

Recollections by Edward John (Ted) Barnes 2006

I was born 5 June 1941 to Arthur Cyril Barnes and Olive Dorothy Sparling Wellard.

Firstly a bit of background about them.

Dad was born in 1901 and Mum in 1905. They were both teachers and met on a teachers summer school in Whangarei in 1932. Apparently Mum rescued Dad from drowning while on a picnic. Dad taught mostly in Wanganui. After a period as a pupil teacher at Kimbolton in the early 1920s, he taught at Queens Park school until 1926, then at Wanganui East school before going to the Avenue school where for many years he taught art along with other subjects. He was also interested in music, and played the flute in the orchestra at silent movies, as well as the Wanganui City Orchestra. He was also an active member of the Savage Club.

My mother taught at Rangataua and at Canarvon but when she was married in 1934 she was not allowed to teach. The attitude of the time was that the husband should provide, and teaching jobs were limited because of the depression. I know around this time Dad had only one term in 3 of work available and he had classes of up to 80 children. I took 7 years to turn up, so Mum got involved with a range of hobbies that included copper work, bookbinding, needlework, hat making, stamp collecting and photography. Also during the summer school holidays Mum and Dad would go on serious bike trips. Like around the South Island.

After they were first married they lived at 48 Liffiton St near Mums parents place. About the time I was born they moved to 28 Keith St to rent a house built by Knuckey and Dixon. The other half of the semi detached house was occupied by a Miss Knuckey, a relative on my grandmother Hannah Olds side of the family. Dad was nervous about getting a mortgage and buying a place because of fellow teachers experiences in the depression of having to shift and then not being able to rent or sell. It was not until we shifted to New Plymouth in 1954 that he bought his first house.

My first memories are of the Keith St house. I can just remember the sirens going off at the end of WW2. There was a bomb shelter partly underground in the garden and it got full of water when it rained. The house was unusual for the area, being semi detached and two storey, rather than the usual bungalow on a ¼ acre. There was a builders yard at the back with all sorts of junk for a lad to play with. There were many children in the street, and a lot of time was spent out on the footpath playing marbles, riding trikes and such like. There was very little motor traffic, and looking back the town was amazingly quiet compared to now. We did not own a car, so I went everywhere on a seat on Dads bike, except on one occasion when I set out for grandpas place on my trike, and got as far as Aramoho before being found. On another occasion, when I was probably 4 we went to visit Aunt Francis at Springvale and I lifted up a lid in the garden and fell into the well. I gather I was lucky someone heard me and there was not too much water in it. I vividly recall going home on Dads bike seat wrapped in her husband Albert Campbell's underwear. One story related about me aged about 3 was the time two workmen were

doing something on the roof when a small head showed up at the top of the ladder. One kept me talking while the other went down another ladder and came up behind me.

I had mostly home made toys. Dad cut up 77 20 x 20 blocks of wood and painted them all colours, and they lived in an old butter box. The only soft toy I can remember was the teddy bear given to me when I was born by a great aunt. It is still with me, a bit worse for wear. There was also a piece of old blackboard nailed onto the wall of the living room for me to draw on. Under the stairs was a big cupboard, which was a neat place to hide in. As was the practice then, the front room was for guests and seldom used, so life revolved around the all purpose dining room, which was quite big and had its own fire place. Once the soot in the chimney caught alight, and there was a spectacular pillar of fire into the sky and a huge roaring noise, but no harm was done.

When I was 5 in June 1946, I started at Keith St School, but only went there for a few weeks before Dad got a shift to Apiti. One memory of Keith St School was going to the dental nurse. Grandpa had taken the escapement out of an alarm clock so it went round flat out, and this was used to distract me. I can't remember what was done but a couple of years later another dental nurse gave me an unnecessary row of 'precautionary' fillings which was the practice then. Treadle drill, ugh!

Dad had to do 2 years country service to get advancement. Apiti for me was neat. Seriously in the country. We lived next to the school in a house so old it did not have tongue and groove flooring. This meant that in the winter with snow on the ground and blowing a gale the rugs would flap in the wind. Even with a huge roaring fire burning in the living room fireplace it was arctic inside. My brother Rob was a baby, and quite often Dad would send one of the older girls from the school over to help Mum. There was a boy Dennis Peat, a bit older than me, who lived on the other side of the school. I got around a lot with him. I'm told he put me up to all sorts of mischief. Another kid of my age had the most amazing tree house that extended along a row of pine trees. His dad owned a saw mill. My cousin Mike Barnes, a couple of years older than me, stayed with us for quite a bit of the time we were at Apiti as his mother was sick. He had an abiding interest in trains, so there were many make believe railway operations in the yard. Dad had made me a wooden model train set and we made lines in the dirt for them to run on. Mike was also very good at fooling me into believing he had all sorts of treats, like riding on a D8 but unfortunately I was not around at the time.

Dad really enjoyed Apiti, but a year later he met a school inspector on a tram in Wanganui who said that the heads job at Queens Park was coming up and did Dad want it. The next he heard he had the position, so we came back to Wanganui after only 15 months and he started at the beginning of 1948 and was there until 1953.

The Keith St house was unavailable so we moved in with Mums parents and brother at 307 Somme Parade where uncle Errol had a poultry farm. I don't know why Mum and Dad did not rent somewhere else. I started in standard 1 at Aramoho School, which was a mile down the road toward town. I used to get the tram, which was often a single bogie vehicle that rocked and rolled a treat. There was a neat glass sided coin box to put your

penny into. Grandpa, who I thought was neat because he did all sorts of practical stuff, was in charge of the tramway workshops. There were a few bits of tramway equipment about, including a red 'END OF SECTION' sign that was at the end of the path that ran down in front of the hen houses. When the trams closed down in 1950 Mum, Rob and I set out on the last week end to go to Castlecliff beach, but only got as far as Gonville before the tram derailed, so we played in the sand hills there instead. I remember granddad showing me around the workshop at the tramways, and the steam tram they had there. As his last job he re-tubed the boiler, something the people at MOTAT many years later were surprised to find. After he retired he helped Errol on the poultry farm.

On my 7th birthday I got a half size bike and learnt to ride it on the big lawn at 307. The property was 3 acres. About 1 acre was for the house and garden at the road, the middle bit was chook houses, and the back paddock was either planted in corn for the hens or let to the neighboring farmer. The feed shed was neat. The chook feed, wheat, mash, molasses, etc were big heaps of sacks and tins. Lots of dust and cobwebs and mice. There was a huge blue mixer for making the mixture to feed to the hens. One interesting machine was a thing to remove kernels from corn. I was allowed to work that. The handle had been replaced by a pulley, and it was driven by an electric motor. There are many smells associated with a farm with 1200 Black Orpingtons, but one that I remember most vividly was the coal tar used to paint the perches. The whole area has long since been covered in houses. One of my jobs was to walk next door with a big billy to Mr. Young's cow shed and get the milk. There was some scheme going trading milk for eggs. My grandparents had a big garden and things grew really well on a mixture of pumice and chook poop taken from the hen houses. They had a huge kiwi fruit vine grown from one of the original cuttings brought back from China. There was quite a range of fruit trees and others like a big walnut tree I made huts in. I used to play with Frank Alderton over the road. His dad had a brick works near Shakespear's cliff and had a huge shed full of good junk including a pelton wheel hooked up to the town water supply which we used to power all sorts of inventions. His dad sometimes made good toys for Frank. Shanghais and the like. I can remember one that could fire a marble across the river. And also a cross bow which likewise could fire flaming arrows across. This activity got stopped when the bamboo on the river bank was burnt. My dad was not mechanical, but did do quite a bit of woodwork of the shed and fence building sort when he had to. Having a bike allowed me to ride all over the place, and I went to school on it instead of the tram. After I had been at Aramoho school for about a year Dad got me to change to Queens Park because his roll was dropping, so I biked with him for some months I think before the Keith St house was available and we shifted back there. Us kids biked everywhere. A favorite activity was to bike to Aramoho station or East Town workshops and watch the trains. All steam engines in those days, and the lines at the back of the Wanganui sheds had lots of old engines to climb on. There were so few cars nobody thought about road accidents as far as I can recall. I did see one once on the corner of Keith St and Dublin St when a couple of what were model A's or similar hit side on and one ever so slowly fell on its side. Everybody got out, there was a lot of talking and they pushed the car onto its wheels and both drove off. Probably says a lot about the low speed people drove at, combined with bad brakes, and the gauge of the steel panel work. Maurice Wall next door had a big workshop he built and where he did

things to cars. He built one from bits to his own design and I spent hours over there watching, and no doubt slowing progress. In those days there seemed to be a grocery store on one corner of every block, and you could buy all sorts of stuff you don't see now, like sulphur and saltpeter. One of the boys along Keith St I played with, Lindsay Johnson, went through a phase of making explosives. Just add charcoal! A 7lb treacle tin full of this mixture did serious damage to his dad's woodshed, but fortunately not us.

Mum and Dad were great readers, and I got to like reading a lot as well. The radio only got turned on to listen to specific things, like the news on 2YA. That rubbed off, I am pretty quick on the TV off button. I had to learn the piano during my primary school years. I think I got to about grade 5, but was totally talent free, which must have been a big disappointment to Mum and Dad. My last year at Queens Park was in a class taught by Dad which had its moments, like the occasion he gave me the strap in front of everybody. (Quite justified. I wondered what would happen if you blew through the little hole in the pen nib. Neil McLean got blue spots all over his essay.)

In 1952 I started at the Intermediate School. I was never much into sports, but spent a lot of time with models, particularly Meccano. Uncle Errol used to give me the sets for Christmas so I eventually finished up with a big set of it. I was also into model planes and trains, naturally. There was a lot of war surplus available, and you could post away to places like the Lamphouse in Wellington to get stuff for crystal sets and the like. For years I got 9d a week pocket money, and it was exciting to go to the toy shop in Victoria Avenue and speculate when I could afford that set of train points or that model car. What wasn't spent on toys went on chocolate. Mum never worked after she married, so was always there for us after school. Not sure if she did not want to, was unable to get teaching work, or it was the mood of the times married women did not work. She took up lawn bowls, and was good at it judging by the medals and ribbons I have.

We were obviously fairly hard up, so proper holidays were few and far between. One holiday we had was in a tent at Castlecliff beach. I remember playing in the sand under the wharf and hanging around the engine shed of the Castlecliff Railway Co. down there, until they took pity on me and I got a cab ride into Wanganui and back. I remember looking into an office full of girls with typewriters in one of the big wool stores and they were all laughing. I must have looked a sight, all covered with coal and soot and a silly grin on my face. I would have been 9 at the time. We had another holiday in Wellington staying at Island Bay, and I remember riding to the zoo on an open top tram with the trolley pole sticking up amongst the seats. I also remember all the steep hills you could zoom down on anything that had wheels. There was also this amazing Meccano shop in Elizabeth St, not that I had anything much to spend.

Dad bought his first car in 1951, a 1947 Ford Prefect. He only ever had this car until he retired when he bought a Singer Gazelle. Having a car made the family much more mobile. We actually had a holiday at Napier on one occasion. Mum learnt to drive but it turned out Dad drove it normally even if Mum was going to bowls, when Dad would drive there and sit and watch. Dad, apparently, when he lived at Kimbolton had a Harley Davidson motor bike, which seems right out of character. I think it was too heavy for him

to manage. He did not have it when I was little. From 1951 until the end of 1953 we went to the Fordell house, built by my grandfather Barnes in 1907, quite regularly. Both the Barnes grandparents died before I was born, but two aunts and two uncles lived there. I suppose before the car we would go the 12 miles out there by push bike. I do remember on occasion taking the train from Fordell into Wanganui. Goods trains often had a carriage at the back next to the guards van. Dad said the people of the district persuaded the railways to do this so that he and other children could go to secondary school in Wanganui. I can just remember the line actually going through Fordell before the tunnel was dug, and the trains struggling up the steep Okoia bank.

The Christmas dinner was an occasion. There were big tables in the main room pushed together, and all us kids sat in a long line down the side nearest the kitchen on a bench. Aunty Olive used to make the Christmas pudding with 3dø in it and was very skilled at making sure each child got one. In the kitchen there was a wood and coal range and a Moffat electric range with a drying rack over it. There were huge aluminum pots loaded up with peas and potatoes etc. After this huge midday meal and handing out the presents the kids would hang out outside generally hitting some sort of ball around while the adults talked, played cards or did word games. On one occasion I got a small saw as a present and a convenient piece of wood to try it on was Uncle John wheelbarrow handle. Aunty Olive covered the cut with mud. Aunty Jess was an ace cook and there was generally yummy cake on the go, but my favorite food was the home made chocolate made by Aunty Olive and kept in an ornamental owl on the top of the sideboard out of our reach.

I have memories of Uncle John and Uncle Albert who also lived there at that time, along with a boarder ðSon Grahamð who seemed to disappear down to the pub when the family showed up. There was sometimes interesting machinery in the yard, like a Lister oil engine on a wagon which got hooked up to the well pump, or seed separating machines. Albert always sat in the same chair in the corner of the big room under the radio. It got turned on to hear the races. There was a big stags head mounted on the wall, probably shot by Albert who was a very good marksman. There was a big shed out the back which had the dairy and store rooms attached. I remember winding the cream separator on occasion. The family also used the section next door. There was a shed there with an ancient Morris car belonging to John and Albert we used to play on, that I never saw in action. The toilet arrangement left some thing to be desired for a kid used to a flush toilet. It was an outhouse with a tin that got emptied by uncle Albert when it got too bad. I never found out where.

At the end of 1953 we moved to 64 Bayly Rd, New Plymouth. Dad had got the job as head of West End school, and I started in the 3rd form at the New Plymouth BoysøHigh School. New school, new town. All the new boys were given tests for class streaming. There were 8 classes in the third form, and if you opted to do a language you went into the ðPö group. I finished up in 3P1, and on the first day sat down beside Graeme Jones who turned out to be my best mate. (Still is.) The first week was taken up with military style cadet training. Sandpaper suits under a hot sun. Lots of marching up and down. 1000 kids parading on the top ground was quite a sight, if you werenø actually taking

part. Later on we got to practice firing rifles on the range down in the gully. There was a shed full of 303s with dates going back to the Boer War, but I can only recall firing 22s. Don't remember being much of a shot. Later on I was put in the signals unit, and had to get around with a # 48 set on my back. Or better still, some one else carried it, and I got to work the controls. It was probably the start of my lifetime interest in radio.

There was a big boarding establishment, and one of the boarders in my 3rd form class, Graeme Apps, invited me for a holiday at his parents farm in the Waikato. Where we did boy things like going to town and buying boxes of 22 shells and wasting a lot of tins on fence posts and not hitting a lot of bunny rabbits. Thinking about it, that might have been the last time I ever used a rifle. We also hooned around the paddocks on the tractor supposedly harrowing the cow pats. This must have been the first time I was on holiday without Mum and Dad. The trip home was courtesy of some Apps relatives that lived in Stratford, and we went via Rotorua where they showed me a sightseeing trip over the lake in a red biplane, (A DeHaviland Domine?). The door which I was leaning against came open in flight, which was scary. Also visited the Waitomo caves, so I was on the make.

When I started High School I graduated to dad's old 28" wheeled bike, and rode it normally unless the weather was seriously foul. Then it was 2 bus rides each way. I soon developed the habit after school of walking home with Graeme when we would discuss any and everything technical. His father was a chemist and he lived over the shop on Devon St, near the corner of Elliot St. Neither of us took school work very seriously, but then life in 1954 was in the slow lane. Graeme is a very good artist, and back then his efforts were mostly very detailed pen and ink drawings of locomotives and other technical stuff. Art was another thing that I had little aptitude for, but you could generally get a good place in the class by doing pictures of machinery the art teacher did not understand. The same idea with English essays. Use lots of technical gobbledeygook. I don't remember any of the teachers really getting me inspired, but that was probably not possible anyway. It wasn't until much later at Polytech I struck an outstanding teacher which made his subject (applied maths) really interesting. In 1954 the teachers we had in many cases come back from WW2 and probably many should not have taken it up. On the other hand there were endless "great war stories" with the right prompting. The PE teacher had a concentration camp number tattooed on his arm, which he was very proud of. There were many "you don't know how well off you are" rants, which was true of course.

Discipline was straight forward. Six of the best over the bum with a strap or a piece of bamboo cut from the thicket outside. Didn't do us any harm as I recall. And the yahoos down the back did not interrupt things too much. It was quite normal to get caned for getting your homework wrong, as well as bad behavior. Our maths teacher, Waddy Wilkie, was a great shot with a piece of chalk or the duster and could put a white stripe on kids hair. He was about 100 and had done his time in power stations, and had lots of good disaster stories. In the 3rd and 4th form we did peripheral subjects like woodwork, where you got to make marginally useful things like step ladders; art which was a disaster area with Texas Tet, religious studies with Fish Hatherly which was much like most kids

got in those days on Sundays at church. The idea of comparative religious study did not enter the frame. He was also our English teacher and was generally given a hard time, though there was sympathy for his asthma attacks.

Eventually we finished up in 5P1 at the end of which was the School Certificate exam. Five subjects, English, Maths, Geography, Science and French. Everybody in the class passed, so we drifted into the lower 6th. Not that I did very well, but a pass is a pass. At the 6th form stage you had to make a choice. Science or non-science. Graeme and I chose science, and finished up in 6Sc1 where we did Physics, Chemistry, Biology, Maths and English. The subject I liked best was Physics, but scored best in Biology which I hated, or at least the practical stuff like dissecting rats and dogfish. Chemistry was OK but I found maths useful but hard work. English was just English. Think I only got to chapter 12 in *Wuthering Heights*. Thank goodness for *Classic Comics*. Toward the end of 1957 most of the class got accredited UE, just in time to be all taken up with everything *Space* when the Russians launched Sputnik 1. There was a period of about 6 weeks after the accrediting when we got into serious rocket building. We would all go down to Bell Block beach to have a party and launch the latest masterpiece. My part in the proceedings was to build the launch towers out of Meccano. I still have some bits deeply corroded by chlorate.

The upper 6th, 6A, was an *old mans year* for many, but for some reason I did quite a bit of work that year, and did moderately well in the scholarship exam compared to most of the rest of the class, who had got into girls by then, if only in their dreams. My social age was way behind my physical age, so Graeme and I were still on the technology kick, mostly. My excuse; no TV, no sisters, single sex school, with religion, politics and sex certainly not being fit subjects to be talked about at home. But I did take Graeme's sister Megan out a few times. The dances organized by the school were pretty awful. And I have two left feet despite the best efforts of Miss Kathleen Hare. Bar stool material. Except all the alcohol consumption was in the trees out the back. Inside, raspberry cordial.

If there was anything resembling careers guidance it did not cross my path at High School. Looking back it would have been really helpful to me to have had good talking to about my future before I ambled off to university with some vague idea that I should become an electrical engineer. If only to lay out in no uncertain terms what is involved study wise and maths ability wise. With no unemployment there was no stress about getting work if you left school. Anyway off I went to Auckland to do an Engineering Intermediate. Where I bombed out. I finished up with three units, but I got seriously hooked on the practical side of radio technology. Graeme, after a year with Ivan Watkins in New Plymouth started an Engineering Intermediate as well, but like me fluffed it. By this time he had met Shirley. He stayed in Auckland, and I came back to New Plymouth at the end of 1960, and started work in the telephone exchange as a junior mechanic without giving much thought about what I wanted to do in life. I had met Jude during 1959, so when I came back to NP we hung out for a while. We used to have long phone conversations about life, the universe, and everything. I bought a Rabbit motor scooter and we puttered all over the place, but I wasn't into dancing so our lives diverged for 25

years. In a lot of ways the job at the exchange was marking time. As a trainee you got rostered on to lots of boring weeks doing things like sitting on a ladder seat taking uniselectors apart and cleaning them. Each one took 20 minutes, and there were 10,000 to do. The country run was good fun however. We went as far as Awakino, and in the season when white baiting was on the go the little manual exchange got minimal attention

During this time I got into ham radio which turned into a life time hobby, and a source of many good friends and lots of happy times, especially the VHF contests, where you found the highest mountain you could drive up, to spend the week end yelling your head off exchanging numbers with other nutty people up and down the country. In 1962 I was offered a job by IBM servicing computers in Wellington but I turned it down. Which turned out to be a smart move because one day Don McCullum brought in a job advert his wife had seen in the Public Service Journal wanting an electronics technician at Oceanographic Institute. I went to Wellington for the interview, and months later I got the telegram "can you start Monday". This turned out to be the ultimate lucky break, and I had a great time there for 20 years.

The Oceanographic Institute was part of the Department of Scientific and Industrial Research. There were about 30 people mostly installed in the top floor of a toffee factory at 177 Thorndon Quay. I finished up in a grand old house nearby at 76 Hobson St. It transpired they wanted me to sort out their echo sounding and seismic profiling problems. At the time they were chartering ships for about 4 months of the year, and the last one, the Viti had been seized, the company going bankrupt, so all the transducers in the hull were lost to the Institute. The next chartered ship we had, the Taranui, was owned and captained by a couple of brothers Mathesson, and had a Fijian crew who were marvelous. Nothing a bother. My first sea trip was to take the ship out and make the sounder go, so I had to rapidly get to understand the sea going culture. Some of the trips were hairy. I was on the Taranui in Cook Strait during the Wahine storm. Totally unreal experience. We had been tied up beside the Wahine at Lyttelton and left a few hours before it, heading for Cape Turnagain. Leaving the harbour the swells were huge. The weather started fine but the wind got up and up until there was this amazing wind noise and with total white out of spray. The ship was put bow into the weather, and was rolling from more or less upright to nearly on its side it seemed, when it would shudder and creak and slowly come up again. The roll was so severe they had to pour lubricant into the top of the main engine as the oil pick up was ineffective. Two of the three generator sets had failed. We needed the power as steering was electro-hydraulic. The paint on the steering gear was on fire it was so hot being full over for hours. There was always the option of the manual wheel at the stern they said. The worry was not being able to hold into the weather and rolling over. If we had to abandon ship there was no way we could have reached the lifeboats. At one stage it took me 15 minutes to crawl about 10m from my lee side cabin to a bridge companionway. On the bridge water was pouring in and all the radio and radar gear had failed. People were clinging to the walls and telling macabre jokes. Like "See that Beaufort scale on the wall, Ted. The pictures only goes to force 12 because no one has survived higher, and that, tapping window, is force 16". During all this someone heard on a transistor radio that the Wahine had gone down with unknown loss of life. Our worry was we would be blown ashore at Palliser Bay. In the event we

missed the land and next morning found ourselves offshore Castlepoint. All the gear we had had lashed on deck had gone, but Pio the bosun with reckless heroics had saved our new 70mm camera so we spent a few days using that. It was not the done thing to come in early. When we eventually got back to Wellington the manual wheel was found to be rusted solid.

During this period I did a NZCS in electronics, at Wellington Polytechnic. All day release and a syllabus largely designed by DSIR so it was directly relevant to work and I really enjoyed doing it. I was in the first year it had been run. The 5th year class had seven students and we built an APT ground station as a class project.

Ships get surveyed every couple of years in dry dock, and I would normally be there making yet more holes in the bottom for transducers and other sensors. In 1966 Adam Langford and I went to Newcastle, Australia do some installation, and one evening we went along to the seaman's mission where I met Leonie. By chance, she and her cousin Marie were just about to do a working holiday to NZ, so we met up here again. We got married at the end of 1968.

In those days if you worked for the government you could take a year off work for the big OE and still get your old job back. I took 1969 off to work in Australia. I had been in occasional contact with Pat Lynch, a mate from the telephone exchange and a ham buddy. He had got a job at a satellite tracking station near Canberra, so on our honeymoon in the Snowy Mountains I called in and got offered a job. This was another lucky break. Talk about kid in a toy shop. When the Russians launched Sputnik it really gave the Americans a fright, so they threw a blank check at this problem called Space. For continuous coverage they needed ground stations in California, Australia and Spain. In the ACT around Canberra there were three stations. Orrrorral valley where Pat and I were, which dealt with local stuff out to lunar distance, Honeysuckle creek, which was dedicated to the Apollo program, and Tidbinbilla which was deep space and Apollo back up. For a young bloke from New Zealand it was an amazing place to work with the most exotic space age electronics to play with. Most of the operators and maintenance crew were from a military background, and were trained to do things by the book. But Pat and I loved to take things apart to see what made them go, and this was allowed if it was going when needed. The main antenna was a huge 85ødish. You could get inside the feed assembly room at the prime focus to service the LNA's the antenna was so big. There were four other big multi-yagi antennas and we had massive cherry pickers for servicing them.

1969 was the year of the first moon landing. Although we were not part of the Apollo program our com's network was patched into the real time audio from the Apollo 11 lander and we all stood there with headsets on and baited breath. Leonie had a job in the office at Tidbinbilla so was even closer to the action and has certificates from NASA for the Apollo missions that went on during 1969. It's hard to convey now the excitement generated by the lunar landings. Even the missions I was involved in at LEO were amazing if you stopped to think what was actually happening. Just the scale of the enterprise, the cost, and the technical obstacles overcome to put observatories into space.

Toward the end of the year I had to decide if I would stay in Australia or come back to NZ. It became clear that once the moon had been reached the money for space started to dry up really fast. Since I had this neat job at Oceanographic waiting it was a fairly easy decision to make to come back. We had lived frugally in Canberra, and did without a car for most of the time since work provided cars, and at week ends we walked everywhere. We had shifted to a cheap flat in Queanbeyan, which is a small country town just across the boarder in NSW. We were able to save about half the price of a house in New Zealand in that year as we were both being paid about twice what I got in NZ.

We bought a new house in Newlands for \$13,200. I was to live there for 26 years, and it was a good family home. Leonie worked until Paul was born, but not after, as we had the idea mum should be there for the kids, and we could manage financially OK. Probably my standard of living peaked around 1975, but I did not feel driven to try and make a lot of money even if I could think of some enterprise to get into. Designing and building oceanographic instrumentation for the government suited me great. And there were interesting trips. I went to Antarctica during the summer of 1977/8 with a probe to measure temperature microstructure which was huge fun. Roaring around the ice shelf on a ski-do looking for seal air holes to get at the water. Also got to quite a few out of the way places like the Antipodes Islands, as well as seeing nice bits of New Zealand surveying lakes.

In 1979 I got an Alex Harvey Industries fellowship. This paid for a years sabbatical overseas, so we had 1980 in the UK at the Institute of Oceanographic Sciences at Wormley. This was also a magic year. We lived in Hazlemere, which is a village halfway between London and Portsmouth. It is a very picturesque area, and handy to so many things. Paul and Owen went to a lovely county school nearby. We quite often took the 40 minute train ride to London at week ends to see the sights. During the year we were able to see quite a bit of England, Scotland and Wales. I also had a trip on Discovery, the IOS research vessel.

When I got back to the Oceanographic Institute my boss Ron Heath got me to see what could be done with satellite oceanography. This led to a move away from electronics into image processing. In 1986 I was offered a job at Information Technology, another DSIR division, situated at Gracefield. (Later to become part of Landcare.) For the next 10 years I ran a HRPT ground station there collecting data for ocean and land imaging. In 1983 I met up again with Jude, who was living in Wanganui. Dad had meet her collecting pictures from an art exhibition and said "Guess who I meet today!" A year later she moved in with me in Wellington. Owen and Adele went to Leonie in Newcastle, and Paul came to us. Jude and I were married in 1987.

I retired early and Jude and I had a house built on 1Ha on Durham Rd, near Inglewood. We moved there at the end of 1996, and are still happily here in 2006. Paul is an electronics engineer and his partner Caroline who works for Greenpeace are living in Amsterdam, but hope to come back to NZ soon. Owen and his partner Prue are living in Nottingham. He is a writer for Games Workshop and Prue is a teacher. Adele is at university in Newcastle Australia.