do.

Corporate governance

Another area where there have been major changes is corporate governance. According to todays's beliefs, in my time I did just about all the wrong things one can do.

I worked for the same company for forty-three years, was at the same time both the Chairman and Managing Director, and continued as non-

executive Chairman after I stepped down as the Managing Director. I was Managing Director for fifteen and Chairman for twenty five years. Just one of these misdemeanours would be enough to get such a person shot at dawn today, but there was much worse: I was for some years also simultaneously the Chairman of Western Mining, Alcoa of Australia and BHP, all companies in the same industry.

At the time no-one, including the Australian Shareholders' Association, thought there was anything wrong with this, and I never encountered the slightest problem with carrying out the different responsibilities. This was only just 15 years ago. The corporate world has changed a great deal in a short time.

The Australian minerals industry

To summarise what has been already said in earlier sections, the reconstruction of Europe, industrialisation of Japan and economic growth elsewhere created in the 1950s and 1960s a high demand for minerals which encouraged the establishment of many new mines, smelters and refineries. The fivefold increase in the price of oil in the early 1970s triggered the deepest world recession since the 1930s. This resulted in oversupply of minerals and metals and prices in real terms resumed their historical downward trend which continued for the next twenty-five years. There is a saying that history is just one damn thing after another, and it certainly was so in the minerals industry in the last quarter of the 20th Century.

From time to time there were short upturns in demand and prices for a year or two and enthusiasm was rekindled. During the second round of oil price increases in the early 1980s Australia's abundant coal resources led the then Deputy Prime Minister to enthuse that Australians were the *'blue eyed Arabs of the South Pacific'*, but by 1986 increased oil production had caused the oil price to reduce by a half. This encouraged a brief minerals markets upturn at the end of the decade but the collapse of the Soviet Union in the early 1990s and the Asian financial crisis in the late 1990s again resulted in serious oversupply.

I can speak about this period of twenty-five years from personal knowledge and with considerable feeling because it happened to coincide almost exactly with the time when I had senior responsibilities in the industry. The 1970s were a real struggle, with a short upturn at the end of the decade. From 1981 to 1986 the published losses by the world nickel producers were US$3 billion, equivalent to more than US$5 billion in today' money. (Western Mining was fortunate in still making (inadequate) profits). In the early 1990s the break-up of the Soviet Union flooded western markets with aluminium, copper, nickel and zinc, slashing prices and depressing profits. Prices and industry profitability were very low again in the late 1990s.

Exploration was severely curtailed. Well qualified and experienced geologists and engineers had to make a living driving taxis. This was also the time of the dot.com boom and the minerals industry was being widely dismissed as out of date and pedestrian, a part of the "old economy".

Conditions started to improve as soon as I retired in 1999; in fact, an upturn in mining shares started next morning. A major boom, caused by the upsurge in demand for minerals by China, began three or years later. World steel production, essentially flat at between 700 and 800 million tonnes a year from 1975 until the end of the 1990s, had by 2005 passed 1000 million tonnes a year, with China accounting for a third of it. (China's steel production in 2007 was 490 million tonnes). The prices of oil, iron ore, coking coal and many (although not all) metals skyrocketed; the nickel price in 2005 was three times and the copper price more than double the price at the time I retired. Minerals producers could not help making money. Since then many prices have doubled or trebled again. Federal budgets and the mining States have benefited greatly from the high tax and royalty receipts from minerals and related activities. The phrase "old economy" had not been heard for quite some time. In early 2008 there are concerns about a recession in the US brought about by an unbelievable mismanagement of some of their largest financial institutions and this may adversely affect the demand for minerals, but at the time of writing it is too early to be specific.

Looking ahead

What has happened is clear enough, but what about the future? What will be Australia's role in supplying the future demand for minerals?

The minerals industry today is global. Many companies have operations and shareholders in a number of countries and sell their products all over the world. Managers and professionals are of many nationalities. There is therefore strictly speaking no longer an "Australian" industry in a nationalistic sense, although there is an Australian minerals industry in a geographical sense – companies producing minerals in Australia.

The major discoveries in the 1960s and 1970s were so large that production has been subsequently increased and can be increased further, still leaving the mines with long lives. The prominence of Australia as a supplier is not threatened in the short term. It is, however, worrying that while the known orebodies have been enlarged through further exploration and a number of excellent small to medium size greenfields orebodies have been discovered, there have been no new large minerals discoveries in Australia since the end of the 1970s. Over 80 per cent of current production and exports comes from deposits found before 1980.

Why is this so? There may be several contributing factors.

The iron ore, bauxite and many of the coal deposits, all of substantial lateral extent, occur on or near the surface, making their discovery relatively easy compared with deeper (hidden) deposits. Looking back today it is hard to understand why some of these mammoth occurrences were not recognised earlier. The tough times the industry went through from the 1970s onwards meant reduced expenditure on exploration and this must have contributed to the lack of major greenfields discoveries since then. One would hope that the present good times will, over a period, help correct this underexpenditure.

But even with the increased effort, are there major minerals discoveries still to be made in Australia? As a mere mining engineer, I am not qualified to offer a professional opinion. There are experts who think so. While recently visiting Australia, the former Chief Geologist of the Geological Survey of Canada, Jim Franklin, commented that while all the obvious places in Australia have been looked at, he thought that this was only some 10 per cent of the prospective terrain. But there are others who think that in mineral exploration terms Australia is now a mature country. The relatively easy to find deposits have been found and future discoveries will be increasingly hidden at greater and greater depths, thus more difficult and expensive to find.

It seems to me that both views make sense. It is hard to believe that the vast area of Australia has been combed so thoroughly that there are no near-surface discoveries left to be made, although those already discovered clearly must reduce the likelihood. The Eastern Goldfields proving many decades after the discovery of gold to be also a major nickel province shows that even in well explored areas there is room for major new discoveries. There certainly must be great potential deeper down. As geosciences and exploration technology continue to improve, the finding of more orebodies such as Olympic Dam, covered by 350 metres of barren rock, must become more likely. Such deeper discoveries will be increasingly necessary if Australia is to maintain its leadership position as a supplier of minerals to the world.

But regardless of the potential for new ore sources, there will be increasing competition to Australia as a supplier of minerals to the world. While access to land for exploration purposes in Australia has been restricted and become more difficult, international barriers to minerals exploration have virtually disappeared. Many countries, particularly Russia in Siberia and countries in South America, Asia, and Africa, have high mineral potential. Most are actively encouraging foreign participation in their minerals industries. While no country is free from problems and their attractiveness for making such investments varies, Australia does have serious competitors for the scarce financial and people resources available for exploration.

The two areas of very strong demand growth after World War II, Japan and Europe, were both poor in minerals. By contrast, the strong demand growth countries over the next fifty years are major minerals producers themselves and have excellent potential for producing more.

China's minerals industry is being consolidated and modernised. It is already the world's largest producer and exporter of zinc and magnesium, a substantial exporter of lead and steaming coal, and has become an exporter of aluminium metal and steel. Participation by foreign companies in minerals projects in mainland China, prohibited until not so long ago, is now possible. China has also made and is continuing to make investments in minerals projects overseas. Apart from wishing to secure supplies for its own requirements, having accumulated large reserves of foreign exchange, mainly US dollars, it makes excellent sense for China invest a part of this in mineral deposits. Australia needs to increasingly think of China in terms of being a major minerals producer as well as a market.

Russia is already a substantial exporter of minerals, with great potential for growth. As its own population shrinks, minerals exports from Russia are certain to grow. Brazil is a large exporter of iron ore and a substantial alumina and aluminium producer. Its further mineral potential is undoubted. India, also, is an exporter of iron ore and is developing its alumina and aluminium industry but there are signs that India's expansion potential may be reserved for satisfying future internal development needs. In Africa there are known great partially developed resources of copper in Zambia and Angola which are producing little today, mainly because of the incompetence of the governments. These resources will not be left unproductive forever. South Africa is an existing major exporter of minerals and will no doubt grow its industry.

The centre of gravity of the world minerals industry has been for some time moving from the developed to developing countries and this will continue in terms of both demand and supply. Thus, quite apart from success in discovering and developing new ore sources, there are forces in play which are likely to work against Australia in the future.

In addition to forces beyond our control, our own attitudes are very important in either helping or hindering in realising Australia's potential.

Large minerals developments today have very long lead times from discovery, let alone the beginning of exploration, to production. Australia should be now discovering the orebodies which could come in 20 to 30 years from now as the main producers for the future. This has not happened in recent times. The consolidation of a part of the industry into larger units has not helped because, with the exception of oil and gas, large companies do not have a good record for greenfields discoveries. As companies grow they tend to become more risk-averse and bureaucratic, very good at evaluating and extending known deposits but increasingly reluctant to do something where the profitability calculations cannot be made in advance. They may well feel that it is more attractive for them to let others take the high risk and use their

financial strength to buy companies when promising prospects have been located, or even after the orebodies have been discovered. The large global companies will also be very conscious of the comparisons between different countries and weigh the perceived potential and operating conditions in Australia against the rest. Even numerous smaller Australian exploration companies are very active overseas.

There is clearly a need for higher exploration effort in Australia but our share of global mineral exploration expenditure has actually decreased, from 23 per cent in 1993 to the lowest ever recorded figure of 12.6 per cent in 2005. The reason appears to be that globalised companies rate other parts of the world relatively more attractive. For a global company this is a satisfactory strategy as long as their needs are satisfied on a global basis. For Australia the challenge is to have enough risk capital and other resources available to make new discoveries in Australia.

Until the discovery record improves, there has to be doubt about Australia's ability to retain in the longer term its present standing as a supplier of minerals to the world. Considering the importance of a buoyant minerals industry to this country, and there can be no better example of this than what is happening at present, there is a very strong case for policy makers and public opinion to encourage minerals exploration. For thirty years now the trend has been the opposite; we have been busy erecting hurdles and making it more difficult for those willing to take the high risks.

The Minerals Exploration Action Agenda initiated by the Federal Government and the industry in 2002 recognised that there has to be a change. Wealth will not continue to be generated regardless. Removing unnecessary impediments and attracting adequate financial and people resources is essential to secure the long term future. Many of the greenfields discoveries in the past have been made by junior exploration companies. One of the measures recommended is to improve the availability of high risk exploration finance for such companies in Australia by the introduction of flow-through shares, along the lines of the system operating in Canada since 2000, but modified by measures to improve its integrity and prevent improper use. I understand that since the introduction of flow-through shares, Canada now occupies the first place in regional mineral exploration expenditure in the world (replacing Australia, now in 5th place) and that numerous discoveries have been made since 2000.

Actions taken or not taken today will determine what happens in this industry decades later. The challenge to the present generation, as it has been to every generation, is to make good use of what was bequeathed to them and to leave their successors a legacy of which they can be proud. Will it happen? Time will tell.

What would I say to young Australians?

I was often asked what I would say to today's young Australians about their future. The Occasional Address to the University of Central Queensland in June 1999, reproduced below, summarises the response.

"I would begin by telling young Australians that they belong to a small group of privileged people. It is difficult to find a country and a people in more favourable circumstances than Australia and Australians.

We have a democratic political system, personal freedom rarely matched anywhere else in the world, freedom from terrorism, and no historical or religious enmities with our neighbours or, indeed, with any other country. We have a wonderful climate, an impressive record of economic development, high living standards, and a proven ability to establish and operate world scale and world competitive enterprises.

We have the ability to produce far more food and fibres than we need. We have an abundance of virtually every mineral and a high potential for discovering more. We have far more than adequate land, no really serious environmental problems, relatively few natural disasters, no racial problems, and a literate and diverse population living happily together. We are a part of the Western Pacific region, an area with a highly promising future.

Australia is a great country to live in, as I remind myself every time I return from a visit to another part of the world. We are the envy of many people elsewhere in the world.

But I would also tell young Australians that this good fortune does not entitle them to anything. On the contrary, it imposes obligations to prove by making wise use of these advantages that they are worthy guardians of what is entrusted to them. This is not something which can be done once and then put aside; it is an ongoing obligation in a continuously and rapidly changing world which requires an ongoing response.

I would tell them that the worthiness of this response will be the sum of their individual responses. They should not imagine that government, or business, or unions, or any other part of the social and economic machinery can carry the responsibility for us while we, the citizens, just look on.The machinery is necessary, but it is not governments, or business, or unions but the energy, the risk taking, the ingenuity, the dedication, the persistence, and the acumen of individuals, individually and through organisations and enterprises, which determines our future.

I would tell them that we can only continue to enjoy the advantages we have if we are aware that there are threats in our own society to our freedoms

and our way of life and accept individual responsibility for guarding against these threats. I will come back to these.

I would tell them that Australia is today very much a part of the world. What happens elsewhere in the world has a direct influence on us.

There have been many changes in the world in recent years, and many changes in Australia. These changes will continue. Before the end of their working lives today's young Australians are likely to work and play using processes and equipment not yet in existence and perhaps not even imagined; certainly their children and grandchildren will.

I would tell young Australians that the most valuable asset for them is the best possible education or skill which allows them to develop their talents to the fullest, and an attitude which enables them to accept change as natural. It is also one of the few personal assets they can always take with them wherever they go.

I would tell them that the purpose of education is certainly not just preparation for the working life, but I would also tell them that any education which does not recognise that work is an important part of life fails both the students and the community.

I would tell them that the most important thing for them is to spend their future doing what they really like doing, and the second most important thing is for them to be very good at it. In these circumstances work will not be drudgery, but fun and a privilege. It does not matter what this chosen activity is, as long as it is what they really like doing.

I would tell them that to find the job they want they may well have to go out looking for it. All Australians, including the Aborigines, are immigrants or descendants of immigrants who travelled long distances to get here. Some 25% of the people in Australia today were born in another country. They came here looking for the opportunities to do what they wanted to do. There is no particular reason why jobs for young Australians should be available around the corner from where they live. The pioneering spirit is needed today as much as in the past.

I would tell them that the economy is not an end in itself, but that a worthwhile society depends on a strong and prosperous economy. The quality of life in its many facets, not only material but also social, cultural, psychological, religious, environmental, and so on, depends on having the economic means to achieve the desired result. To use economic performance as an indicator of wellbeing is not an expression of greed or a mindless quest for material acquisitions but simply a shorthand way of expressing our ability to achieve high standards across the whole spectrum of human activity.

The purpose of business is to establish this economic base. Business and the community are not antagonists as they are sometimes portrayed. Winston Churchill once observed that "Some see private enterprise as a predatory target to be shot at, others as a cow to be milked, but few are those

who see it as a sturdy horse pulling the wagon." The reality is that it is very much in the community's interest to have a strong, competitive, and prosperous business sector. This applies particularly to those who want further improvements in welfare, social services, and environmental care. Such improvements are only possible in a successful and prosperous economy, which can only develop if the community appreciates and encourages economic activity.

I would tell them that excellence and job satisfaction, and having pride in what one does are important for personal reasons, but they are also important because this is what Australia needs. Even the simplest jobs can be done proudly and well, or dispiritedly and badly.

Better performance is not so much a matter of working harder than it is improving our skills, removing unnecessary obstacles to the efficient functioning of the economy and, above all, developing a community attitude which encourages and applauds achievement.

In evaluating our personal and community performance we must compare ourselves not with what we did previously, but with our competitors who, of course, are improving their performance all the time. We are aiming at a fast moving target.

I would tell young Australians that if we perform well, we can have increasing instead of decreasing living standards in all respects, material and otherwise. Many of our competitors are in countries with high wages and living standards. There is nothing wrong with high rewards, provided these are justified by high performance.We must make full use of our natural advantages and create additional advantages through skill, innovation, quality, and superior service. Once having established these advantages we must be very careful not to destroy them through foolish actions of our own, as we have done not infrequently in the past.

I would tell them that being competitive does not mean being ruthless egomaniacs lacking compassion and morality, as people in business are sometimes portrayed. For every unscrupulous person in business there are millions of honest strivers. One of the great pleasures of my life has been the privilege of working with people of the highest personal and business standards and who are amongst the very best in their professions. Regrettably, such stories do not sell books or attract high television ratings.

A competitive society does not mean ignoring those in the community who, for one reason or another, cannot look after themselves. On the contrary, a strong and competitive economy will enable us to look after such people better. It does, however, mean that no-one is entitled to handouts just because they happen to be Australians.

I would tell young Australians to be proud of the achievements of their predecessors and not be influenced unduly by those who can only see things to criticise in the past. Let us by all means admit the mistakes made in the past

which we can now see with hindsight and from the comfort of where we are today, but let us also recognise that many of the privileges and comforts we now enjoy arise from the efforts of the early settlers who faced and overcame difficulties which very few, if any, of us today would be prepared to face.

I would tell young Australians that they should be proud of their history and their country, but that their future depends on understanding and becoming comfortable with the rest of the world.

I would tell them that the first step in this process is to develop a genuine interest in other countries and their people. To do this, they need to learn something of world history and learn to appreciate different cultures. I would ask them to remember that, compared to many other cultures, our own short existence as a nation is only a blip on the screen of history.

I would tell them that we are very fortunate because English is becoming the universal language throughout the world, but that it is necessary to learn something about the characteristics and structure of other languages to be able to understand other cultures and people. Every young Australian should learn at least one other language.

I would tell them that while we in Australia have made great progress for the better in recent times, there have also been developments which are cause for serious concern.

I would advise them to reject the negative attitudes which have crept into the Australian community in various guises. Much of this comes from attempts by small groups of people, skilful in getting the attention of the media, to gain influence and political power through treating the truth carelessly and promoting fear and guilt. There is no future in just being against something. The future depends on being for something.

I would tell them to think in terms of "contributions" and "responsibilities" instead of "entitlements" and "rights". Nothing in life worth having is free, or obtainable without effort.

I would advise them not to accept uncritically what they hear said, including what I say. They should make up their own minds about what makes sense and what does not.

They should be particularly wary of glib statements and slogans that something is necessary to save the world, or is for the public good. Such slogans are often used to divert attention from the weakness of the argument.

I would tell them to prize above all free speech, the irreplaceable ingredient of a free society. There are serious threats to this freedom in Australia. Verbal intimidation of people expressing "politically incorrect" views, which has been commonplace for some time, is starting to include the threat of physical violence. This strikes at the very core of a worthwhile society.

Democracy is not just elections and voting; it is most importantly the liberty of the individual and his or her protection by law so that people can

make a free choice as to how to live their lives. This is above all what makes Australia a great country to live in. We must guard this liberty jealously.

I would tell young Australians that they face a future full of challenges which offers no soft options for them or Australia. I would also tell them that this is not a reason for despondency but for eager acceptance, because it means that the future is in their own hands. History leaves no doubt that people who master and accept such challenges benefit greatly from it.

I would tell them that what they need in facing the future is not foolish optimism, nor destructive pessimism, but realism and willingness to deal with world as it is, not as we would like it to be.

I would tell young Australians that they have an exciting future. I only wish I could be starting out again together with them."

This last comment is also a fitting concluding sentence for these recollections.

Appendix I

ON ESTONIA AND ESTONIANS

The name

The Estonian name for the country is Eesti.

Ancient Germans called the peoples living north-east of the river Visla *'Aisti'*. Tacitus, the Roman historian of the first century AD, in his book *Germania* named the people *'on the east coast of the East Sea'* (the Baltic Sea is known in Germany as *Ostsee*) *'Aestiorum gentes'*. By this he almost certainly meant the Baltic tribes in the area later known as East Prussia because he calls them *'germanic'* and records their practice of collecting amber. The people further north he called *'puecini', 'venedi' and 'fennis'* (finns). It is not clear whether any of these were the Estonians.

The 6th century Roman historian Cassiodorus used *'Aesti'* and Einhard, the 9th century chronicler of Karl the Great *'Aisti'*. The ancient Scandinavians called the land south of the Finnish Gulf *'Eistland'* and the people *'eistr'*. A map by the Arab scholar Abdallah Muhammad al-Idrisi in 1154 shows the country as *'Astlanda'*.

The Latin name Estonia or variations of the German name Estland are used today in many languages.

The country

Estonia is located on the southern shore of the Gulf of Finland which forms the eastern end of the Baltic Sea. South of Estonia are the other two

Baltic countries, Latvia and Lithuania. Most people think of the area as the north-east corner of Europe, but this is not so because the eastern boundary of Europe is the Ural mountains. The three Baltic States are actually in central Europe, and the geographical centre of Europe is in Lithuania.

Estonia is about three quarters the size of Tasmania which makes it small by Australian standards, but not quite so small in Europe: Estonia is larger in area than Albania, Belgium, Denmark, Holland, Slovenia or Switzerland. On 1 January 2000 there were in Estonia 1,439,197 people, 669,583 males and 769,614 females. This is a small number, but note that the population of Iceland is only about 300,000.

The ethnic composition was 66 per cent Estonians, 29 per cent Russians, 3 per cent Ukrainians, and 2 per cent others. In 1989, 71.6 per cent lived in urban centres. The population density was 35 people per square kilometre.

The country is flat, on the average about 50 metres above sea level, with the highest point 317 metres. It is sparsely populated, with extensive forests and more than 1000 lakes gouged into the limestone and sandstone surface formed from sediments laid down in a warm shallow sea teeming with marine life between 400 and 500 million years ago. The crystalline bedrock of granite and gneiss, some 2500 million years old, is not exposed anywhere in Estonia.

The climate today is characteristic of the continental mixed forest zone, tempered by the Baltic Sea and the Gulf Stream. The vegetation period (average temperature above +5^{o}C) ranges from 145 to 165 days per year. The recorded lowest temperature so far (- 43.5 ^{o} C) was in 1940 and the highest (+35.6^{o} C) in 1992. The coldest month is generally February and the warmest July. Average annual precipitation ranges from 551 to 650 millimetres (21.7 to 25.6 inches.)

The ice age

On a number of occasions during the last 2.5 million years glaciers covered large parts of northern Europe, Asia and North America. Estonia was most recently under an ice cap, thought to have been one to two kilometres thick, until about 12,000 years ago. When the ice had melted some 10,000 years ago, Estonia was covered by a great glacial lake. Relieved from the enormous weight of the ice the ground started rising and the water drained into what is now the Baltic Sea, which eventually broke through to the North Sea. The ground level in Estonia has risen more than 100 metres since that time and is still rising a few millimetres a year.

The melting ice left behind granite boulders and rubble and sand, gravel and clay, brought by the glaciers from Scandinavia. Together with more recent locally formed loose sediments and soil this material, called moraine, forms a cover on the limestone and sandstone, thin in the north and thicker in the south.

Human habitation

The first signs of human habitation in the newly established birch and pine forest date from about 9500 years ago. These nomadic hunters and fishermen, attracted by the wildlife in the forests and fish in the lakes and rivers, are thought to have been ethnically different from the ancestors of the Estonians who arrived between 4500 and 5000 years ago, at the time when the Pharaohs in Egypt were building the pyramids. Over time the newcomers, also hunters and fishermen, absorbed the original inhabitants and became predominant.

The origins

Estonians belong to the Finno-Ugrian linguistic group of which the other main members today are the Finns and the Hungarians. Numerous kindred ethnic groups occur throughout what is now Russia west of the Urals, but have not survived as separate national entities. Some such groups have become extinct in recent times.

There is no agreement on where the Finno-Ugrian people originated, the most widely accepted location being somewhere in the middle Volga region between the Kama and Oka rivers. An alternative view is that there was no original homeland as such but a long band of settlements from the Urals to the Baltic Sea which gradually moved westwards in small groups.

Whatever the answer, those settling where Hungary is today were over the millennia exposed to different influences from those moving 1500 kilometres further north to the shores of the Gulf of Finland. The Estonian and Finnish languages are very similar while only a few Hungarian words are still mutually understandable.

The language

Estonian is spoken today by just over one million people in Estonia and by about 100,000 people of Estonian descent in the rest of the world. The Estonian language is very different from Russian or German or the Scandinavian languages and from that of their close southern neighbours, the Latvians who, together with the Lithuanians, belong to another unique ethnic group. There are, however, many loan words, mainly from German, Russian, Swedish, Finnish and, more recently, English.

Written Estonian uses the Latin alphabet. Standard Estonian is based on the North Estonian dialect. The pronunciation is phonetic. Nouns are

declined (there are fourteen cases), and verbs conjugated, generally by adding endings to root-words. There are no articles or grammatical genders.

The oldest known examples of written Estonian are names, words and phrases in 13th century chronicles. The earliest surviving Estonian text dates from the beginning of the 16th century. The first German-language Estonian textbook was written by Heinrich Stahl in 1637. Ferdinand Johann Wiedemann published and a comprehensive Estonian-German dictionary in 1869 and a grammar in 1875. The first Estonian language textbook of Estonian grammar was published in 1884.

Prehistoric times

Developments in the Baltic area lagged behind southern Europe, Asia, and northern Africa. Thus the prehistoric period in Estonia, up to the emergence of written records, is usually divided into:

Early Stone Age	7500 – 4000 BC
Late Stone Age	4000 – 1500 BC
Bronze Age	1500 – 500 BC
Pre-Roman Iron Age	500 BC – 0
Roman Iron Age	0 – 400 AD
Middle Iron Age	400 AD – 800 AD
Late Iron Age	800 AD – 1200 AD

Soil cultivation and cattle raising began towards the end of the Late Stone Age. In the Bronze Age stone, bone and wood continued to be the main materials used because the metals for the making of bronze – copper and tin – do not occur in Estonia. Later, some iron was made locally from bog iron ore, but most of it was imported.

In prehistoric times the Estonians had no national structure but lived in a number of regional communities, the basic unit of which was the village *(küla).* A number of villages made a parish *(kihelkond),* led by an Elder *(vanem),* to some extent hereditary but subject to confirmation by election on the basis of merit. Important issues were decided by the assembly of all warriors in a *kihelkond*. When threatened from the outside, one or more parishes would elect a military Leader *(pealik)* for the duration of the campaign. Parishes often combined to form districts or counties *(maakond).* Matters dealt with on a *maakond* basis were decided by an assembly of the *kihelkond* Elders. Sometimes there were armed conflicts between the *maakonnad.*

Beginning about 100 AD there were mass migrations of people in Central Europe. The Goths from southern Scandinavia and the southern coast of the Baltic Sea migrated south. This forced the Slavs, a nomadic people of cattle graziers in the area between the Oder and the Vistula rivers, to move east

and then north, in turn causing the Baltic tribes which had been living to the south of the river Daugava to move north close to the present Estonian-Latvian border. Further north, the Estonians started to cross the Finnish Gulf and settle in Finland, until about 500 A.D.

By that time there had been a mass immigration of the eastern Slavs to what is now north-west Russia, previously a largely uninhabited region of great forests. The Slavs appeared for the first time on Estonia's eastern border. (The name Slav, incidentally, derives from *slovo*, signifying "people who can speak", as opposed to *nemtsy* "dumb people", a word also used for Germans). Of the people kindred to the Estonians the Livonians lived to the south, in present western Latvia, and the Votic people in Ingria, east of river Narva.

Frequent raids by neighbours led, beginning around 500 AD, to the building in Estonia of fortifications *(linnused*) on hills or artificial mounds in which the inhabitants in the surrounding area sought refuge during fighting. The ancient Estonians did not know of mortar. Their fortifications therefore consisted of walls of earth or loose stones and timber palisades. Around the fortifications grew settlements.

About the year 600 AD the Estonians beat a large invading Swedish army led by King Ingvar, who was killed and buried in Estonia. Subsequently Ingvar's son is said to have won a retaliatory battle against the Estonians.

The Vikings and the Rus

About 800 AD Scandinavian raiders and merchants from today's Denmark, Norway and Sweden, called Vikings in the West and Varjags or Varangians in the East, started to journey via the Baltic Sea, Estonia and the Russian river and lake system to the Black Sea and the Byzantium. Numerous finds of Arabian and West European coins in Estonia show that the country became an important transit station on the Varangian trade route which was in use until the 12th century, and Estonians participated in the trade. It was not always friendly, however - in Norse sagas there are stories of Norwegian king Olav Tryggvason and other Vikings being captured by Estonians.

Numerous finds of coins show that Estonia became an important transit station on the Varangian trade route which was in use until the 12th Century. Legend and a Russian chronicle have it that in 862 AD the quarrelling princes of the tribes in Novgorod, unable to agree who should be their leader, invited a Varangian prince called Hzözeks to govern them. His name Russianised to Rurik, he became their ruler. The name for the land and the people of what is now western Russia, Belarus and the Ukraine became 'Rus'. Around 882 AD Rurik's successor Oleg took control of Kiev and made it the capital of a state – Kievan Rus - that stretched from the Gulf of Finland to almost the Black Sea.

The founding of the Kievan State led to Estonia being increasingly raided from the east.

A fortified Estonian village and trading centre *Lindanisa* existed on the site of what is now the capital, Tallinn, by about the year 1000. The Estonians and others living in the eastern part of the Baltic Sea retaliated to the Viking raids by raiding Scandinavia. In 1170 there was a naval battle between raiding Estonians (and others) and the Danes. On a celebrated occasion in the year 1187 (celebrated by Estonians, anyway) they captured and burned the then capital of Sweden, Sigtuna. As the Vikings became less active in trading to the east and the south the Estonians partially replaced them, becoming more prosperous and increasing in numbers.

In 1240 the Mongols ('the Golden Horde') sacked Kiev and ended its hegemony. Thereafter Mongol suzerainty, including payment of heavy tribute, extended throughout the country until the Grand Prince of Moscow, Dmitriy Donskoy, defeated the Mongols in 1380. The Russian polity now moved from Kiev to Moscow and in 1480 Ivan III repudiated subservience to the Mongols. In 1547 Ivan IV ('the Terrible') became the first ruler called the Tsar (Russian pronunciation of Caesar).

Ancient independence

Estonians towards the end of prehistoric times lived in villages. Cultivated land was individually owned while the meadow, forest, and pasture lands were held in common. Barn-dwellings (*rehielamu*) some 20 metres long, constructed from logs and with thatched roofs, contained a threshing room and granary which also served in the winter as livestock barn, a heated room in the middle used for drying grain and housing the family in the winter, and the unheated living chambers used in the summer.

There were no princes or kings or nobility; the elite were elected Elders and those with greater than average landholdings. The great majority were small farmers, free men who owned land, carried arms, and took part in community decision-making. Women were most likely in a subordinate role and the early 13th century chronicler Henry of Livonia notes some instances of polygamy. There was also a large group of slaves (*orjad*), mostly the women and children of those vanquished in a war, after the male prisoners had been killed.

Besides agriculture, animal husbandry, hunting and fishing there were iron smelting and iron working centres where bog iron ore was used to make tools and weapons such as spearheads.

The Estonians believed in animism - the attribution of life and spirit to material forms. There were no priests and only a vague concept of gods. Spirits were believed to exist in nature, in humans, and separately - such as the *haldjas*, or guardian spirit. Spirits had to be honoured and appeased to ensure

good fortune, security, and good crops. Nearly every village had a sacred grove, with sacrificial stones and trees, which served as places of worship. The most common sacrifices were grain and animals.

The main cultural heritage of the prehistoric era was in orally passed-on folk songs, the old form of which is the *regivärss*, characterised by the extensive use of alliteration and assonance and continual repetition or restatement of a theme. These appear to have been created exclusively by women.

Estonians retained their basic independence until the early 1200s. At times tribute was collected by Vikings from the west and by Kievan Russia to the east, but this was always temporary.

Baltic crusade

By the year 1000, Christianity had spread to all Europe except the north-eastern region inhabited by the Baltic and Finno-Ugrian peoples. Following the commencement of the Crusades in Palestine in 1096, attention was increasingly turned to their christianisation and in 1199 the Bishop of Livonia, Albert Buxhoevden, set about the task. Remarkably, there exists a contemporary account, *The Chronicle of Henry of Livonia*, of many of the events during the next 30 years. Written by a monk it is a unique, although naturally a one-sided record.

In 1201 the merchants of Lübeck built at the mouth of the river Väina the town of Riia (Riga), now capital of Latvia, which became the base for Germans in this area. In 1202 Pope Innocent III declared a Crusade for christianising Old Livonia (roughly today's Estonia and Latvia). The area was designated by papal degree as *terra matris* (‘Land of the Mother’) or *terra Mariae* (‘Land of Mary’); to the present time Estonia is sometimes known as *Maarjamaa* (‘Mary’s Land”). A high decoration awarded by the Republic of Estonia to foreign dignitaries today is called *Maarjamaa Rist* (Cross of Mary’s Land.)

The participants were promised the blessing of the Church and forgiveness of their sins, similarly to the crusaders in the Middle East. The Crusade was strongly supported by North German merchants and traders led by those in Lübeck (later the Hanseatic League) who wanted to establish commercial connections, particularly with Novgorod.

Bishop Albert established the Order of the Brethren of the Sword (which later became the Livonian Branch of the Teutonic Order, or Livonian Order) to carry out the Crusade, which reached Estonia from the south in 1208.

Operating beyond the reach of the Pope and secular authorities, the Teutonic Knights were a law unto themselves. Their *Ordenstaat* was in effect a nation-state with its capital at Marienburg (now Malbork in Poland). It sent and

received embassies to and from Western courts and Rome. The governing hierarchy, headed by the Grand Master, was accorded the same respect, status and honours as that of any Western European principality.

The professional German knights on large war horses were protected by chainmail and helmets and equipped with crossbows and siege engines which the amateur Estonian forces did not acquire until much later. The Livonians and western Latvians, who had been christianised by this time, became auxiliaries against the Estonians, some willing, some forced.. The fighting consisted of a series of mutual raids, with varying success on both sides. The Russians raided from time to time from the east, although on occasions they joined with the Estonians against the Order.

Albert concluded a treaty with the Danes for help in conquering the Estonians. King Valdemar II landed in 1219 at the Estonian fortress Lindanisa on the north coast, won a protracted battle and established on the site his own fortress Tallinn (Taani linn = Danish Town in Estonian, Reval in German). Legend has it that what became the Danish flag, a white cross on red background (Danebrog), fell from heaven at the battle for Lindanisa, indicating divine approval.

Soon Albert started to regard the Danes, who were successful in subduing and christianising three counties, as rivals. The Swedes appeared on the scene in 1220 and had an initial success in western Estonia, but were then defeated and their forces destroyed by the Estonians.

There was a major uprising by the Estonians in 1223, who washed off their baptism and swore not to become Christians again while a year-old or a *küünar* (half a meter) tall boy remained alive. The Brethren of the Sword suffered heavy losses. Reinforcements were brought from Germany and in 1224, after heavy fighting, the resistance of the Estonians was broken. By 1227 all Estonia was under German and Danish domination. For the next nearly 700 years the Estonians were governed by foreign overlords. From 1227 until 1561 the Livonian Order was dominant, then there was a contest between Denmark, Sweden, Poland and Russia which was won in 1629 by Sweden, to be defeated in turn by Russia in 1721.

Livonian Order

After 1227 the Danes owned northern Estonia (about 20 per cent of the country) while the Order and the Church shared the rest. Old Livonia remained a predominantly rural economy, with only of the order of five per cent of the population in towns. In 1237 the Brethren of the Sword merged with the Teutonic Order of Knights and, as its Livonian Branch, became the ruler of Old Livonia. The Order was now no longer subservient to the Bishop of Riia but an equal, and militarily stronger, partner.

In Prussia the christianising invaders had deliberately and systematically killed off the indigenous Baltic tribes and replaced them with German peasants, thus converting Prussia into a German country. The distance of Estonia from Germany and the hazards of the journey meant that no German peasants settled there, and merchants and tradesmen only in small numbers. The indigenous people were allowed to remain as a lower class and thus retained their language and culture. They initially maintained their personal freedom and village life but had to accept certain obligations and taxes and recognise the overlordship of the conquerors.

There was a small number of Estonians better off than the overwhelming majority of the people. Some managed to become small vassals and some were free peasants who had managed to buy exemption. Some were rural artisans. Between the peasants and the landholding nobility there emerged a class of partly Estonian "enforcers": bailiffs, administrators, overseers. Some of these eventually became absorbed into the landholding class, forgetting their origins and language.

Life in the cities, centres of artisans and commerce, was much freer than in the countryside, although locals could not join the guilds and had to do mostly menial work. If a peasant managed to escape to the city and was not caught for a year and a day, he did not have to return to the landlord's estate. "City air makes free", the saying went.

For the vast majority, however, their situation gradually worsened. Over the next hundred years or so the successors of the German knights (the nobility) established themselves as a feudal ruling class. They acquired large estates *(mõisad)* by seizing the more fertile lands and established large manor houses. Eventually the locals were forced into serfdom, an intermediate position between slave and hired labourer.

Serfdom had its beginnings in 4th century A.D. in Rome when Emperor Diocletian established a large, expensive and corrupt bureaucracy. Will and Ariel Durant in *The Lessons 0f History* (Simon & Schuster 1968) describe what happened:

"To support this officialdom, taxation rose to such heights that men lost the incentive to work or earn, and an erosive contest began between lawyer finding devices to evade taxes and lawyers formulating laws to prevent evasion. Thousands of Romans, to escape the taxgatherer, fled over the frontiers to seek refuge among the barbarians. Seeking to check this elusive mobility, and to facilitate regulation and taxation, the government issued decrees binding the peasant to his field and the worker to his shop until all his debts and taxes had been paid. In this and other ways medieval serfdom began".

Serfdom existed in a number of countries even up to modern times, although in Sweden the "bondsman" system was officially abrogated as early as 1335. In the United States, where men had declared their freedom by seceding from Britain, slavery flourished until the Civil War in the 19th century.

Baltic barons

By the end of the 13th century the Estonian peasants (and also the village blacksmith, miller etc.) had become 'bonded' to the landholders, the owners of the manoral estates, who considered the Estonians to be lazy, stupid, clumsy and inefficient. The peasants were responsible for their own upkeep and welfare, paid a percentage of their crops as rent and, in addition, had to work a number of days without pay on the lord's estate. They could not leave the land without his permission. A serf could only seek justice in the manoral court, run by the landlord. The conditions gradually worsened over the centuries.

Eventually the German speaking landlords, over time assimilating in addition to the crusaders and their descendants people from other nationalities, particularly Swedes and Danes, formed the nobility, known as the "Baltic barons". They gained absolute power over the peasants, verging on slavery. Organised into four administrative districts with headquarters in Tallinn, Riga, Jelgava and Kuressaare they had considerable autonomy, their own elected Diets and, in the cities, Magistrates. They could sell, barter, punish or even kill their peasants as they thought fit. Flogging for even minor transgressions was common. They preserved their privileged position as owners of the land and of the peasants, irrespective of who was the ultimate overlord, until the middle of the 19th Century.

The Estonians did not willingly accept their role. There were uprisings in 1236 and in 1260. A major revolt on St. George's Day in 1343 succeeded in gaining control of a large part of northern Estonia and Saaremaa but was finally suppressed in 1345. As a consequence the Estonians lost their last vestiges of freedom and the chronicler Wigand of Marburg speaks of whole villages being exterminated. After the revolt the Danes, who had for some time been concerned about the viability of their holdings in northern Estonia, sold these to the Order, significantly enhancing its power. Tallinn became an important Hansa town.

In 1410 the Teutonic Order suffered at Tannenberg in East Prussia a disastrous defeat at the hands of the Lithuanians and the Poles and in the middle of that century the Order became subordinate to the Polish King.

The Order's overlordship of today's Estonia and northern Latvia came to an end in 1561. Old Livonia was liquidated. By this time Tsar Ivan of Old

the Terrible of Russia had occupied eastern Estonia, the western and northern parts had been taken over by the Danes and the Swedes respectively and southern Livonia belonged to the King of Poland. At the end of the Order's era, after an interval of more than 200 years, there was in 1560 another major uprising of Estonian peasants. It was unsuccessful.

Land of many rulers

The rulers - Russia, Denmark, Sweden and Poland - continually fought among themselves. Russia withdrew at the end of the Livonian Wars in 1582. By 1629, after a protracted confrontation between Sweden and Poland, de facto Swedish control had been established over the whole area north of the river Daugava, including all of mainland Estonia. Old Livonia was divided into two provinces: Estonia (today's northern Estonia) and Livonia (today's southern Estonia and northern Latvia). The island of Saaremaa remained under Danish control until it fell to Sweden in 1645. Thereafter the Swedish holdings were administratively divided into two provinces *(kubermang)*: Estonia (northern Estonia) and Livonia (southern Estonia and Latvia north of the river Väina). This division continued until 1917.

The Swedes

Serfdom was confirmed and remained entrenched under Swedish rule, in contrast to Swedish peasants who were free and had representatives in Parliament. Initially the condition of peasants even worsened although, beginning in 1680, there were reforms reducing the manor estates and increasing State holdings. The reforms were strongly resisted by the barons who maintained that their Diet (parliament), and not the Swedish Parliament, was the proper legislative authority. There was nevertheless some improvement and the children of peasants began to be taught reading in peasant schools. Books and pamphlets began to be printed in Estonian. In 1631 the Gustav Adolf Gymnasium was opened in Tallinn and in 1632 a University (Academia Gustaviana) was opened in Tartu, although there is no record of students of Estonian origin. During the subsequent Russian overlordship the period came to be remembered as the 'good old Swedish time'. The end of the Swedish rule, however, came with great sufferings.

Harvest failures caused by cold and wet summers in 1695–1697 in the countries bordering the Baltic Sea resulted in a great famine, particularly in Finland and Estonia. Arvo Mägi quotes contemporary Tallinn pastor Christian Kelch (my translation):

"In the year 1697 the distress and misery caused by the great famine became daily greater. Husbands abandoned their wives and wives their

husbands; parents their children. The lament of the starving which could have softened stones was heard day and night in the city and in the country. It was seen with shock that the starving ate not only chaff and manure but also horses, oxen and other animals killed by them, raw and with skin and fur, tearing the entrails from the carcases. Some were found cutting pieces from corpses and trying to still their hunger with them. Corpses for which feeble people could not dig graves because of the severe cold and deep snow lay not only in the cemeteries but also on roads, in fields and in bushes, were gathered by cartloads in the spring and buried in common graves."

When 15 years old Charles XII ascended the Swedish throne in 1697, an alliance of Saxony, Russia, Denmark and Poland recognised that Sweden, with its population of just 1.5 million, was overextended. While Saxons attacked Riga, Peter the Great of Russia laid siege to Narva on Estonia's eastern border, beginning what is known as the Great Northern War. Charles XII, called *Raudpea* (Iron Head) by the Estonians, landed with a Swedish army and defeated the Russians at Narva in 1700. He then left to campaign in Poland, leaving only small Swedish forces in Estonia which were unable to prevent Russian cavalry from devastating northern Estonia. Christian Kelch records:

"Because the enemy now no longer had anything to fear, it moved around freely. Its strongest cavalry consisted of Kalmuck and Cherkass Tartars. Although badly armed, because of lack of resistance they were courageous enough to perpetrate brutalities. They drove large herds of cattle to Russia and partly slaughtered them. They killed unresisting women and children. The biggest disaster was that they packed several hundred small children into wagons like geese and took them with them to Tartary, to sell or to bring up as Tartar pagans".

The Russians occupied Tartu and Narva in 1704. In 1708 Peter the Great ordered a scorched earth policy in case the Swedes attempted to move northwards. All significant buildings in Tartu were destroyed and many inhabitants and their families deported to Russia.

After campaigning in Poland and the Ukraine Charles XII suffered a catastrophic defeat at Poltava in 1709, resulting in the loss of his army. The King escaped to Turkey and remained there for several years. Tallinn surrendered to the Russians in 1710, partly because of a plague which killed eight ninths of the population, including chronicler Christian Kelch.

The devastation was great. Between 1695 and 1712 the famine, war, burning, pillage, killing, deportation to Russia and the plague reduced the population of Estonia from an estimated 350,000 by more than a half to an estimated 150,000 to 170,000. The General commanding the victorious

Russian forces, B. Šeremetjev, is said to have told Tsar Peter that from Narva to Riga one could not hear the crowing of a rooster or the barking of a dog.

Thus ended Swedish power in Estonia, although the official peace treaty at Uusikaupunki in Finland was not concluded until 1721. With the peace treaty Russia acquired besides the provinces of Estonia and Livonia parts of Finland which had been Swedish since annexed by the Vikings. Swedish military ambitions and power were ended forever. All Finland came under Russian domination in 1809.

The Russians

For the next two centuries, until 1918, Estonia was under Russian rule but the German landlords remained. Initially the condition of the peasants worsened under Russian overlordship. Many of the reforms introduced in the Swedish time were cancelled and land taken over by the Swedish State returned to the landholders. In a famous case in 1740 miller Juhan questioned the landlords' rights in Court. The Court confirmed the landlords' absolute right to determine the conditions of land use by peasants and to sell and buy, judge and punish them; the serfs had no rights. Juhan was sentenced to forced labour for life for having dared to question it.

After the French Revolution serfdom began to be questioned in Western Europe. Napoleon abolished it in France and in 1811 it was abolished in Prussia. Legislation to free the peasants was enacted by Tsar Alexander I in Estonia in 1816 and Livonia in 1819. This, however, left the peasants worse off because the land still belonged to the nobility and the "liberated" peasants had to work an unreasonable number of days on the estate's fields in return for the right to stay on their small farms. The landholders retained their judicial and police powers and the mobility of the peasants was strictly limited. There was unrest, numerous disturbances in the first half of the 19th century and an armed clash between the troops and the peasants, with casualties on both sides, in 1858.

Tsar Nicholas I had brought in land reforms in Livonia in 1849 and in Estonia in 1856 which required the landholders to sell or rent a part of their land to the peasants and to allow them to pay their rent in money. This started a rapid improvement in the economic lot of the people. Literacy spread and in the first half of the 19th century there emerged the first Estonian writers, poets and scientists. At about the same time several Estonian language newspapers were established, the first in 1857.

By the 1860s the peasants were no longer tied to the land and many started moving into the cities. This made it easier to obtain an education, acquire trade or professional skills and thus improve their lot. Estonians have ever since valued education highly.

Against opposition by much of the nobility, an Emancipation Manifest was passed under Tsar Alexander II in 1861. Within three years a reorganisation of local government gave landowners 48 percent of the seats in the Diet, urban population 12 percent and the peasants 40 percent. Independent courts with permanent judges, trial by jury and pleading in public by professional lawyers were established. Roads and medical services improved and there was free distribution of medicine for the needy. Schools had fewer students per class.

Not everybody was happy. Starting in 1866 there were numerous attempts to assassinate Alexander II. They finally succeeded in 1881.

In Estonia, the period 1860-90 is called the Era of National Awakening. Estonians became aware of their national identity; there was a surge in national pride and in cultural activities. The first national song festival was held in 1869, with the combined choir numbering over 800. These festivals, with many choirs and attendances, have since then taken place periodically, recently at five-yearly intervals. Cultural and educational societies were established in many country centres. Increasing numbers of young Estonians managed to gain admission to the University of Tartu. Gradually there developed a leadership group of intellectuals and professionals. The wish to be free and their own masters had not died since ancient times.

These progressive developments were brought to a halt in 1881 by Tsar Alexander III, who decided to stop nationalism and started a program of Russification by decree. The Baltic nobility lost some of their privileges. The schools, the law courts, and the police came under Russian control and Russian became the official language. As from 1887, all tuition in schools from Year 3 onwards was in Russian and even the speaking of Estonian in schools was banned. Many teachers who were not fluent in Russian lost their jobs. At the same time various incentives were offered to Estonians to change their religion to Russian Orthodox and to accept appointments in faraway parts of Russia.

In spite of this, a new generation of educated and nationally aware Estonians emerged by the turn of the century including writers, poets, economists and politicians. More and more young Estonians entered the University of Tartu, where they received national stimulation from their fellow-students.

In 1894 Alexander III was succeeded by the last Tsar, Nicholas II. After Russia lost the war with Japan in 1904, a wave of strikes and uprisings swept Russia. When these disturbances reached Estonia late in 1905 the demands formulated by the liberal elements contained, in addition to social reforms, requests for democratic representation and national development. Radical elements rampaged through the land, looting and burning nobility's manors. Subsequently Russian “punishment units” were sent to quell the rebellion, resulting in public flogging of many, execution of about 500 people, and no social or political reforms.

When World War I began Russia joined in to keep the Balkans in its sphere of influence, but the Russian forces suffered heavy losses in Prussia. Some 100,000 Estonians served in the Russian Army in World War I, besides conscripts also a group of professional officers. While no statistics of Estonian losses exist, in the Russian Army as a whole 12 per cent were killed and 19 per cent became wounded or sick.

The revolution in Russia created a boldly grasped opportunity. When the Tsarist regime collapsed in February 1917, the Estonians put to the Russian Provisional Government demands for administrative autonomy and repatriation of Estonian soldiers fighting in the Russian Army. Both demands were granted. Estonian became the official language and Russian officials began to be replaced by Estonians. Estonian regiments were formed. Democratic elections were held for the Estonian National Council - *Maapäev* (Diet), which began its first session on 1 July 1917. The Executive Committee of the Diet became, in effect, the Estonian Provisional Government.

Following the October Revolution the Bolsheviks took power and declared the Diet dissolved. Ignoring the order the Diet met, declared itself the supreme power in Estonia, and authorised its Speaker and the Committee of Elders to make decisions between sessions. The Bolsheviks forcibly halted the elections for the Estonian Constituent Assembly in January 1918 after they polled only 35.5 per cent of the votes on the first day.

After nearly 700 years of foreign overlordship, the Committee of Elders of the Diet proclaimed Estonia a free and independent Republic on 24 February 1918. The Republic of Estonia was recognised *de facto* by the British, French, and Italian Governments in May 1918. The US Government was in favour of a unified Russia and initially declined recognition.

War of Independence

German forces entered Estonia while independence was being declared and occupied the country within days. Independence was not recognised and all national institutions were banned. The Baltic German population hoped for a union with the German Empire. Following the Peace Treaty between Germany and the Soviet regime in March 1918 Germany remained in occupation of the Baltic States, a part of western Russia, Belarus, and the Ukraine, a large area extending from the Baltic Sea to the Black Sea.

After the surrender of Germany to the Allies in November 1918 the Estonian Republic took over power, but even before the withdrawal of the German forces the Bolshevik Red Army began attacking Estonia from the east and proclaimed the Estonian Workers Commune. The Estonian Government ordered mobilisation and the War of Independence began. Initially the Red Army made fast progress - New Year 1919 saw the Bolsheviks only 35 kilometres from Tallinn.

Estonian officers and soldiers who had served in the Russian Army now became the core of the Estonian armed forces under Head of State Konstantin Päts and Commander in Chief General Johan Laidoner. The British Navy entered the Baltic Sea, guarded the coast and supplied arms and equipment. Volunteers arrived from Finland, Denmark and Sweden. The military situation was quickly reversed; the territory of the young Republic of Estonia was free from invaders by its first anniversary in February 1919.

Fighting continued further east and south. In June a German *Freikorps* - "Landeswehr" - attacked Estonian forces fighting the Red Army in the south. Initially formed with Latvian encouragement and participation to fight communism (and accompanied as an observer by the British Lieutenant Colonel (later Field Marshal) Alexander), the Germans also hoped to acquire what had been Old Livonia for Germany. A fierce three-day battle against Landeswehr in northern Latvia was won decisively by the Estonians - an event commemorated since then on 23 June as Victory Day. A cease-fire with Landeswehr was signed on 3 July.

The revolution in Russia found 45,000 Czech deserters from the Austro-Hungarian Army in Siberia where they had been preparing to join the Russian Imperial Army to free their country. They declined to join the Bolsheviks. With tacit encouragement by the Allies, they set up a government of their own in Siberia and began to march west to defeat the Soviets, as did a White Russian Army under Admiral Kolchak.

A British Expeditionary Force landed in Murmansk, occupied Archangel on 2 August 1919, set up a provisional government and advanced southward with the intention of joining the forces coming from Siberia. A Japanese division accompanied by French and British contingents and two United States regiments from the Philippines took Vladivostok. The French landed at Odessa. Remarkably, the rag-tag Bolshevik armies under Trotsky savaged the Czechs who then decided to go home - and initially halted and then beat the Whites.

The Allies wanted the Estonians to support a White Russian army in the north under General Yudenitch, but as the White Russians wanted to restore Estonia as a province of Russia the cooperation was half-hearted, just to please the Allies. After having reached the outskirts of St. Petersburg, the White Russian forces were defeated by the Reds and demobilised by the Estonians.

Peace negotiations with Soviet Russia began in December 1919. A truce came into force in January and the Peace Treaty of Tartu was signed on 2 February 1920. In this Treaty Soviet Russia solemnly pledged to ‘unreservedly recognise the independence of Estonia and renounce voluntarily and forever every sovereign right Russia has ever had on the Estonian land and people’. The Soviet Union also paid Estonia 11.5 tons of gold in reparations.

Republic of Estonia 1918 - 1940

The Republic of Estonia was recognised by Finland on 7 July 1920, by the Allied Supreme Council on 26 January 1921, and by USA on 28 July 1922; other countries followed. Admission to the League of Nations on 21 September 1921 brought automatic recognition by twenty more countries.

The Constituent Assembly, elected in April 1919, had already in that year brought in land reform, converting 1150 large estates (totalling 58 per cent of all cultivated farmland) into 55,000 new homestead farms. The former owners - Baltic Germans - were paid compensation.

The economy went through a boom period in the early 1920s, with Estonia the main economic channel between Europe and Soviet Russia. This was followed by a downturn when at the end of 1922 the Soviets closed their markets to Estonian goods.

The increase in the number of private farms brought about an immediate increase in the production of grain, meat, eggs and other farm and dairy products. Farmers' co-operatives were formed to assist marketing the produce and supplying farm machinery. Other industries that flourished were the timber industry, fishing, and industries utilising the local mineral deposits: oil shale, phosphate rock, limestone and peat. The surplus of agricultural and industrial products was exported. In the mid-1930s, agricultural products (butter, bacon and eggs) represented about 50 per cent of total exports, timber products 10 per cent, oil shale products 5 per cent and other industrial products 35 per cent.

Estonia was almost totally self-sufficient in food. One of the few foodstuffs imported was sugar, since the climate was too harsh even for sugar-beet, not to mention sugar-cane.

While poor in other mineral deposits, Estonia has major deposits of oil shale and these have been in uninterrupted production since the 1920s, for recovering oil and as fuel for electricity generation. The population of Estonia in 1922 was 1,107,000 people, a great recovery from the estimated 150,000 to 170,000 in 1712.

In 1924, in flagrant breach of the Peace Treaty of Tartu, the Soviet Union attempted to seize power through an armed communist uprising led by illegally infiltrated agents, with casualties on both sides. Lack of support by the public and the vigilance of the police and the army caused the attempt to fail. Following this, Estonia became the first country in the world to ban the Communist Party.

By introducing an eight-hour working day in industry and commerce as early as 1918, Estonia was among the progressive countries in the field of social policy. Unemployment was almost nil. The social insurance laws closely followed the recommendations of the International Labour Office, and Estonia was a signatory to no fewer than twenty-two international conventions

in this field. A single representative of the workers was elected where there were less than twenty five employees, and a Workers Council was elected by larger groups.

Primary schooling was compulsory for six years (from age eight to age fourteen.) Primary education in State schools was free. Corporal punishment in schools was unheard of (except in special schools for delinquents). In 1934 the literacy among persons aged ten years and over was 96 per cent.

Secondary schooling comprised of a classical branch (two years of progymnasium starting after the fourth year in primary school, followed by three years of gymnasium), or a non-classical branch of three years after six years of primary school. There were also many professional schools. Tertiary educational establishments were Tartu University and the Technical University in Tallinn. There were also the Academy of Music in Tallinn, the higher Music School in Tartu, and the High Art School "Pallas".

The Constitution guaranteed freedom of religion and conscience. There was no Established Church. The Estonian Evangelical Lutheran Church had an assembly called "Church Day" as its highest institution which had the Consistory of six persons, headed by the Bishop, as its leading organ. The Estonian Apostolic Orthodox Church was led by the Metropolite. The administration was called the Synod.

The judiciary was independent. Judges were appointed by the President form candidates proposed by the Supreme Court. There were Parish Courts, District Courts, the Appellation Court, and the Supreme Court. The military courts were court martial and the field court martial.

All men from 17 to 55 years were liable to be called up. There was compulsory military service for 12 to 24 months on reaching the age of 20. Officers were trained in the War School.

The President was the Commander in Chief, who appointed and released the Army Commander. The permanent military was complemented by the voluntary Home Guard. At the time of the Soviet takeover in 1940 the Estonian permanent defence force consisted of about 16,000 men.

From 1921 to 1938 the natural growth rate of Estonians was 0.21 per cent. To this was added a modest growth through immigration.

On March 1, 1934, the last complete census of the Republic of Estonia before World War II determined the population at 1,126,143 people of whom 88.2 per cent were Estonians, 8.2% per cent Russians, 1.5per cent Germans, 0.7 per cent Swedes, 0.5 per cent Latvians, 0.4 per cent Jews, and 0.5 per cent other ethnic groups. Of this number, 59 per cent were engaged in farming, 15.7 per cent in industry, and 4.2 per cent in commerce and finance. Only 28.3 per cent lived in urban locations. The population was 78.2 per cent Lutheran, 19 per cent Apostolic Orthodox, 0.2 per cent Roman Catholic, 0.8 per cent Baptist, 0.7

per cent other Christian denominations, 0.4 per cent Jewish, and 0.7 per cent without religion.

A constitutional crisis developed in 1933. Since the coming into force of an ultra-democratic Constitution in 1920, there had been twenty governments in thirteen years. The public was tired of the endless infighting between the many political parties and the economy was suffering from the effects of the world-wide depression. As in other countries in similar situations in Europe, such as for example Germany and the other Baltic States, the population was looking for strong leadership to guide it out of the political and economic morass. A League of Veterans with many officers and men who had fought in the War of Independence as members, promising firm government, gained widespread popular support.

The League of Veterans had no formal ties to the fascist movement in Italy or the National Socialists in Germany but there were some similarities. They drafted a new Constitution, establishing an 'Elder of State' with increased powers, which was accepted in a plebiscite in October 1933.

In March 1934, before the election of a Head of State in accordance with the new Constitution could take place in April, the existing Head of State Konstantin Päts and the reappointed Commander in Chief General Laidoner, declared a state of emergency and banned political meetings and demonstrations. Elections were postponed; government was through decrees by Päts and orders by Laidoner.

In December 1935 the League of Veterans was accused of planning to overthrow the government and seize power. Some 400 members were arrested and tried; many were found guilty and jailed. Parliament was not recalled. Instead of political parties, people started to be organised into professional and vocational groups. The sole political organisation was the government-led Fatherland Union. The latter was more patriotic than political, for example encouraging people with foreign names (often selected by German officials when the peasants were first given surnames in 1834) to Estonianise these. Many did.

In February 1936 the principles of a new Constitution proposed by Head of State Päts were approved by a plebiscite. A new Parliament - *Rahvuskogu* – was elected and convened in December 1936. The new Constitution was approved in July 1937 and became effective on 1 January 1938. It gave the Head of State, now called President, extensive powers and made the Parliament – now called *Riigikogu* - dependent on him. Political parties remained banned. Konstantin Päts was appointed the first President on 24 April 1938.

While Päts is accused by critics of having been a dictator, his authoritarianism was one of the mildest on record. Nobody was executed or even suffered real hardship during what has been termed "the time of silence". Later in 1938 *Riigikogu* amnestied all political prisoners, from members of the League of Veterans to communists.

On 1 January 1939, the population was 1,133,940.

There were no further developments because Estonia's independence was terminated by the communist takeover in 1940.

Appendix II

SHORT BIOGRAPHICAL DETAILS - ARVI HILLAR PARBO

Born in Tallinn, Estonia, 10 February 1928
Loodna Primary School
Gustav Adolf Gymnasium and Tallinn Technical College, Tallinn
Escaped to Germany ahead of second occupation of Estonia by Red Army 1944
Estonian Secondary School, Lübeck 1945-46
Clausthal Mining Academy 1946-48
Migrated to Australia 1949; citizenship 1955
Married Saima Soots 1953 (1 daughter, 2 sons)
University of Adelaide B E (Hons) 1956

Business appointments

Joined Western Mining Corporation Ltd. 1956. Technical and managerial appointments in Western Australia and Melbourne, General Manager 1968, Director 1970, Managing Director 1971, Chairman and Managing Director 1974, Executive Chairman 1986, Non-executive Chairman 1991, Retired 1999
Chairman Alcoa of Australia Ltd. 1978-1996
Chairman Munich Reinsurance Co. of Australia Ltd 1984-1998
Chairman Zurich Insurance Group 1985-1998
Director Aluminum Company of America 1980-1998
Director Hoechst Australian Investments 1981-1997
Director Chase AMP Bank Ltd. 1985-1991
Director Broken Hill Proprietary Ltd 1987-1992 (Chairman 1989-1992)
Member, Supervisory Board, Degussa AG 1988-1993
Director Sara Lee Corporation 1991-1998
Member or Chairman of a number of business and government Advisory Boards and Committees in Australia, USA, Estonia and China 1983 – 2002

Professional memberships

Honorary Fellow Australasian Institute of Mining and Metallurgy
Honorary Fellow Institution of Engineers Australia
Honorary Member,Gesellschaft für Bergbau, Metallurgie, Rohstoff- und Umwelttechnik

President, Australia Japan Business Cooperation Committee 1985-1991
Vice President Australian German Association 1974-1987, Patron 1987-2004
President, Business Council of Australia 1983-1984
President, Australasian Institute of Mining and Metallurgy 1990
President, Australian Academy of Technological Sciences and Engineering 1995-1997

Professional Awards and Medals

Klug Memorial Medal 1955; James N. Kirby Award 1981; Gold Medal, Institution of Mining and Metallurgy, London 1983; John Storey Medal 1984; Medal, Australasian Institute of Mining and Metallurgy 1984; Melbourne University Graduate School of Management Award 1985; Sir Willis Connolly Medal 1986; Vocational Service Award, Rotary Club of Melbourne 1989; Kernot Medal 1989; Australian Achiever 1990; Georg Agricola Medaille 1992; Paul Harris Fellow 1994; Australian Institute of Company Directors Award 1995; ANZAAS Medal 1996.

Honorary Doctorates

Honorary Doctor of Science, Deakin University, 1989; Hon. Doctor of Engineering, Monash University, 1989; Hon. Doctor of Science, Curtin University of Technology, 1989; Hon. Doctor of Science, Flinders University, 1991; Hon. Doctor of Business, Central Queensland University, 1999; Hon. Doctor of Laws, University of Sydney, 2000.

Honours

Queen's Jubilee Medal 1977; Knight Bachelor 1978; Commander's Cross, Federal Republic of Germany 1979; Grand Cordon of the Order of the Sacred Treasure, Japan 1990; Companion, Order of Australia 1993; Order of the White Star, Republic of Estonia 2001; Centenary Medal 2003.

Community service

Patron of a number of community organisations and activities 1993-present