LIFE STRESS LOVE

Lloyd Fell

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Some Strands

of My Life Story

Woven Together

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BIOSONG

First published by BIOSONG (www.biosong.org) in 2022

Cover design by Lloyd and Penelope Fell

Photographs are from my own records

Printed by Springwood Printing Co., Springwood, NSW, Australia

Cataloguing in Publication

Creator:	Lloyd Fell
Title:	LIFE STRESS LOVE:
	Some Strands of my Life Story Woven Together
ISBN:	978-0-9943332-3-0 (paperback)
Subjects:	Autobiography - Lloyd Fell
	Farm Animal Research
	Biology – Stress, Cognition

This book is dedicated to

Christopher, Nicholas and John in appreciation of their wholehearted acceptance of me as their Father and their unstinting love and support,

And to **Anne**, for co-creating and nurturing them always.

ACNOWLEDGEMENT:

A huge thankyou to Penelope, my companion and wife, for her support and encouragement throughout the writing of this book. Despite her own life-threatening difficulties, she has read the entire manuscript and re-read it when I wanted to discuss my concerns about continuity, flow and repetition, which are important issues in this kind of book. She also advised about photos and layout. Nevertheless, I take sole responsibility for the words I have written, having chosen not to seek detailed editorial assistance from anyone else for what is, essentially, my own story.

NOTE:

Footnotes are used in this book for two reasons:

Firstly, to reference books I have used and people whose ideas helped to shape my thinking – and my life;

Secondly, to separate my 'preaching' from the story itself, so any unwanted 'advice' can be more easily ignored.

There's a story I like about an Elder who was asked: 'Why are you looking disappointed? Is it because you have not yet become wealthy and famous?'

He replied: 'No. It is because I have not yet become entirely myself.'

I am not disappointed. I accept that becoming myself will always be a work in progress, so I have to be who I am, right now.

Who Am I?

I am who I am.

Have always been

Who I am.

But there is a journey to take,

To try to find who I am,

Every day.

That journey is my present, so it includes my past;

It includes my future, too, unknown to me.

Together, they create a me that is here

In every moment,

As distinct and as fleeting as a cloud in the sky.

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PROLOGUE
Embracing the Whole

My life journey had some twists and turns and a few rough stretches, but it has been great – every bit as enjoyable and satisfying as I could have wished. Gratitude. One word is sufficient to tell you how I feel about it. It's been a glorious road to travel that always led to the unknown and yet was never aimless. And that is not a contradiction, to me. From where I am now, I see my life as consisting of loving relationships, adventures for the mind, and one big 'spiritual awakening' of the kind that always leads to the unknown. [1]

I think of myself (and everyone else, for that matter) as physical, mental and spiritual – having three modes of existence that interact. Each of these is designed to grow and develop throughout life, but how much they grew and the way they developed depended on how I chose to use them and what resources I was able to access to support them.

My physical body responded to its natural yearning for movement, work, sport and walking, though it languished later in life because I spend so much time sitting at a desk. Accidents and injury also played a part, but not a critical one. In recent years, treatment for prostate cancer and then heart bypass surgery, have weakened me physically. I still enjoy walking.

My mind responded enthusiastically to the reasonably good educational and employment opportunities that came my way and it has been my primary vehicle for much satisfaction and enjoyment. My occupation as a Research Scientist in the field of Animal Agriculture was reasonably challenging, but not the whole story, because I've always been a very keen student of a broader Science and Philosophy as well. My hobby, I suppose you could say, apart from playing chess, has been thinking and writing about the human mind. This grew from my years of research on stress in

[1] I believe one's relationship with what is unknown is very important because it defines your self-confidence and your humility. The way you handle uncertainty makes a huge difference to the quality of your life.

animals, my life experience, and the new ideas in Biological Science of Humberto Maturana, a Chilean professor I met along the way.

My spiritual development was slow at first, but in the end it took me the furthest and I rate it to be the most telling of the three, at least for my sustenance in old age. What is most important, though, is the way the three parts are combined, because one's experience of life is holistic and can't be explained from just a few strands without embracing the whole.

The idea that I belong to something larger than myself – which I have always believed would take care of me – is the philosophical basis for this story of my life. From my study of Biological Science and Human Nature, I have come to regard this desire to belong as our primary, natural gift.

At birth, I think our deepest instinct is to know that we belong. We start, immediately, working out what that means – firstly, how to get fed and what to do if you're not feeling okay. Soon, you begin the exciting, but often painful, process of identifying yourself as a separate individual – the 'what it is you belong to' becomes more complex. You strengthen your connections with certain people, not with others. For a while, you have only the vaguest idea of your place, or your connection, with the world as a whole. But that yearning and need to belong that is in us at birth never leaves us – you find your own best way of satisfying it.

This seemed easy for me during my first 11 years, at home on the farm. The next 10 years of education leading to employment were often happy, but were confusing and uneasy as well. Then, my belonging became strained and difficult for the next 20 years or so – even though there were also great joys and satisfactions, especially becoming a father, three times over. The strain and difficulty I experienced was of my own making, as I will explain. In the last 40 years, up to this point, everything gradually became easier and amazingly fulfilling.

Weaving the strands together to embrace the whole we will find there are many contradictions.

Firstly, writing an autobiography seems both pathetic and courageous. Pathetic in the sense of being so inadequate. How could I possibly capture in words even the thickest strands of the rope I have been holding onto

for eight decades? And the loose ends that have frayed off along the way, the inconsistencies and unanswered questions – might they be better left untold?

But also courageous because it may reveal how frail the rope has been at times, and yet, how strong it has been as well. I see how my weakness has also been my strength and every achievement has a failure to match it. I did well and I did badly. I rejoiced and I cried my heart out, too. [2]

My mind can be imaginative, fanciful and undisciplined; I was a dreamy and vague sort of kid. Yet it can also be the opposite – very precise and pedantic. I chose a career in which my vague secret desire to be a creative, imaginative writer was always thwarted by the demand for scientific rigour and objectivity. I hear melodies playing in my head from time to time, and 'tap my toes' to a rhythm most days, yet I never learned anything about music nor played any instrument, beyond picking or strumming simple chord accompaniments on an acoustic guitar. I played in the dirt as a kid (and have an Earth star sign), but I never took to any sort of gardening or working with the soil. I preferred to work alone, yet my most successful work was done with groups of people.

In this I see the philosophy that everything contains its opposite and that both parts are needed to make the whole. There cannot be light without darkness, courage without fear, nor hope without despair. We have to work with the parts, but I came to believe that their interconnectedness, and the resulting wholeness, was what mattered most.

We use words to write books, but words fragment reality, splitting it into parts, whereas one's experience of life is a continuous, flowing, whole. Words are our best tools to describe how the parts interact, but a clumsy wordsmith might miss the spirit that makes life holistic and meaningful.

The Greek philosopher, Plato, referred to the interconnectedness and the larger whole as the *World Soul*. Chinese philosophers spoke of it as *li*, the organising force within the *Tao*; and indigenous people worship a natural

[2] So I'm saying that life needs both the good and the bad to be fulfilling and it pays to be thankful for both.

world as something to which they belong. Science has a place for this idea, too, in that Systems Theory or systemic thinking refers to the whole as something different from, and more than, a collection of the parts. I take all this to suggest that the whole has a presence of its own that infuses the parts and from which they emerge.

So I see myself, and the essence that is my soul, as a tiny part of the *World Soul* and the natural world. I think each part carries the wholeness within it and is somehow guided by it, even though it has an apparently independent existence as well. I value myself as an individual, but I also value the whole that is within me and of which I am a part as my guide and teacher.

I acknowledge the utter interdependence of my life. I could not have existed on my own. Every new moment of my life is a co-creation with other people and other life. The energy for this co-creation comes to all life from our sun. We are only here as long as there is other life with us to sustain our interdependent existence. This is the philosophy of a Biological Scientist.

For me it provides both humility and empowerment. That is the paradox of being only a very small part of something very powerful. What I know is miniscule compared to what I don't know. So I have to learn to trust – to develop a faith in something larger than myself that I refer to as 'the unknown.' The best word I know for this kind of trusting, respectful, relationship with what is unknown – in another person or in the universe – is 'love.' I am given opportunities to practice it all day and every day. [3]

My philosophy implies certain assumptions about what is commonly called 'consciousness.' To my mind, 'consciousness' is probably not reducible to anything material or physical. I will say more about that.

[3] I wrote and self-published four books about this: *Mind and Love: The Human Experience* (2010), *Dancing With The Unknown: Feelings and Everyday Mind and Soul* (2017), *Get Life: A Personal Philosophy and Practice* (2019) and *I Said To Myself: Wondrous Mind* (2021). These are available in printed form or can be downloaded from my website www.biosong.org

My philosophy is personal, but not original, of course. Writers and friends, who have passed on this thinking, especially certain significant teachers, will be acknowledged in this book.

All this provides a background for the 'one big spiritual awakening' I referred to earlier. It is manifest today in yet another aspect of my life that might seem like a contradiction (though it isn't for me). I commune wholeheartedly with my God (the unknown) every day, though I do not belong to a church and my connection with a religion is mostly nostalgic.[4] I respect a range of religious scholars and have studied some of their ideas, but my daily life involves a more personal relationship with God, though I do also share it with those closest to me.

As I travelled this journey of life, stage by stage, I learned to value more and more the elements and forces other than myself that have made it possible. Thus, I came to see myself as part of a larger system. Yet, this systemic vision was what strengthened my personal autonomy and makes me very thankful to have lived this particular life.

[4] I was baptized by my parents as a Christian (Church of England/Anglican) and then officially confirmed as such later in life.

Chapter 1 A Safe Place

I was born in a small maternity hospital attached to the District Hospital at Bellingen, NSW, Australia, at about 5 am on the 24th of August, 1941. It was a Sunday, but I didn't know that at the time. [5] I doubt my parents did either, because they were dairy farmers, so that every day of the week had the same routine – cows to be milked while the sun was coming up and again while the sun was going down.

It was almost exactly one year from the day they had been married in their friend's office in Bellingen by the local Presbyterian minister with two witnesses. My Mother was 34 years old for the birth of her first child and still very new to her life on the farm, which was so different from anything she had experienced before that she must have been going through a huge readjustment with many jarring changes. She had come from Vaucluse in the city and a very good job and a social set that was more accustomed to theatre parties than to milking cows. You can read more about our lives on the dairy farm in my book, *The Twin Pines Story* (2015). [6]

I learned later that my Father had bought some new farm equipment to celebrate my arrival. He already had a son, Walter, from his previous marriage in New Zealand, who was 15 by then, but he had been completely estranged from that family for the last five years. I believe he was an adoring Father who liked to push me in the pram on the verandahs of our spacious, wooden farmhouse. But he was almost 52 and partly crippled with a painful arthritis, so he devoted most of his energy to the hard work it took to establish a new dairy farm and make it successful.

Of course, I remember very little of my early days. It surprises me that I have no recollection of the arrival of my baby brother, Bill, when I was almost three, nor the arrival of my baby sister, Margaret, when I was four and a half. Those were important events, but what really put the small

[5] One example of how different the world is today is that you can look up details like that in a matter of seconds.

[6] This can be downloaded at www.biosong.org or printed copies are available on request.

town of Bellingen 'on the map' was the birth of the first Australian quadruplets in the same hospital a few years later. Our Mum must have been kept very busy with a baby and two other children under five, but I wonder if she ever compared herself to the Mother of the Sara quads.

The most important parts of the house from my point of view were the linoleum floor and the wood-fuelled stove in the kitchen, where there were chairs and a table at which we usually ate. I believe this had been a section of the back verandah that was enclosed and refurbished in time for my mother's arrival at the farm. The ice chest didn't fit in the kitchen so it was above a small step that led to another room with a large dining table that was used very occasionally when we had visitors. Blocks of ice that were delivered on the cream truck were slid into place in the bottom of this chest until it was replaced by a refrigerator which had a motor and cooling machinery in that same bottom section. There was no electricity before I was in my teens, so kerosene lamps and, later, pump-up gas lanterns, lit our way.

One door from the kitchen, where my Mother often sat after breakfast with a cat on her lap, opened onto the side verandah. We kids slept on this verandah under large mosquito nets in the summer months. It had an old Wisteria vine forming twisted shapes along its outer edge and that was where Santa hung our Christmas presents every year. Three steps led down to ground level at the end of this verandah and there you could go under the house and play in the dirt, which I loved to do.

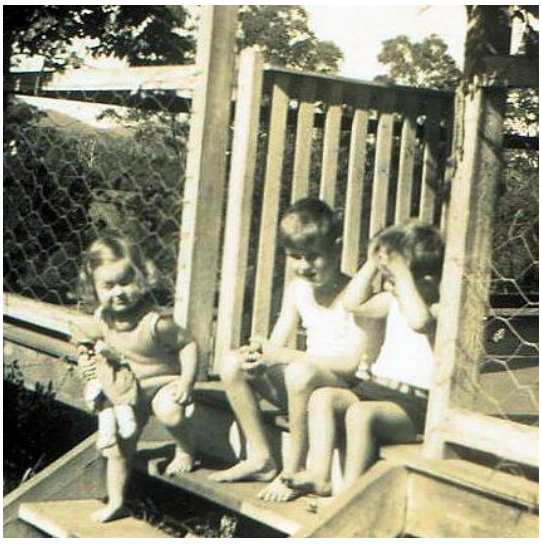
Another swinging door opened onto the back verandah where there were gumboots and other kinds of boots, coats and hats along the back wall. On the front edge were wash tubs with a clothes wringer attached. Beyond that was the top decking of a large underground tank that supplied our water. Irregular timber beams on top of the tank mark the spot where my Mother's elderly Mother dropped me one day and the fall broke my leg. Apparently the doctor in Bellingen assured my Mother he had put it back together with exactly the same bow-legged bend that the other leg had, so everything still matched. I was not actually bow-legged!

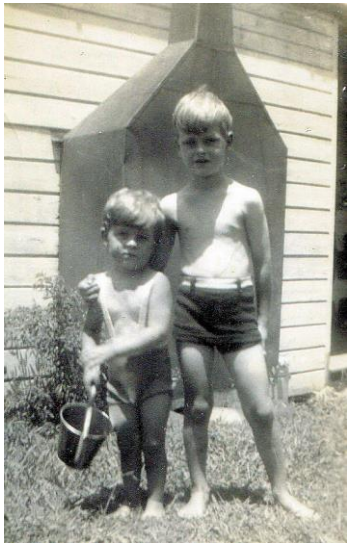
Looking out from the back verandah, the ground sloped upwards towards a high netting fence that surrounded the vegetable garden to the left. At the end of that fence was a rickety gate that kept the dairy cows out. There was a more respectable gate at the corner of the house, which was where we came and went every day – it was our main entrance.

From that corner of the house you could see down the hill to the road where the Twin Pines marked the entrance gate to our farm. That was also where we took the milk or cream down to the road to be picked up each day and taken to the factory.

So, this was our backyard. I remember it with great affection because it was the centre of our universe, where all adventures began and ended. It was where I felt we were invincible; to me it was the safest place to be in all the world.

I remember the backyard cricket particularly, after Bill got big enough to hold a bat. Our make-believe 'Test Matches' were epics. I always let him be the Australian players, whose names we knew best, while I took the role of West Indian or English players.





As an older brother, I think I was very bossy and imaginatively unrealistic, which must have been a bit of a pain, though Bill grew up to be his own person and quite different from me, as Margaret did too, so it seems no great harm was done. Our Mum noted that it was quite common in the mornings for Bill to ask me: 'who are we going to be, today?' My mental world was filled with imaginary characters that we could be.

The three of us were fairly typical farm kids, I suppose. Margaret was the most precocious in childhood and also the most adventurous in her life journey. Our lives have been very different, but the bond we felt as children still feels very strong to me; and to each of us, I think.

The three steps at the end of the side verandah figure in my memory, too. When I was old enough to do so, I liked to jump from the top step straight to the ground. A vivid memory I have is of seeing a snake, which was not that uncommon a sight, sliding along the ground right where I was about to land. My imagination tells me that I travelled another metre in the air, with legs and arms flailing, so as to clear the snake by a good margin. That

reminds me there were harmless green snakes living in the Wisteria, though we hardly ever noticed them. The snake I jumped over turned out to be what my family called a Death Adder, one of the most venomous of the various snakes that lived around there.

Even though scary things happened, what seems remarkable to me now is that I have almost no memories of feeling unsafe or anxious in my childhood on the farm. It is this amazing sense of security and wellbeing that I remember as a child that I want to record at the very beginning of my story. It continued right up to the time I went away to High School as a boarder when I was 11 and a half.

Beside this back yard was a makeshift 'carport' for the family car. Spreading over the carport roof were the limbs of a strong-looking tree, about three metres high, whose trunk dominated that side of the yard. It was the only climbable tree anywhere near the house and the broad forks and smooth bark of its trunk were absolutely ideal for small children to climb into and sit or play – and we loved to do that. [7]

One of the strongest recollections I have from early childhood is of sitting in that mysterious tree, imagining great adventures. I was a dreamer from the very beginning, and that affected my future life – for good and for bad.

The tree is still there, over 80 years later, even though the house and the entire farm have long gone. We know it's the same tree, in amongst all the others, because it still has the Staghorns that we attached to its limbs when we were young. The farm was turned back into a State Forest by the Forestry Department after it was sold and, later, the house burnt down. Thinking about this always reminds me that your life is not measured by the 'monuments' you leave behind, or the destination that you reached; it is actually the experience you had while on the journey.

[7] This tree may be a *Celtis sinensis*, but that hasn't been confirmed.

Chapter 2 One Special Gift

As the eldest child, I often played on my own, which I was very happy to do. A favourite place that I remember fondly was in the dirt under the front verandah of the house. It was a good place to sit; you might bump your head, standing up. The brown dirt there had a bit of yellow clay in it, which made it ideal for building roads.

Kids didn't have so many toys in those days, and looking back, there seemed to be no need. My favourites were Dinky toys – small metal trucks, cars and tractors that were unbreakable and looked to me just like the real thing, in miniature. I drove them on roads I had built, or sometimes they were driven by somebody else whose name I had heard.

The longest truck I had was for carting logs, like the 'timber jinkers' that came to our farm. Its driver, whom my parents knew, was killed when his wheels went through a broken bridge and the truck stopped dead, while the logs kept coming right through the cabin and crushed him. That was surely the worst thing that had ever happened, in my imagination. It was even worse than Dad finding one of the draught horses dead in the paddock after a big storm, or the dog we loved also dead from snakebite.

It's a strange feeling, trying to be three or four years old again when you're 80 and sitting at a desk in an office surrounded by books. As I remember it, really bad things happened very rarely. Am I deluded? I don't think so. You can tell that the world is an okay place from the attitudes of the people around you and the relationship you have with them. There were very few people around me other than my parents and they were busy working almost all of the time. I couldn't have been hit by a car or molested by a stranger, so I was left to my own devices to work out what to do, except for the fact that I had to go with my parents wherever they were working.

During milking I was put in a playpen right beside where the cows were brought from the yard, one at a time, into the individual bails. Later in life, when I gave lectures on the behaviour of farm animals, I always claimed to have started my research very early!

The things Mum and Dad talked to me about were how to work with the different animals (cows, calves, pigs, horses, dogs, chooks and, at times, ducks and geese). And also, how to be a 'helper,' whether it was digging or building or cleaning or just keeping out of their way. [8]

My parents did have many worries because the early days of establishing the farm were difficult and the world was entering the worst period of the Second World War. I was five by the time it ended. Relatives were serving overseas. Petrol was severely rationed, as were many items of food. We did eat bread and 'dripping' very occasionally. It was impossible to get replacement tyres for the car for many months. I read about these things later and wondered at how well insulated my young life was from the worries of everybody else. Perhaps I was just too absorbed in my own private world of discovery to notice.

The other special place for me, as I've already said, was nestled into a fork in the trunk of the mysterious tree in our backyard. The dreamer in me was never more active than when sitting in that tree. I just sat there and imagined great adventures, happy worlds and happy lives.

My imagination was fuelled by the fact that I was a very enthusiastic reader from an unusually early age. I've no idea how I learned to read or exactly at what age. My Mother said I was attracted to the books on the lowest shelf of a bookcase while I was still crawling; she said I wanted to start on *The Canterbury Tales* by Chaucer! She must have been my main teacher, and probably Dad also.

I believe I was a dreamy, quiet, gawky sort of kid, all legs and arms. I was thin and rather pale and I'm told my parents were concerned about my health, though I certainly didn't feel like a sickly child. In fact, being in the Bellingen hospital for a few days at a time on several occasions was mostly fun, because the nurses made a fuss of the fact that I could read aloud to the whole children's ward. I read stories in a loud voice about Dorothy Wall's *Blinky Bill*, May Gibbs' *Snugglepot and Cuddlepie* and the Uncle Remus characters, *Brer Rabbit* and *Brer Fox*.

[8] I look back very happily on this freedom to work out how to do something on my own.

I also liked to read aloud to Bill at nighttime in our shared bedroom, but what I didn't like was that he would fall asleep before I'd even finished the first page. I found that waking him up was a waste of time because the same thing happened again!

In the mysterious tree I didn't read, but I relived and amplified many of the stories in my mind. I could travel to faraway places, fly airplanes like Biggles did, capture baddies with the Canadian Mounties, and run around on spindly legs like The Magic Pudding, which Dad read to us some nights in bed. These examples still don't quite capture the mood – it was more ethereal and magical and made the world seem full of mystery, but at the same time, friendly and inviting.

If I was given by birth one special gift that stands out, and has served me well throughout my life, it would be my ability to read and comprehend written language at a rapid rate. For my employment as a researcher this skill was important. My appetite for reading has always been voracious, even gluttonous, and it has surprised me at times to see that many people read more slowly. I like to read some things, like poetry, slowly, but mostly I read very fast and, generally, seem to take a lot of it in. I call that my special gift.

Chapter 3 Things You May Learn Growing Up on a Farm

The local Primary School was a few miles further along the gravel road that ran beside the South Arm of the Bellinger River and connected us to the outside world. The schoolteacher drove out from the small seaside town of Urunga each day. There were 12 pupils. The problem was that, if the enrolment dropped below that number, the school would be closed. Neither the teacher nor the small farming community wanted that, so my parents were asked if I might start school at the beginning of 1946, even though I was only four years and five months old. The teacher would pick me up on his way through.

What a wonderful idea! I had seven years of primary education in the same one-room schoolhouse with the same teacher and all I can say is: it was great! Bill and Margaret ended up doing the same thing. I don't remember what we learned, but it was my first real socialisation so I heard from other kids about things like comic books and cowboy songs that were strictly forbidden at home. We never wore shoes and we mostly walked to and from school, so stone bruises on the soles of your feet were the most common source of pain and discomfort.

For years I sat beside a good friend, Brian, from a local Aboriginal family and we were good for each other. I did some of his book work and he helped me to feel I belonged. I don't remember any real antagonism between the farm kids at that school; we all seemed to get along. Sometimes we walked in small groups, but I think I chose to walk on my own as a rule. There was always something interesting to look at along the riverbank or beside the road.

One thing that sticks in my mind is the time I carried a large snake home from the school in a bag so it would eat the rats in our barn. It was a fairly harmless Diamond Python (or Carpet Snake, we called them). It did eat the rats, but then it got sick and died. I also remember, in my last year there, somehow becoming a story-teller for the younger children, drawing on my own reading to narrate 'serials' during our playtime that were always 'to be continued,' so each episode left you in suspense.

Remembering snippets like this may not give an accurate picture of what everyday life was like. There must have been days when I didn't want to go to school or came home unhappy about something, but they did not stay in my memory. One reason for this could be that the time spent at school was only a part of the day's activities. The day's farm work had started long before schooltime and we all rose quite early, so at the very least, I would have carried a billycan of creamy, fresh milk down to the house or opened the fowlhouse for the chooks to roam about, before leaving for school. After school was our main time for helping around the cowbails, but whether that was actually playing or helping is hard to say.

Farm work was often our playtime. On long summer evenings, the time after milking chores were over was the very best part of the day. If you're outdoors, the approaching dusk triggers a burst of physical energy, for animals and humans alike, so Bill and I would kick and chase a football or race one another on the grass. 'Test Matches' in the back yard were more of a weekend pastime, because that feeling of afternoon energy demanded spontaneous activity. The night came on all too soon.

We kids often walked long distances on our own, so one thing we learned was a basic sense of looking after ourselves. We often carried a stick and sometimes there was a dog with us. The farm was about 200 hectares (nearly 500 acres) in area, with hills and valleys, so to reach the back paddock would have been three or four kilometres. There was uncleared forest at the back that was also part of our domain.

Physical activity was a big part of my young life. Even though I was such a keen reader, I don't remember sitting around with a book in my hands very much at all. Bringing cattle in from a paddock meant walking back and forth behind the stragglers and young calves required serious chasing. Running errands from one part of the farm to another was a favourite pastime for me because I thought I might become a cross-country runner. My downfall, sometimes, was trying to jump over fences that were just too high for me, especially one that was a barbed-wire fence!

When Bill was about four (and I was seven) we took our Dad's lunch out to the logging camp where he was working with the timber-cutters; coming home we took the wrong track and became lost. It was almost

dark by the time we found our way out of the forest, before anyone came looking for us. I had made up a song for us to sing that was guaranteed to scare away anything dangerous. Apparently, the Church Minister who came to play chess with Dad occasionally was horrified that we weren't supervised more closely.

Dad never went to church, but we kids went with our Mum every now and then – at Easter and Christmas, I think. I heard that Dad was a Unitarian, like other members of his family in New Zealand, though I wasn't sure what that meant. [9]

The chess was an important part of Dad's life and I fell in love with it, too, and have enjoyed reading about it and playing it all my life. It was correspondence chess for us in those days, because our opponents lived somewhere else in the world and the moves were sent, one at a time, by post. Nowadays the same type of chess is available online. I've played lots of chess sitting in a clubroom 'over the board,' which is much more intense, but I still enjoy the relaxed, analytical version where you have a few days to think about each move before you send it back to your opponent. I know that's not everyone's idea of fun, but it's been an enjoyable pastime for me.

Dad and I studied the games of world champions from their books and discussed their moves. Regarding farm matters, Bill seemed to have a stronger affinity with Dad than I did, over the years, but I always felt good and knew he was proud of me when I could see things on the chessboard that he might have missed. I think, now, that was one of the closest bonds I ever felt between us. Years later I read a letter he had written to his sister in New Zealand in which he said I was '*a wonderful little mate . . . with a shocking Australian accent*,' that he felt I had learned from a young man he had hired to help on the farm.

This was a huge source of misunderstanding for me because I could not figure out why Dad always frowned at me when I told him about my achievements. I often thought he didn't approve of me, when it was just

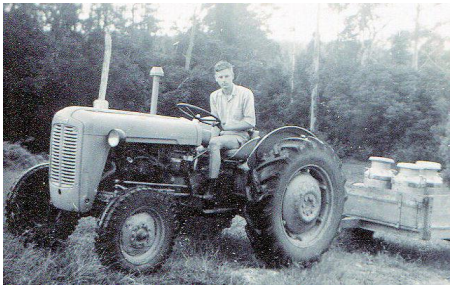
[9] Unitarianism was a departure from the Christian church whose members believed in One God rather than the Holy Trinity.

the sound of my voice that troubled him. He was brought up in a very 'English' family believing that, without 'proper' speech, you would probably be a failure in life.

Much of what you learn on a farm has to do with the animals. I am one of those people who relates to animals quite naturally, but there is also a lot you have to learn from experience. It was drummed into us that you have to show the animal who is the boss, even if it is much larger than you are. An inner confidence to do this develops with practice and has stood me in good stead, because my research career involved quite a lot of animal handling. I think my confidence with animals remained well ahead of my confidence with people throughout my early life!

I didn't ever learn much about handling or riding horses, though both Bill and Margaret excelled at that. The draught horses of my earliest days were soon replaced by tractors and we kids had become experienced tractor drivers before we had even been to High School. My first attempts were not promising and involved running into a fence, but I had an excuse. The steering levers on a crawler tractor (which has tracks on each side) are between your legs, making it difficult to reach clutch and brake pedals and steer at the same time – at my age, anyway.

Why did Dad give us kids such advanced things to do when we were so young? Probably not because he feared for his own physical capacity, which was worsening each year. I think he wanted us to feel we could have a go at anything – and I am thankful that he did.



I find it hard to capture all the things you learn differently on a farm, compared to town kids. There is a lot you miss, of course, especially social skills, knowledge of public transport, easy access to the cinema and good sporting facilities. But I wouldn't want to swap places. What I value most is not specific skills such as working with tools, but an overall sense of belonging in the world. An awareness of the different seasons of the year from being outside quite a lot, barefoot, in sunshine and rain, became a subconscious part of who I am.

Learning to interact with large dairy cows, both in the mud and dirt and on the concrete, without wearing shoes, was actually quite foolhardy, but it was also good for my confidence. You learn how different animals think and behave, which was useful for me later in my career.

I recall some very painful incidents, especially when a cow stands on your foot, you tread on a sharp stake, or you cut yourself on barbed wire. Even if your body hurts, there is the constant, vital, stimulus you get from the interaction with other living things. Chasing the fowls into their shed to roost for the night, safe from the foxes; catching a broody hen to put it in a cage away from the rooster, or else enjoying the flurry of young chickens from another brood; watching the young calves frolic and play, especially around sundown; witnessing the fierce bond between a cow and her new-born calf; marveling at the faithful obedience of a working dog – these were subconscious learning experiences that I'm glad to have had.

The very close bond you feel with a 'companion animal' such as a particular dog or a cat is something I know well and have experienced in my life, but that is not as evident on a farm where every animal has a name and you are constantly 'talking to' someone of a different species.

Life and death seem more real when you witness them directly. At some stage I learned to chop off a chook's head with an axe on the block where we chopped the wood for the stove. Dad killed unwanted bull calves or sick animals with a blow to the head. My favourite cow got sick and died, as did the farmer who was our nearest neighbour. There was another, very sad, death that is related in *The Twin Pines Story*. I have a horrible memory of skewering a Flying Fox on a pitchfork when I was just trying to scare it away from our fruit trees. Its screams were awful until it escaped.

I think it's inevitable that an autobiography will be quite generalised, and will gloss over many small incidents that affect one's feelings, such as disagreements with others in the family or a personal slight that leaves you feeling hurt afterwards. My recollections from so many years ago are bound to be 'glossy,' but I think we were an amicable family, on the whole – partly because we were so busy; there wasn't much sitting around.

You learn without realising it from watching your Mum and Dad. What I saw often was grim determination, because their lives were not easy, but it was mixed with the joy and satisfaction of achieving goals. After a few years, Dad's constant arthritic pain was matched by Mum's different kind of arthritis that crippled the joints of both her hands. They both lived on painkillers and she took a 'cheerful medication' for many years. Occasionally, they had a noisy argument at night, which I found upsetting.

Two of my lifelong characteristics that I think are innate and were not learned as a child are almost contradictory. I am sensitive to criticism and don't like to be found to be wrong. In early adulthood I would try to use clever logic to prove that I wasn't wrong after all. But I also developed a detached sort of manner that sits back and observes from a distance without getting emotionally involved. I liken it to certain birds I have watched, sitting on a branch in perfect stillness for long periods, without reacting to everything that happens around them.

Something I did a lot on the farm was sing songs to myself – during the milking, on the tractor, or as I walked around. My Mother did that, too; she often sang whole arias from Gilbert and Sullivan as she was working in the kitchen or on the farm. As I learned the witty phrases that are in these songs, I loved singing them to myself, along with others I had heard on the occasions that we all listened to our big wooden wireless. There were records (large discs now called 78's) that were played every now and then with a few popular songs. Because I couldn't always remember the words, I used to make up my own lyrics and then I'd make up a tune as well to create a new song.

Though it may seem a strange thing to learn, growing up on a farm, this became a fairly significant strand in my life story.

Chapter 4 A Song Inside?

So far as music is concerned, I have never sought nor received any kind of proper education or guidance. I'm not proud of that – in fact I feel rather ashamed. From an early age, however, I not only liked to sing songs – I knew how to make them up.

I thought of songs as similar to stories, with a beginning that sets off on a journey, a middle in which all sorts of things can happen, and most importantly, an ending, in which the story returns, deliberately and emphatically, back to where it began – though with a feeling of satisfaction, not anticipation, this time. There always seemed to be plenty of melodies available in my mind, as well as lots of words I could use; the trick was to find the most suitable words to go nicely with the melody and also fit that stage of the song. Later I learned that this shape is a chord progression and the satisfying ending is a return to the tonic chord, or 'root,' which has the sound and feeling of being the 'home' for that particular key.

I learned more about songs and songwriting later on, but this was some kind of rudimentary spark of interest I had at a young age. In the cowbails I made up a song that I thought would be suitable for Johnny O'Keefe, who was a rock star in Australia in the 1950's, but he never got to hear it, of course. It was mainly in the middle period of my life, and prompted by the emotional difficulties I was experiencing at that time, that working on songwriting became almost a daily occupation.

My current website – which was the second website I created, 25 years ago in 1996 – has already been mentioned because it is where the other publications referred to in this book can be found. It's domain name is Biosong – meaning 'life song' – as will be explained later. Though this very basic feeling I have about song is one of the more mysterious strands I'm trying to weave together for this story, it's one I can't really ignore.

Curiously, music was a crucial part of the chance events that were to bring me into existence. My Mother and Father only came to meet one another because my Father played the violin and, after arriving in Sydney on his

yacht, he went to the Sydney Conservatorium in search of a violin teacher. The teacher he found was Lloyd Davies. [10] Lloyd lived with his sister, Lorna, at Vaucluse. They had both seen my Dad's picture in the Sydney Morning Herald. It was there because his yacht had just made the fastest crossing from Lord Howe Island to Sydney that had been recorded at that time. [11] Lorna suggested that Dad be invited to their place for dinner. That was how my parents came to meet.

I never heard my Father play the violin, but my Uncle Lloyd used to visit us on the farm from time to time and, sometimes, he would play for us in the evening. His Father, my Grandfather, also lived with us when I was very young and he would play the piano for hours on end. Apparently, he could remember long classical pieces by ear, drawing from his lifelong, avocation as an organist and pianist. At the time he died, I happened to be in the next bed at the Bellingen Hospital. He is buried at Fernmount cemetery, not far from our farm.

Hearing their music was far from being a major event and it might have been quite inconsequential in my life. I don't want to make too much of it. My life story, as told here, has many strands to it, some of which are more obvious than others. The subtle, and therefore less understood, threads also need to be included, at the very least for my own sense of satisfaction in the weaving together of my life as a whole person.

If there is one thing about my life I regret – a missed opportunity that could have been important for me – it is that I didn't learn more about music and that the making of music wasn't a larger component of my life. That reminds me of a story about the Greek philosopher, Socrates, who was condemned to death for interfering too much with the minds of the young people in Athens. Just before he drank the hemlock that would end his life, he was supposed to have said: 'perhaps I should have stuck to music.'

[10] Lloyd Davies was awarded, later in his life, the OBE, for his many services to music.

[11] This is described in the book *Little Ships* by Ronald Carter (1944).

Chapter 5 School That Was Not Home

There was no High School in Bellingen at that time, so my ever-helpful schoolteacher had suggested to my parents that I sit an exam to get a State Bursary that would pay for me to go away to a boarding school. I know my Mother dreamed of sending me to one of the flash private schools in Sydney, but the fees were way beyond our means.

My Bursary got me into Farrer Memorial Agricultural High School at Nemingha, near Tamworth, where I was to spend the next five years. Much of that was enjoyable and what I learned about learning has been important. The school had a substantial farm including a dairy herd and piggery and I was pleased that farm work was a part of school life. But what I remember most clearly is the sudden, shattering, change; like being uprooted from the safe, comfortable ground that I grew in from birth.

Homesick. Lonely. Doing things, but not really being there. Not quite living in a bad dream, but something like that. I lost that blissful sense of security. My feeling of belonging became much more uncertain. The one who had told the other kids those stories of bravery and adventure was now a frightened little boy, standing in long lines and surrounded on all sides by other children and adults. It was not just that I was the youngest in First Year; my comfortable, but introspective, individuality was now experiencing the 'real world.'

My Dad believed firmly that boarding school was character-building and 'turned boys into men.' His Father and most of his family had boarding school experience in England. [12] Both he and my Mother were moderately class-conscious in the manner of that generation, but I don't think they knew of the class distinctions amongst Australian farming families. Wool and wheat were Australia's main exports and many families owning those properties on the western slopes and tablelands of NSW were very wealthy. As the son of a 'cow cocky' from the coast, I was a little different and I felt inferior, though I did make some reasonably good friends.

[12] Stories about some of these ancestors are told in *The Luck of the Fells* - www.biosong.org

As boy's schools go, Farrer was not large – about 150 of us I think, across the five divisions (First year to Fifth year) that comprised a High School in those days. I arrived in February, 1953, at 11 years and five months old and completed my Leaving Certificate in 1957. I was told I had the top marks of the new enrolments when I arrived and I remember a kind of IQ test that we did soon after. The teacher told us not to worry because nobody would be able to finish the test in the time available. When I realised I was on the last page and there was still some time to go I looked around and stopped, and then rubbed out some of my previous answers. I certainly didn't want to be different from any of my classmates. I mention that because my performance was to slump badly later on.

One of the first nerve-wracking things I had to do was sing a song in front of the whole school. This was one part of the 'initiation' that didn't entail physical punishment. I had plenty of songs to choose from – even if some of my lyrics were dubious – but I was frightfully nervous and very relieved when it was over. On reflection, doing that seems totally out of character for this school because there was no music anywhere else – no church services or concerts, no music teacher, no choir, no band.

Perhaps I might not have wanted to do any subjects that would be called 'the Arts,' but it certainly wasn't that kind of school. It was a friendly and cheerful place in many ways, though, and I had settled in reasonably well by the middle of my first year. It's all rather vague, but I think we had an unusually kind Dorm Prefect, so we were spared some of the after-dark roughing-up that seemed to be going on.

I had been taken to the school by car for the first day, but had to travel home by train for the first school holidays – and quite a few times each way after that, though not every time. I can't work out how many hours it took, but it seemed to be a hell of a long trip. Firstly, several hours going south on the Tablelands rail line down to Broadmeadow, then a similar distance northward on the North Coast line to Urunga, with a wait of several hours in between. I remember vividly my feelings on the first trip back home. When we reached Kempsey, I thought we were nearly there so I stood with my bag by the carriage door – but it took another hour and a half to get to Urunga!

There was a lot happening at *Twin Pines* during my five years at school so my time during each of the school holidays was packed with the kind of work I loved, especially tractor work. That still seemed like 'home' to me and life at school was so different it had a separate compartment in my mind. This contrast between farm life at home and school life away eased a little each year, but that was a gradual process.

I was doing quite well in the classroom so I found the teachers very friendly, especially my English teacher who also had a French class. Only four of us joined that – languages were clearly not a priority for most – so we were special to him. Once, in my second year, the whole dorm was getting the cane for something, but when my turn came to go into his office he muttered 'French boy' to himself and let me off.

It was because of him that a short article I wrote was selected for the School Magazine in my first year. The story was about a trip to New Zealand that my Mother and sister and I had made when I was six years old. My Father's family wanted him to come back to New Zealand to live, so we were sent over to check it out. As always, Bill refused to leave his Dad's side on the farm. We travelled by ship (Sydney-Wellington-Sydney) and stayed with Dad's sister (my Godmother). I went to the Muritai Primary School with my cousins for a few weeks. Nothing came of it (except the happy adventure). I don't think Dad ever intended to give up on his *Twin Pines* farm, nor did the rest of us want that.

During my second and third years, I experienced a lot of bullying and physical abuse. I was just one of those kids that somehow attract older and bigger boys to punch you in a quiet corner or trip you or push you over. I was not the only one, of course. We aren't helpless, because we find ways to avoid this wherever possible, but you are always on the lookout. I don't know why some of us are more susceptible to this than others and less able to stop it happening. I think the accepted philosophy of boarding schools has always been a system of 'justified inequality' – not entirely inappropriate training for adult society, I suppose!

My third year Dorm Prefect might have had a sadistic streak. He liked to make some of us lie on our backs at night in bed while he whacked us with a knotted towel until he scored a direct hit on our testicles – which

was painful. Talking to anyone about this was out of the question because it seemed to be part of the accepted school culture.

Most psychologically damaging for me was a series of misguided actions taken by the school hierarchy early in my third year. The understandable public concern we have today to crack down on paedophilia was directed quite differently in the 1950's – then it was homosexuality that was the great 'evil.' People were being put into jail for that; 'poofter-bashing' was common; and there were heinous 'gay hate crimes,' including murders, in the cities. Homosexuality continued to be illegal in Australia for another 30 years. I can understand an all-boys school being mindful of that, but I didn't think about it much because I was not homosexually inclined. I've had many very good friends who are homosexual, throughout my life.

There was a rather crude and clumsy inquisition. The senior students were empowered to conduct a 'witch hunt' to eliminate homosexuality. I remember the very bright light as I sat shivering with cold in my pyjamas on the concrete floor of the boiler room. Has an older boy ever talked to you about sex? Yes, one told me he had sex over the holidays. What was his name? What did he say to you? Why did you talk to him?

As far as I know, there was no homosexual behaviour discovered and nobody 'admitted' to being homosexual, but by the end of it about 20 of the quieter boys in the school were labelled as potential offenders, and I was one of them. It was a misunderstanding that I'm sure affected others too. I think most of us were more likely confused by the process and ambiguous in our answers, rather than actually being homosexual. But the school felt that something had to be seen to have been done.

The worst part was what happened after that. For months – I can't remember how long – we 'homosexuals' had to walk out in front of the school at each Saturday morning Assembly and march off as a group for our weekend detention. An example was being set.

The good thing was I never found detention unpleasant anyway because it consisted of working on the farm. If I was caught reading a book under the desk during the supervised homework in the evenings, I didn't mind too much, because the punishment was the kind of work I enjoyed. I was

a leader during detention, sometimes driving the tractor. But I felt the stigma and shock of this cruel and unnecessary discrimination and my confidence and joy in schoolwork started to unravel.

In third year I slipped to 23rd place in a class of 30 and the list of subjects recorded on my Intermediate Certificate did not include Biology because I had failed that subject. This is ironic because I fell in love with Biological Science in later life!

I don't think my parents ever knew what had happened, though I know my Mum was concerned about my mental state. I couldn't talk to them because it was about sex. I don't think I was the only teenage boy in Australia in the 1950's who had no dialogue with his parents about sex. I thought I deserved to be punished because I masturbated. My head was filled with all the talk there was in those days that masturbation was a weakness that was damaging to your mind and body.

In fourth and fifth year I had a wonderful English/History teacher called Mr Heffernan who befriended me and encouraged me to go on to University. My Leaving Certificate record (which was also the University Entrance), although not great, was the equal best for the school. That meant I had successfully completed my High School education.

I'm not sure what the best way of 'turning boys into men' might be. If I was supposed to learn how to stand up for myself against more aggressive boys, that didn't happen. I doubt that it could in that system. Ideally, I think a boarding school would be a chance to develop mutually satisfying and robust relationships with your peers, which would be helpful in life. I'm sure that does happen for lots of people. I realise that my feeling of being a 'loner' and being different contributed to my difficulties. It would continue to do so for the next two decades of my life.

What I did learn at the school was enormously beneficial, though. I learned about the importance of resilience and perseverance. Having no choice but to continue at that school, I learned the great value of not giving up – sticking at it – until things improved. You also have to learn when to make changes that are necessary and desirable. That is something I didn't ever find easy at any stage of my life.

I learned something else from this schooling, too. It was that what we call 'intelligence' (and the way it is defined and measured) is an overrated and misunderstood attribute. Believing in yourself is more important. I think everyone has lots of natural intelligence, which comes out in different ways according to our different needs. To make full use of it you need to want to do something and then believe you can. Eventually, with Mr Heffernan's help, I was able to do that.

There is an important caveat here; it is another of those subtle paradoxes that sound like contradictions that I've mentioned earlier in the book. If you think you already know a lot about something, you won't learn much at all, no matter how self-assured you are. I didn't learn this very well at school. During my early adult years, I still protected myself at times with a false front of pretending to know more than I did. [13]

I wrote letters, often long letters, to my Mum from time to time. She may have had trouble deciphering them because my handwriting was very bad, but I know she kept them because they were found later. They were about things like playing sport and a severe bout of chickenpox that kept me in the sick bay for two weeks, which I thought might prevent me from going with my brother and my Dad to the Royal Easter Show in Sydney. Eventually, Bill and I did go to Sydney on our own and stayed at the People's Palace, run by the Salvation Army, in Pitt Street, before joining Dad at the Showground.

In my fifth Year, Bill started in first year at the same school, but fifth years and first years didn't mix very much. Just after the May school holidays that year the Headmaster called us both out and told us our Father had died and we would be going home that evening. We knew Dad had been ill, but it came as a shock. Our Uncle Lloyd had flown from Adelaide and he drove Mum's Vauxhall Velox across to Armidale to get us off the train. On the way home, somewhere near Ebor on that lonely gravel road, we had a flat tire and stopped in a ditch where he couldn't get the jack

[13] So my advice is: don't start out thinking you know it already. Intelligence is not as important as finding people who will help you to believe in yourself in a modest way.

underneath the car to change the tire. Eventually, though it was the middle of the night, someone came through in a truck and got us going again.

The singing at the funeral moved me greatly, as it always does – even the slow-moving hymn, *Abide With Me*, that seemed so fitting for my Dad. It conveyed the simple beauty and strength of his steadfast attitude and great fortitude that I wrote about later in both the story of the farm and the stories of my ancestors.

We returned to school life a few days later. The remaining months were my Leaving Certificate exams and the end of school. Bill completed two more years until he left after his Intermediate Certificate to keep the *Twin Pines* farm going – in very fine fashion, I might add.

Playing sport was one of the best things about those years at High School. My temperament was not right for the main school sport, Rugby League. I can still remember that horrible feeling of being 'winded' in a tackle; for a while you can't breathe. I did play for a while and also played soccer, but when I discovered basketball, that was it. I loved it from the start, and practised every day, eventually becoming a reasonably good player. I was fortunate to have a special coach, Mr Pinson, who was another young teacher who befriended me and helped to build my confidence.

Somehow he got to know I had a liking for Gilbert and Sullivan and one evening he took me on the back of his motorbike into Tamworth, 12 kilometres away, to see him singing in the chorus of *The Pirates of Penzance*. I still remember that as absolutely the best night of my entire High School experience.

There were also excellent antbed tennis courts of the kind that wealthy graziers had on their properties; tennis was an important part of the social life of farming communities. At school, it was part of our farm work to sweep and water the courts, then roll them with a heavy roller, and finally do the line markings with a wheel on the end of a pipe that delivered the paint. I had a new racquet and I enjoyed playing tennis, at school and for many years after that. My brother and I used to listen to radio broadcasts of the Davis Cup tennis that was an exciting contest between the United States and Australia in those days. I also remember going into Bellingen

in 1956 to watch Ken Rosewall play, just after he had shocked his fellow-players by becoming a professional – which had been unthinkable before that.

But my favourite sport was athletics. From 1954 to 1956 (my second to fourth year at school) John Landy was an Australian sporting hero. I imitated his running action (with the hand flick, but not quite the speed) and my Mum made running shorts for me that were exactly like his. As well as cross-country races, for which I was probably best suited, I trained for many hours on the track and raced mostly over 440 yards, 880 yards, and the mile. All that practice at home on the farm had some pay-off, though I never became a school athletics champion.

In later life I still loved running, especially Fun Runs like the Sydney City to Surf with my kids when they were still in School, but since then I have gradually slowed down to a walk.

Chapter 6 A Direction To Take

Around the time Dad died, a caring friend of our family told us about a brand new University degree called Rural Science that had started up at the University of New England at Armidale. Its founder was veterinary-trained so it was to include more animal science than other similar courses; it was a four year degree, one year less than Veterinary Science, but longer than other Agriculture courses.

There was a part of me that didn't like the fact that our family took it for granted that 'brainy boys' have to leave home and go off to University. It was clear that Bill cared about the farm as his life and would manage its future much better than I could and Margaret was such a natural with horses and all animals that her life was likely, at the very least, to include them. I don't know if I could have been a farmer, but it does get into your 'bloodstream' somehow, so I was quite wistful about cutting, even further, my ties with the farm life. I did come back there, of course, and brought some friends from University, occasionally, but my mind had moved on to another kind of challenge in which I hoped I could find my way.

In 1958 when I arrived, the University of New England was only three years old, though it had been a College of Sydney University for 10 years before that. It was the first Australian University outside a capital city and was mainly residential. Only one of the men's residential Colleges had been completed at that time; I was to be in the second one (Robb College), which we moved into after a few months. In the meantime we occupied various large homes owned by the Uni in Armidale that were known as the Town Houses.

The Uni buildings – many of them quite new – were situated on a hill a few miles out of the town alongside a stately English mansion called *Booloominbah*, that was one of the largest private country houses built in Australia in the 19th Century. The White family who built it were the most significant farming pioneers, owning a large part of the land in that region. They employed local Aboriginal people in the house and on their properties.

My first year subjects were Physics, Chemistry, Zoology and Botany, each taught within its own Department. Dissecting frogs and heating test tubes on Bunsen burners were only slightly unwelcome diversions to me, before we got to meet our Rural Science teachers in the second year. I remember very little of the beginnings of Agronomy, Soil Science, the plant and insect collections, Microbiology, even Anatomy, which was close to Physiology, because I was so smitten by our Animal Physiology Professor; that became my special interest, without a shadow of doubt. A Senior Lecturer in Animal Physiology also became a personal mentor for me and I remember him with great affection, too. [14]

The Professor rewarded my obvious interest in the subject by lending me his own personal copy of a book that I still feel shaped the direction of my life. [15] Called *Man the Unknown*, it described 'what is known, and more importantly, what is not known,' about the inner workings of a human (or animal) being. The fantastic functionality of the blood circulation, heart, breathing, digestion, endocrine systems and ultimately the mind, of a living being became my fascination. At that stage I understood more about the minds of animals than humans, which was appropriate for the animal behaviour component of my future career. But I felt certain I knew the direction I must take – to explore this great mystery we call 'Life.'

That sounds grandiose, and it is, but this story includes my more fanciful expectations as well as the realistic ones. I was already reaching out in my imagination, way beyond where I needed to be. The Professor's book acknowledged the mystery – it said we don't know (and may never know) what drives this incredible functionality. Carrel was an official witness for

[14] His name was Vern Williams and he died in Armidale at the age of 95 in 2017. The Professor's name was Jack Evans.

[15] Published in 1935, *Man the Unknown* was written by Alexis Carrel, a French surgeon and biologist who pioneered organ transplantation and received the Nobel Prize for Medicine in 1912. What I didn't know at that time was that he also advocated eugenics and the use of poisonous gases to eliminate unwanted people, two hideous ideas soon to be taken up by Adolf Hitler. Carrel's thinking that I took to suggest humility and open-mindedness regarding the mystery of life had become the opposite – a belief that he knew which human beings were worthy and which were not. I call this 'playing God' and I will mention it again later in the book.

the healing 'miracles' that were said to have occurred at Lourdes, so he was also interested in the supernatural.

The strand of my thinking that is this great fascination for the wondrous processes of 'Life' seems as vague and mysterious as my subliminal sense about music (song). The physiological processes can be described in enormous detail by scientific investigation and my 'direction to take' would end up including just a tiny portion of this. But the idea that it was all part of a larger system was in the back of my mind from the very beginning. The science of systemic thinking was part of this, but it was also metaphysical. Why this should be, and what purpose it would serve, I don't know; it just seems to be who I am. So it will continue as a thread in the background as my story unfolds.

I was not distracted much by social activities during this part of my life and also studious enough to be told, during my third year, I was in line for an Honours degree, if I kept working hard. For some reason I didn't do that and just scraped in with a Second Class Honours and two repeat exams in my fourth and final year. A friend said I had spent too much time playing basketball and being Treasurer of the Sports Union, but I think I must also have lost some of that earlier drive and enthusiasm for study.

I played some correspondence chess while at Uni, but not a lot 'over-the-board.' A group of us tried to organise a Uni-wide tournament, which I won, but soon after that I was confronted by two boys who said they should have been included. I played one of them in the noisy common room and lost the game, so I wouldn't claim to have been the University champion. An Arts professor who also played correspondence chess invited me to his home one night to play, but neither of us chose to do it a second time.

I did play a lot of basketball and was captain and playing coach of the University team from the middle of my third year. We won the local competition each year and I represented the New England region several times, once as its Captain. The local newspaper, the Armidale Gazette, made me Sportsman of the Week on one occasion.

Basketball was rather different in those days with a smaller key area and no three-point-line, so all baskets you scored were worth two points. I was very thin (skinny, you would say) and only just six feet tall, so my main assets were speed and shooting. Of course I read books about team tactics and, as playing coach, I called all substitutions and time-outs from the court. We were the first local team to introduce a 'zone defence' and we specialised in 'fast breaks,' which meant getting the ball to me, way down the court, as quickly as possible. On weekends, I practised shooting for hours and scored most of the team's points, either from 'lay ups' on a 'fast break' or from longer-range 'jump shots.' These need to be taken quickly and often with a step backwards if you are not very tall.

At Inter-varsity basketball we were outclassed, but two of us were selected in the Combined Australian Universities 'B' Team. For me, the experience of working hard at this sport was a useful part of my education, even if it did interfere with my studies and I did become rather obsessive about it. I remember one night in the middle of winter, I was so unwell after the basketball game I was taken straight to the hospital and treated there for Pleurisy, with antibiotic injections in my backside, for several days.

The only other time I was in the Armidale hospital was straight after a day-time basketball game. One of our players had a motor bike and took me home sometimes on the back of his bike. At fairly high speed, we hit a car at an intersection and were both injured. We didn't wear helmets in those days. I remember sailing through the air and then seeing people looking down at me as I was being put into an ambulance.

In the holidays at the end of my fourth year of University, I hitch-hiked around parts of New Zealand with a good friend whom everybody called 'Blue' because of his flaming red hair. [16] We picked up paid work here and there and then, over Christmas, stayed with my half-brother, Walter, and his family on their farm in the Bay of Islands. They were very kind and hospitable and we enjoyed helping with the farm work.

At the end of a long day catching young sheep for their 'crutching,' I was duped by my friend to go back into the pen and bring out the very last one. In a dazed and tired state, I grabbed its back legs, but it turned out to be a large ram, which came dancing out the gate with me in tow – rather than the other way around. There was much hilarity from the spectators, though I didn't appreciate the joke as much as they did.

Needless to say I didn't have a girlfriend, unlike most of my classmates, and in fact I had never asked a girl to go out on a date. I think a young lady from Sydney who came to stay at *Twin Pines* during the holidays was my first such outing. I drove her in to the cinema in Bellingen and she taught me a little about petting when we stopped on the way home.

At the beginning of 1962, I had completed a Bachelor of Rural Science degree. With regard to emotional maturity, I believe I had fallen way behind where a 20-year-old ought to be. I think this was partly because I had become so used to seeing myself as the youngest in my group – from starting school early – and therefore perhaps not entitled to the same social status as others around me. I was certainly quite shy and withdrawn by nature and I preferred to be a bit of a loner, anyway. I did have some good friends, though, and I didn't feel lonely, most of the time.

[16] His name is Alan Twomey and he lives in Brisbane where he is involved in several companies, including BioAUST Energy Pty Ltd.

I was at an anxious point in my life, not really knowing what to expect. My 'direction to take' was no more than a vague idea that I would somehow find out more about the physiological processes of 'Life' and it would be some grand system; this would help to satisfy both my intellectual curiosity and some other deeper need I seemed to have.

A 'direction to take' is certainly not the same as a 'life purpose.' In fact I wasn't going to start learning about what the purpose of my life might be for another ten years and then my understanding of that grew very slowly.

There was another insidious, personal issue lurking under the surface that I could not have really understood at that time.

Chapter 7 One Special Flaw

A flaw is a fault that 'detracts from the whole' – an 'imperfection.' Of course I have many (like everyone else), but there is one that, to my mind, is special. Paradoxically, a flaw is also said to add to the value of a creative work of art or a precious stone. Songwriter Leonard Cohen, echoing Rumi, sang: 'there is a crack in everything; that's where the light gets in.' My special flaw seems to fit that definition because, after it had caused much harm in my life, it provided me with the tools I needed to become the happy person I am today. I'm referring to my inability to drink alcohol in moderation. What I learned from that is now a blessing, but of course, it didn't start out that way.

The day I arrived at a lovely old Town House in Armidale that was to be my temporary home until the College itself was built, there was a welcome party for the new guys; there weren't any girls because the Colleges were either Men's or Women's in those days. Someone placed a large brown bottle of beer (a 'longneck') in my hand and said, with a laugh: 'this is what we do at University – we drink this.' I had only tasted beer once or twice on brief visits to the hotel in Urunga with other people; there was no alcohol anywhere near my boarding school in the 1950's or on the farm (apart from Mum's bottle of Sweet Sherry, which was only for cooking).

I soon got the idea, though. My dread and nervous anxiety seemed to melt away over the next half-hour in quite a remarkable way. I soon realised there was no shortage of those brown bottles, and even glasses to drink from, which made it more pleasant. Amazingly, I started to think I was meant to be there and to feel, for the first time in nearly 10 years, the certainty that I truly belonged. It was a very good feeling!

I don't remember much about the next day, except a dreadful realisation that I had missed the first day of Orientation Week, which I had looked forward to so much. A similar thing happened a few more times before I realised that the only way I could be sure to get to Uni classes was not to drink beer. It may seem surprising for the great majority of people who can drink alcohol with only minor effects, that for some us, the bodily and

mental sense of belonging and euphoria that is induced by alcohol is so strong that we simply can't stop drinking once we get started. That is why I call myself an alcoholic today, even though I gave up drinking alcohol altogether more than 42 years ago.

I have probably exaggerated a little to make my point. Occasionally, I would have a beer with a friend on the way to do something else and that would be okay. It was mainly the designated parties we called 'rorts' that invariably led to trouble. I was a serious student, determined to find my way in life as a dedicated learner, aiming to be a researcher and teacher.

By the end of my undergraduate days I owned a second-hand Volkswagen 'Beatle,' mostly paid for by my Mum, so I did feel the world was about to open up its doors for me. I just wasn't quite sure I was ready for whatever lay ahead. I drove to my first job at Hawkesbury Agricultural College, Richmond, NSW, in a very nervous state in February, 1962, six months before my 21st birthday.

I had been appointed as a Dairy Research Officer in the NSW Agriculture Department. There was a bureaucratic delay, so I worked for a month or two as an assistant to the Cheese researcher. We tried to make a good Blue Vein cheese using milk that had been pasteurized, because it was the law at that time (in Australia) not to use raw milk. We failed every time and after a while I had great difficulty finding enough tasters to try our products so we could record the results.

I was to research dairy cattle production. A pressing issue at that time was an udder disease called Mastitis that was thought to be exacerbated by the milking machines that were being used. My supervisor was an expert on milking machines. That was good, but I also had a connection with a Professor at the Sydney University Farms nearby who was a real Physiologist. I ended up spending part of my time with the Professor, which included some rudimentary teaching (about milking machines) for final year students in Veterinary Science. Two of my classmates from boarding school were in the group I taught.

I set up experiments on local farms to compare different kinds of milking machines. At the University Farms, my Professor had a research milking

shed of the newer 'herringbone' design, where the milker stands in a pit between two rows of cows for easier access to their udders. I had grown up used to 'walkthrough' milking sheds in which you crouch or sit on a stool beside each cow and the milking machine pipes are above your head. In the new design, the pipes are below the level of the cow's udders, which is more efficient. Part of my research was to show that 'lowline' milking was also advantageous for reducing Mastitis.

My first research findings were not published in a scientific journal until a few years later. This was partly because I was now enrolled for an external Master of Rural Science degree, so I wanted to give priority to that. I was very fortunate to be able to do this while also in paid work. My Physiology mentor from undergraduate days was my internal University supervisor. I owe an enormous debt of gratitude to people like him who helped me quietly along the way.

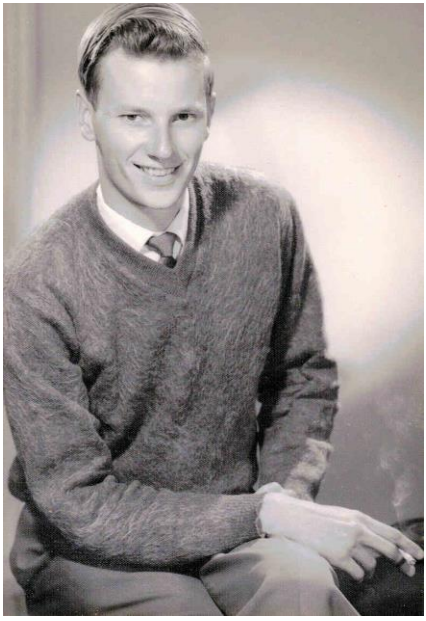
My external supervisor, from our laboratory nearby, was a good cricketer and fast bowler and when our staff played against the Hawkesbury students he had me fielding at first slip; until I dropped a simple catch off his bowling and was sent to the outfield. He didn't hold it against me. We also played the students at basketball, where we held our own (I was playing for Auburn in a Sydney competition at that stage), and at Rugby Union, where we were thrashed. I started the game at fly half (five-eight), due to my basketball success, but was soon shifted to the wing. I remember that our Captain, playing at fullback, was a very good Rugby League player with the Newtown Jets, who were in the First Grade competition then, and until 1983.

My lifestyle included a lot of drinking, but this had serious consequences only sporadically; for long stretches in between those I was a normal, moderate-to-heavy drinker. I drank beer daily, mostly in the afternoon after work. I was very well known to one particular publican and the staff at the local RSL Club, where I learned to play snooker, billiards and table tennis. But for long periods my behaviour was not typical of an alcoholic.

I need to explain the reasons for these happy periods of more successful drinking. I met some local families who kept an eye on me and some wonderful young people who guided me into new social activities that

were wonderful. I got to really enjoy ballroom dancing and went to lessons at the Arthur Murray studio in Sydney. An older girl I met chose me to partner her at quite a few Charity Balls; she won beauty prizes and we raised money for the Spastic Centre. Though I had learned to dance, I always felt that my posture detracted from the appearance of it; I have had a hunched upper back (not too severe, but quite noticeable) since my early teens, which grows worse as I get older. A friend told me that women prefer a partner who is not too handsome, for these occasions, anyway.

We also belonged to the Richmond Players, the local amateur dramatic society, and I acted in many plays with a leading role on two occasions. I was also in the chorus for two musicals, with one solo line as well in *South Pacific* and the joy of singing Gilbert and Sullivan (Trial by Jury) in the other, like my Mother used to do on the farm. The photo below was a publicity shot by a professional photographer for the Richmond Players – hence the cigarette! I was a smoker.



Of course, I had no acting skills, but our Producer in the Richmond Players was an extremely good teacher. Over many weeks of rehearsals and performances, during which I drank very little, he showed me a lot and some of it 'stuck.' It was a wonderfully satisfying experience to get to

the end of a season and have had that small taste of 'the Theatre,' which has always been one of my great loves.

It was these other interests that kept my drinking at bay – most of the time. Generous and loving friends and the strength you draw from such a community were better for my self-confidence than any 'Dutch courage' that alcohol gave me, though there was some of that, too – before heading off to a Ball, for example. What surprised me was that it was quite a large social group, yet I felt I could join in with, almost, a sense of belonging. The young lady I was going to be able to marry a little later was a Miss Showgirl also. We saw ourselves as the life and soul of the younger set in that community and I don't think the community had any argument with that.

What wasn't so elegant was my barroom activities that included singing in public. We didn't have Karaoke, but there were 'Talent Quests' and I'm sorry to say that I chose to sing some Elvis Presley songs at some of those – my favourite was a song called *Teddy Bear*. I never won a prize.

Living so close to Sydney prompted me to overcome the fears I had about driving in city traffic. The old Trocadero in George Street closed in 1971, but before that it had the biggest dance bands in the country every Saturday night and I enjoyed dancing there from time to time. The main concert hall was the Sydney Stadium on the street going down to Rushcutters Bay – where the boxing was held on Friday nights. I saw Sammy Davis Junior, Louis Armstrong, Peter Paul and Mary, Dave Brubeck and probably others, performing live, in that old hall. At Chequers, which was the premier nightclub in Sydney in the 1960's, I also remember being dazzled by the stage performance of the incomparable Eartha Kitt.

I was pleased, sometimes, that the car seemed to know its own way back to Hawkesbury College, though I made resolutions not to drink too much while I was in the city, being an hour's drive from home. But with my special flaw, resolutions couldn't be guaranteed. I remember one night having to stay in the city with a man I'd met in a pub. We were both just too drunk and in desperate need of sleep, but it scared me a bit and did make me more careful after that.

There was one event that was especially shameful. It was my 21st Birthday. There was no family celebration because my Mum and my brother were still fully engaged in keeping the *Twin Pines* farm going after Dad had died. Some kind friends from the Richmond Players organised quite a large party for me at a hotel venue in Penrith. I remember it started off well, but when the time came for speeches and toasts, I was absent from the room and no longer on my feet. Remarkably, the next day I still wasn't fully aware of how rude and inconsiderate that had been. It's not an excuse, but that is the reality of living with my special flaw.

Isolated events like that can be shameful, but it is actually the insidious effects of my special flaw that do even more damage over time. It stunts your emotional maturity because you avoid facing reality and you deceive yourself about what other people are noticing and thinking. Because of this, you find out later that you made a fool of yourself or caused harm to other people without having realised it at the time.

The other young men with whom I lived in the Single Officer's Block saw me as a bit 'too big for my boots' in that I did a lot of socializing that they didn't do. Most of them were more interested in the huge, new innovation of that time – the fantastic, black-and-white television. You mainly saw these in Department Store windows where crowds would gather to watch.

We got one for our Common Room where we also drank together and held parties. On some of those occasions, I'm sorry to say I big-noted myself by playing chess blindfolded with anyone who wanted a game. When I came across some of those men later in life, the only thing they seemed to remember about me was that.

My workmates felt I had too many other interests that could interfere with my work and that I had a 'privileged' sort of attitude which meant I took things for granted. I was one of very few University graduates there at that time – the teaching staff all had Diplomas – and I was also the only one doing research. But it was really my underlying fear and insecurity that made me appear too cocky. They knew I drank a lot and, eventually, at my farewell, they presented me with a horrible set of beer mugs that had naked ladies for their handles. I felt ashamed and pleased that I was leaving.

My impassioned reading had dried up, gradually, during my school and University years, and did not really revive while I was at Hawkesbury College. I did manage to write up the thesis for my Master of Rural Science, which was awarded, *in absentia*, after I had moved on from that job. My Mum attended the Graduation Ceremony in Armidale.

Although my research there was not significant in any other way, there was one notable achievement. In 1964, my scientific literature review, *Machine Milking and Mastitis* appeared in the premier international journal, *Dairy Science Abstracts*. I suspect the Editors who accepted it may not have realised how junior a researcher I was, because those Reviews (one in each issue) were generally written by an international leader in the field. I was not yet 23 and had no previous publications on the subject.

In 1964, my Physiology Professor at Sydney University decided to return to his homeland 'across the ditch' to continue his research and he asked me to go with him to a new position as a Research Scientist. [17] I 'jumped at the chance' and was living in Hamilton, New Zealand, by February, 1965.

[17] He was Dr Walter G. Whittlestone DSc. FRSNZ, who died about 1980.

Chapter 8 Big Decisions

Before leaving for New Zealand I asked the young lady who had become my steady girlfriend, Anne Gough, if she would marry me and come to live over there. We got on very well, were both active in the Richmond Players, and enjoyed going out dancing and spending time together. We were at a gala Ball at the College that night and there was an outdoor swimming pool in the grounds outside the hall. As we walked by the pool she said 'Yes.' With this simple decision our lives were shaped for all the decades to follow.

We make such huge decisions when we are so young and inexperienced. It is a form of trust in 'the unknown' that is courageous in its naiveté and innocence. I have not the slightest regret for having made it, even though we became separated after 16 years and divorced a few years later. Our three sons were born out of that loving relationship. My occasional exchanges with her today are not really any less friendly than when we were in our twenties – just mellowed and broadened by experience.

Anne was a teacher at a local primary school in those days – and for all her working life – and she was one of the very best in that demanding job. Extremely conscientious in her preparation, loved by the kids for her fun and enthusiasm and respected by her peers, everywhere she went.

Anne's parents, Jim and Joan, were heavy drinkers, as well as very hard workers, and I had enjoyed their company for several years. They introduced me to Scotch Whiskey, for special occasions, of which we had quite a few. The whole family would sing around the piano, played by Joan, and to me that was truly the most wonderful kind of enjoyment. I think we are all the poorer, today, not having that experience of singing together so readily available. Years later, Jim Gough had a fall at a Christmas party that damaged his brain so badly he could never speak again – though he could still sing songs, for a while. He was only 60 at the time and had always loved to yarn with friends and strangers alike. I was one of many who really missed hearing his cheerful voice.

During the months I was in New Zealand on my own, my letter-writing flourished once again. I think Anne was often bewildered by the dozens of pages of almost illegible scrawl that she received every week or so. She usually replied, however, and as you might imagine, I found the subject of romance to be a most enjoyable outlet for my natural desire to write.

My mate, 'Blue,' from undergraduate days in Armidale, had come to live in Richmond about a year before I left. We worked together at Hawkesbury College and drank together, never more so than in the days leading up to my wedding in September, 1965. I had flown in from New Zealand, Anne had done all the wedding preparations, and 'Blue' was organising a 'buck's party.' He also bolted some very heavy leg-irons around my ankles, so I could barely hobble to the church for the rehearsal. It's a beautiful old church – St Matthews at Windsor, one of the oldest in Australia – and I'm glad to say I was appropriately outfitted for the big day and well behaved, as was 'Blue,' my Best Man. The photograph below shows Anne and I about to depart from the wedding reception.

We flew to Auckland the next day, where my car that I'd left at the airport, refused to start. This was a worrying delay because we had to drive to Wellington the next day to get the car and ourselves onto the Inter-Island

ferry to begin our honeymoon. We got there, somehow. Driving around the scenic South Island for the next two weeks was a great experience. I remember, in particular, being amongst the very first guests at the Franz Joseph Glacier Resort Hotel, before it had even been opened, officially.

We returned to Hamilton, which is 120 km south of Auckland, where I was employed, and made a happy home there for the next three years. My employer, the New Zealand Agriculture Ministry, provided weatherboard apartments for the staff to rent, which were right beside a large Primary School where Anne was to teach for the whole time we were there. She was popular with the staff and the kids and I remember accompanying her class on school excursions, living on a Marae and sleeping in a Māori Treaty House. She taught music, amongst other things, and we sang Māori songs together, which was my first experience of strumming an acoustic guitar for accompaniment.

After a while, Anne and I both joined the Hamilton Repertory Society, a semi-professional theatre company and I was lucky enough to be taught about stage management and set construction. I remember one night, when I was the Assistant Stage Manager for a large production in the City Hall (Shakespeare's *Midsummer Night's Dream*), that the Stage Manager called in sick. As the Assistant all I ever did was open and close the curtains by pulling on some ropes, but now I had to manage the whole performance. As I gave the instructions through my headset intercom, my experienced colleagues corrected and guided me. 'Dim the house lights,' I said as the clock ticked down to start time. 'Not before the Queen,' the lighting controller's voice came through. In those days, every concert or event (in Australia and New Zealand) was preceded by the playing of the National Anthem (*God Save The Queen*), during which the audience stood. By the end of that night I was a nervous wreck, but greatly relieved.

Thinking back, you wonder how you ended up in some of the places that you did. And it's little wonder I keep repeating the fact that I am grateful for the help and guidance I have received from all directions, throughout my life.

Chapter 9 Apprentice Endocrinologist/Milking Shed Researcher

Ruakura, just outside the city of Hamilton, was the largest Agricultural Research Centre in New Zealand and is known all over the world as one of the finest. International scientists came to spend time there every year because the research programs were both cutting-edge, laboratory detail, and very practical, farm-oriented innovations. In the late 1960's, when I was there, it was still expanding. My office and laboratory was on the first floor of the new Tower block right in the centre of the complex. There were five separate dairy farms for research purposes and the Physiology Section I belonged to had the use of No 3 Dairy, with the opportunity to design new milking facilities to suit our own research.

Hamilton is in the centre of one of the richest agricultural regions in the world. Its good soil, regular rainfall and temperate climate supported more dairy cows per acre of land (and more fat lambs) than just about anywhere else. The ethos at Ruakura that I picked up was a strong commitment to generate the very best scientific knowhow for the dairy and other farming industries that produced so much of the country's export income.

What a fantastic place for a hopeful young researcher to land! All because my Physiology Professor had decided to come back here as this Section's Leader and chose me to come with him. There were only two or three other Research Scientists in our Section at first and I had a laboratory Technical Officer to help me, which is like 'gold' for a relatively ham-fisted researcher like I was. Other scientists specializing in the physiology of reproduction were soon to join us because endocrinology – the study of hormones – was the interest we all had in common.

Our Section Leader was a world authority on the subject of lactation. The production of milk by the mammary gland is one of the most interesting physiological processes, for both cows and humans. A crucial part of it is 'milk letdown,' whereby the hormone, oxytocin, causes tiny internal muscles to contract and squeeze the milk out to where it can be drunk by a suckling baby or drawn away by a milking machine. If the 'letdown' doesn't happen, very little milk can be obtained.

This could be a problem because, with no suckling calf, the farmer needs to know how to stimulate the cow's udder to elicit the milk letdown. Our initial aim was to measure the amount of oxytocin in blood samples we collected from cows during milking. Oxytocin has wide-ranging effects in the body, so it was an exciting project, but I'm sorry to say, it was far too ambitious a task for us at that time; it was not achieved anywhere else in the world, either, until several years later.

There was no chemical procedure for measuring these small peptide hormones like there is now, so we developed a bioassay in which a lactating guinea pig was the test animal. It was a difficult procedure and, as is often the case, could not have been done without the great skill of my Technical Officer. Oxytocin is a tiny molecule, compared to other hormones, and has a very short half-life in the bloodstream, so there were other challenges also. Whenever a research project fails to meet its original objective, you learn a whole lot of other things you will need to know later. My research long after this was to benefit from that early work.

I was now a member of the New Zealand Society of Endocrinology, which had an equal number of medical (human) researchers and animal scientists. My very first Conference paper, delivered in Wellington a year later, was an ignominious failure. At the end of my presentation, my preliminary results and tentative findings were torn to shreds by a medical Professor from Dunedin. In my talk, I had used the term, heteroscedastic, without really understanding what it meant (partly because I liked the sound of the word); there is no surer way to bring yourself undone at a scientific meeting than that!

I was in tears in my hotel room after the session. Who should appear at my door but the Ruakura Deputy Director (my boss's boss) to say he had tickets for all of us to go to the Rugby Test that evening between the All Blacks and the Wallabies – which the Wallabies won, incidentally. I felt supported once again and could only hope I had learned something from this humiliating Conference experience. [18]

[18] Humiliations are helpful learning experiences – if you let them be that.

Because my Section Leader was so famous in New Zealand – he was an FRSNZ (Fellow of the Royal Society) – he was away a lot and he liked to delegate responsibilities to me that I was poorly equipped to handle, but I wanted to try, anyway. A bit like driving tractors back on the farm as a kid, I always wanted to be a bit ahead of where I was meant to be. As the Acting Section Leader, I had to introduce new Scientists to a Common Room full of a hundred people and I think I tried to be too smart and was disrespectful at times. Once again my immaturity and emotional insecurity came out as a bravado that I regret, thinking back.

But some of the things he got me to do were great fun and sowed seeds for my future interests. He was enthusiastic about adult education and taught a course for the general public in the evenings that he called *Hormones and Health*. I became a regular, fill-in lecturer, which I really enjoyed. Older people who want to learn about something are far easier to teach than College students. Since my retirement twenty years ago, I have loved teaching older people at U3A (University of the Third Age).

How much was I drinking in those days? Quite a lot, but not in public. I didn't like the '6 o'clock swill' that happened just before the pubs closed every day, or the warm flat beer that came in a jug, so I didn't frequent hotels much at all. But the bottled lager with German names that had a bit higher alcohol content was much more to my liking and I drank quite a lot of that at home in the evenings.

Becoming embroiled in the political views of my Leader was probably not the most sensible thing I did. He had been a prominent activist in Sydney campaigning for peace and nuclear disarmament. I joined him in signing petitions in Hamilton until the daily newspaper ran an article naming the Ruakura scientists who it claimed were anti-government and disloyal. We were protesting against the ugly war in Vietnam that the New Zealand (and Australian) governments were promoting. A Ruakura staff member who we all believed to be a part-time Intelligence Officer contacted me just before we were leaving to return to Australia, ostensibly to buy my car. He wanted to know in some detail where I was going, so I expect I've had a small file at ASIO (Australian Security Intelligence Organisation) since then.

Another experience that almost overwhelmed me was speaking at the very large Farmer Field Days. I had lectured to small groups of farmers before, but in New Zealand these gatherings are bigger than anywhere else in the world. At my first, in Northland, there were 600 people. Once, at New Plymouth, I spoke to an audience of 1200 that included my wife and her parents, who were visiting us for a holiday.

Public speaking was not something I ever became very good at, throughout my whole career, even though I had plenty of experience and also professional training. For one thing, my voice was never very strong (because of poor breath control) and being nervous only made it more difficult to speak loudly. I first suffered from physical symptoms of anxiety, including a skin condition called Psoriasis, during that time. I did like writing articles for Farm Journals, though, which was just as well because I had only a few scientific papers published while I was at Ruakura.

The articles and talks were a continuation of my research on milking shed design including the 'lowline' milking machines that my Section Leader and I promoted. At our No 3 Dairy we had the latest versions for our small 'herringbone' dairy and different configurations of yards to assess the effects on cow behaviour. Many New Zealand farmers still used 'highline' machines, even with the herringbone design, and there was now a trend towards much larger herds, with very large sheds, to save labour. My disparaging phrase about this 'jumbo-jet milking' featured on the cover of a farming magazine. Some thought I was an enemy of progress, while others commended me for moderation and common sense.

It was a great boost for me when an expert on Animal Behaviour joined our group. I was thrilled to be involved in experiments at our No 3 Dairy, that showed just how sensitive the cows are to the way they are handled. Good farmers know this anyway, of course, but some things we learned there I was able to use later in my research back in Australia. We also tested sheep 'intelligence' in a maze and I took ideas from that into my later studies of animal stress and the delicate subject of farm animal welfare.

So Ruakura was a wonderful apprenticeship working alongside good Research Scientists and it gave me a potpourri of opportunities to learn, only some of which I feel I was able to take on board. I believe that my immaturity at that stage of my life hindered, quite severely, my ability to appreciate the wisdom and ways of thinking of people I could have respected more and listened to more carefully. One of the major consequences of having my special flaw is that, when you look back at what has happened in your life, you regret the opportunities missed and time wasted through not having been more aware or paid more attention to what others were doing and saying.

There was one more incident that probably should never have happened. It was again caused by my Section Leader, who was agitating on behalf of the very new, local University for it to start offering postgraduate degrees, which he knew I could be interested in if they were available. I had accepted a research position in Victoria that might enable me to enrol for a PhD at Melbourne University. He used me as an example to make his point. The daily newspaper in Hamilton printed a picture of me (supposedly cleaning out my desk) alongside the headline 'Best Brains Lost to New Zealand.' I imagine my colleagues at Ruakura where not impressed – and I don't blame them!

Chapter 10 Fire

I'm not really sure why Anne and I were so keen to get back to Australia. I think we were a bit homesick and she missed her family. We had talked about having children and it didn't quite feel like our real home where we were. It was not that we were unhappy living in New Zealand. It wasn't really because of my PhD plans, either, because that was by no means certain, anyway. And it wasn't because our rented flat had nearly burned down during the last winter we were there, though that was very unsettling!

We must have been sleeping deeply that night, because there were flames level with the top of the kitchen windows on the wall outside by the time we were awakened by the noise. The small shed behind our back door was burning fiercely and I could feel the heat as I opened the door. Thankfully, fire hoses were already spraying water onto it and the city firemen soon had the blaze under control. Our neighbour had sounded the alarm. The cause of the fire was coal ash from our fireplace that I had put out in the shed many hours before, not realising it was still warm. A bad mistake on my part.

Everything in the shed was destroyed. The most significant loss was a precious collection of hundreds of art prints that Anne had amassed over 10 years for use in her teaching. I shared in her sadness and loss as well as I could, but also blamed myself and I probably hung on to that self-blame for longer than was helpful or sensible.

We had travelled quite a bit in New Zealand and collected things, of course, so we had a whole lot of souvenirs, greenstone jewelry, books, photographs and special items of clothing to pack with our belongings as we prepared to make our way back to Australia. We did not take our car or any furniture, so everything we owned was on the plane with us from Auckland to Sydney. It was late December, 1968. I was 27 and Anne was nearly 25.

We spent an enjoyable Christmas and New Year with Anne's parents in Windsor, purchased a quite large new car to carry all our belongings, and

headed off to Werribee, outside Melbourne, where my new job was located. We were chockful of excitement and uncertainty about the future.

On the next afternoon we arrived at the farmhouse where my new boss and his wife were living. They had two young children, but chose to live several miles out of town, with no neighbours nearby, in the midst of large paddocks of wheat stubble and dry grass. Crikey, what a parched, brown, semi-desert it seemed to us, after New Zealand! The landscape on the western side of Melbourne is very flat and not at all green in summer.

There was a shed at the house where we unloaded everything out of the car – I'm not quite sure why. That proved to be a mistake. Our hosts had suggestions for where we might find a place to rent; that was the immediate plan for the next day.

Next morning, Wednesday the 8th of January, 1969, there was a wind blowing that was unlike anything I had ever experienced – so strong it made a ringing sound in the electricity wires overhead that I'll never forget and so hot you felt you might be baked if you weren't behind shelter. We had driven to visit a house at Little River, a few miles further west, when we noticed a huge plume of smoke in the direction from which we had come. We headed back that way, but when we reached the road that led to our friend's house, there was a roadblock in the form of a large water tanker belonging to the Rural Fire Authority.

I asked a man if the people who lived down that way could get out back to town and he said: 'if they didn't, it's too late to do that now.' It was many hours later we heard that my friend's wife and her two children had escaped by car, but not before seeing their home and shed catch alight. My boss was working in Melbourne that day and was only reunited with his family a few hours later. There were no mobile phones and the telephone system becomes overloaded at a time like that.

That was one of those deadly days that are all too common in Australia's history of what we call bushfires, though there were few trees involved in this case. It was a grass fire running along the ground at great speed, faster than any vehicle could match on the road. By nightfall 23 people had died of whom 17 were burnt in their cars on the Geelong to Melbourne

freeway at Lara (near Little River). The fireball that hit them was said to be four metres high.

We drove into Werribee and then on to Werribee South where we noticed that it was a large irrigation area for vegetable growing, near the western edge of Port Phillip Bay. We eventually rented a house beside an irrigation ditch in the middle of acres of cabbages and beans, which seemed to be as far away from the fires as you could get!

But first we took stock of our situation and, as my boss suggested, we drove back to Anne's parents at Windsor, with only the clothes we were wearing. Getting a razor and having a shave was a good feeling for me! Anne must have been pleased to take a little time to reflect with her parents on the totally unexpected and quite shocking turn of events.

We needed to start again from scratch. Many of the things we had lost had great sentimental value and it was as if a large chunk of our recent lives had suddenly been struck out – erased without warning, in a brutal way that seemed so unfair. My Mother had chosen that Christmas to pass on to me two family heirlooms from British forebears (small tools for stamping a wax seal), but they had gone from my life before I even worked out what they were. It was an even more uncertain drive back to Werribee a week later.

I must say that many of the staff of the Victorian Agriculture Department were very generous towards their newest colleague with fund-raising for us and messages of welcome. The Government assistance was also very helpful. I remember buying clothes in the Myer store in Melbourne using coupons that we received as part of the bush fire relief. It was not an overwhelmingly negative period in our lives; Anne was soon teaching and I was excited about starting new activities at work.

My work situation was soon changed drastically when the man who was to have been my boss decided to go straight to England with his family, after what had happened in the fires. He brought forward by a couple of years the plans he had already made to take up PhD studies over there. This meant I became the Head of our small group almost from the beginning.

We were the Milking Research Centre, loosely associated with the main Physiology laboratories at the State Research Farm, where I discovered there were young Endocrinologists who were affiliated with the University of Melbourne. They were Post-Grads working for higher degrees, which is what I wanted to do. Their supervisor was an internationally-renowned scientist (with a medical background) whose discoveries were leading the world in certain aspects of reproductive physiology. It took a little while to organise, but he was to become my PhD supervisor a year later. Sadly, though, he was to die, quite suddenly, before I had completed that work.

Chapter 11 Werribee Warriors

My three sons, Chris, Nick and John, were all born in the small Werribee hospital, in 1970, 1971 and 1974 respectively, so this was to be the most indelibly significant part of my whole story. I also received my PhD degree in 1974, so I will never look back on this as an unproductive phase of my life. But it was, in fact, a very difficult few years that took its toll on my health and marriage and caused much hardship for Anne also.

I refer to our family as 'warriors' because I think everyone had to struggle to keep going during that time. Young children do this naturally as they establish themselves in the world and we were fortunate that they didn't have severe health issues – just the usual succession of ailments that kids get. Anne became quite seriously ill with a post-natal depression after the birth of our second child, Nicholas. To her great credit, she managed, with some medication, to continue looking after us all very well during that time.

I was at war with myself, which is related to my special flaw. I used my drinking to try to stave off serious doubts and fears about whether I could meet the demands of my job, pursue my dream of completing a research PhD, and be there for a young family, all at once. What this position had in common with my employment at Ruakura was a kind of professional split-personality. One day I was speaking to a room full of farmers anywhere in Victoria as a Dairy Husbandry Research Officer about managing the milking operation on their farms. The next day I was in a laboratory with other PhD students trying to develop new procedures for measuring hormones in blood samples. As time went on, it sometimes happened that, on the next day, I could be sitting alone in a bar with a beer in front of me and my head in my hands.

Looking back now I can see how fortunate I was to be allowed, once again, to complete the requirements for my higher degree while I was also in full employment. Many PhD students don't have it so good. I can also see that my special gift was doing its best to defray the effects of my special flaw, because I could work very effectively at times, even in the

middle of the night, to keep up with the load. It was like having two full-time jobs, but of course, neither of them was going to be fulfilled as thoroughly as I would have liked.

So this is a story of contradictions, once again. Some of our days at Werribee seem quite awful to me, thinking back, but many of the things that happened there were extremely happy events. We were able to live in the same house, courtesy of a warm-hearted landlord (an Italian vegetable-grower), from January 1969 until December 1974, when we were ready to move on. We made a few improvements to the house and yard, so it was a comfortable place. Even more importantly, it gave us the stability in our living arrangements for nearly five years that we really needed.

This wasn't going to be the last time that my future seemed to hang on a tenuous thread that was fraying due to alcoholism, while another strand of resilience and perseverance was holding on, but it was one of the most critical points, with a young family and a big opportunity at stake. Surveying the whole of my life, I am very thankful that the desire to succeed always remained just a bit ahead of the temptation to give up.

We lived a few kilometres from my work and the town (and I did ride a bike to and fro for one period). There was a small general store and post office close by and our fenced yard was big enough for the boys to run around. I think they were happy there, though it pains me to admit that I was not as emotionally 'available' for them as a Father really wants to be.

I followed sport – Melbourne football, of course, as a loyal Hawthorn supporter and Peter Hudson fan – and cricket at the MCG, which was just a short walk from my government head offices; I could attend a meeting in the morning and then take the afternoon off to watch cricket. I sat in the Members' Stand once with a friend who was a member of that hallowed institution.

One of the mischievous things about one's memory is that it recalls insignificant things that are completely incidental to the main story. My boss, before he left for England, introduced me to John Landy, whom he knew from Uni days. Landy was an Ag. Science student at the peak of his athletic career, and at the time I met him we were fellow-speakers at

Farmer Field Days, because he was working for a multi-national chemical company that introduced nitrogenous fertilizers to Australian farmers. He went on to high positions, including being the Governor of Victoria from 2001 to 2006. I didn't speak to him very often and I never mentioned the running shorts my Mum had made for me when I was at school!

For a while, I worked behind the scenes for the amateur dramatic society, most notably as the Stage Manager (and set builder) for a production of the Oscar Wilde classic, *The Importance of Being Earnest*. As my PhD writing became more demanding, my extra-curricular activities waned, and they ceased altogether during 1973, except for one that had become an important part of our family life.

It was the local Anglican Church. Anne was the driving force behind our becoming useful members of the congregation; we read Lessons from time to time, and I had become the Secretary of the Vestry Committee that managed the financial affairs of the parish. That job included reminding parishioners of their financial responsibilities. One evening I was running late for a Vestry meeting at the church (after having a few beers) when my old habit of jumping over fences came suddenly into my mind. It could have been worse, but after coming down face forward on the ground, my papers were scattered, and I made a rather dishevelled entrance to the meeting!

There were some notable low spots in my research, too, but of course, there are some proud recollections as well. One disaster was in the milking shed at the State Research Farm where I injected a cow, intravenously, with an antibody preparation I had purified in the lab, and the unfortunate animal dropped dead a few minutes later. I hadn't expected this and didn't have any adrenaline on hand to try to reverse the anaphylactic shock that caused her death. I had hoped to use these antibodies to block a particular hormone, but despite my work in the lab, they still contained too much foreign protein for her immune system to handle. Getting the dead cow out of the milking bail was a difficult operation, so I was not popular with the farm staff for quite a while after that!

Thanks to the reputation of my supervisor, we were able to get permission to import a very new drug that blocked the hormones I was studying and

I used that for a critical part of my PhD research. I remember the fuss I had with Australian Customs Officers at the airport when I took delivery of it. Then, an even bigger advantage of having an internationally recognised supervisor came along soon after that.

The fact that sheep were regarded as very suitable test animals for human physiology studies (other than nutrition) meant that we received, from California, some of the very first batches of the newly synthesised Releasing Factors that are produced in the brain to trigger hormone release from the pituitary gland. Everyone in our team spent long nights taking blood samples from sheep around the clock and assaying pituitary hormones in the lab to document the effects of the new compounds. A few years later, the researcher who had discovered them was a co-recipient of the Nobel Prize for medicine, because these Factors were the missing link for explaining how the brain controls the release of important hormones in humans and animals. [19]

It was a very proud moment in my research career when I had finished writing the paper describing the effect of a particular Factor (synthetic TRH) on one of the hormones that controls lactation. As required, I offered the soon-to-be Nobel laureate co-authorship of the paper, but he replied to say that just a mention in the Acknowledgements was more appropriate. Fancy that! Being so close to co-authorship with a Nobel prizewinner. It was purely by chance, of course – just happening to be in that place at that time. He came to visit us and we all sat around the lunch table gawking at such a famous scientist in our midst.

Another person who deserves my heartfelt thanks is the young post-Doctoral Fellow who took over the supervision of my PhD after our esteemed leader died in 1973. He organised the communication with my Examiners and advised about my thesis in a way that was well beyond his years of experience. Without him I might never have finished.

[19] His name is Dr Roger C. L. Guillemin, a French-born American who is now 97.

Once again, it is gratitude that best sums up my recollections of the Werribee years. Even though it was hard, my family and I survived, and we can look back with some satisfaction.

The most important reasons for that satisfaction, in the story as a whole, are yet to be told – in the next two Chapters.

Chapter 12 It's a Boy, It's a Boy, It's a Boy

In 1969, it was technically possible to determine by ultrasound what sex your baby was going to be, but that was not commonly available, so most people didn't know if it was a boy or a girl until the midwife or doctor announced it after the baby was born.

When you marry, you naturally think about having a family, one day. The day we learned, definitely, that Anne was pregnant for the first time was a momentous day for me, too. I wrote a solemn little passage in one of my notebooks to reflect on the enormity of this piece of news. Until it happens, the whole idea of having kids is just a vague fantasy, but now we knew that it was going to become real in a few months' time.

Anne had some morning sickness, but otherwise quite an untroubled pregnancy, but she had a very difficult labour lasting 48 hours from the first contraction pains. I spent most of it at the hospital too. Finally, our perfect little boy, emerged into the world on Monday, the 16th of February, 1970.

His first name, Christopher, was my father's name and it was part of the same plan that his second name would be James, after Anne's father. He was given a third name also – Richmond – which connects him with a long line of my ancestors, whose stories are told in my book *The Luck of the Fells*. [20]

Chris was not a baby who slept for long periods during the night! In fact he was not very good at getting off to sleep in the first place, either. Anne and I were both getting out of bed a lot. But you are so proud and excited to have your own child that I don't think we complained too much. It's mainly that you worry that a young child isn't getting enough sleep. Anne was more overt in her worrying than I was and more conscientiously attentive to his needs.

Nicholas was born only 16 months later, on Wednesday, the 7th of July, 1971. He was the most placid baby you could imagine, who slept well,

[20] This is available in printed form on request, or as a free download at www.biosong.org

kept a good routine and looked like he was going to be a model child – which he certainly wasn't in his 'terrible twos' (and 'threes'). There was a restless energy about Nick that is nowadays called 'hyperactive' and the remarkable thing is that he has never lost that boundless energy and enthusiasm throughout his adult life. His given first name is Lloyd, but we always thought of him as Nicholas, as he has done himself.

As I said earlier, Anne was overcome by a debilitating, depressive illness shortly after Nick was born. During 1972, there were times when I felt that an enormous weight was hanging just over our heads and it might come down and wipe us all out. But she carried on in the most valiant fashion and our progress as a family was not seriously disturbed, really, when I look back on it. But I think the whole Werribee experience did take its toll on her, personally.

Anne comes from a family of four and I have two siblings, so we really looked forward to having another child to make our family complete. Anne's labour was not as long, but was still very demanding, for the birth of our second and third sons. The same doctor delivered them all and, although he had a rather slap-dash manner, I think we were generally happy with the hospital and the medical support.

Our third son, John, whose second name is William, after my brother and one of Anne's relatives, was born on Tuesday, the 16th of April, 1974. I think he was mid-way between Chris and Nick in the demands he made as a baby. His arrival made us feel that our family was complete. John did not really get to know our Werribee South existence because we moved back to NSW when he was only eight months old.

About once a year while we were there, we packed up the car and made the trip back to see Anne's family at Windsor. We usually stopped off with her sister, Julie, on a property she and her husband, Graeme Constable, owned near Bedgerabong in the Lachlan Valley. The Christmas holidays were hectically busy for Jim and Joan Gough at Windsor, because they managed a Caravan Park and Picnic Ground on the Hawkesbury River. We were able to help with the frantic activity, selling drinks and food from the little shop and restocking it for the next day.

This was during the time the Sydney Opera House was being built, though we didn't see a lot of that. On one of those Christmas Days there was a devastating cyclone that wrecked the city of Darwin. Those things remind me that you are so occupied with the needs of young children and other family activities at that time in your life that you hardly notice what is happening in the world.

Amongst the strands of my life story, it's impossible to overstate the importance of having a family. Your kids are your strongest 'flesh and blood' connection, and they also remind you, more deeply, of your own Father and Mother. My boys never met my Father, but my Mother was still around until Chris was 16, though she did not live nearby or see them very often. Everything that happens in the lives of your children seems to take place also in you, to some extent, so the person I am has been shaped by the lives of these three boys.

Each of them was christened in the Werribee Anglican church. In John's case, Anne's Mother was with us for the occasion. It was an especially memorable time for me, because I had received my PhD degree the day before. I had a hangover, from drinking alone into the night, but I was filled with pleasure and satisfaction as I stood with my young family in the church that day.

Even though our lives at Werribee had not been easy, I felt enormous gratitude towards the world in general, and my wife, Anne, that we had these three healthy boys with whom to continue our journey.

Chapter 13 The Great Hall

All large Universities have a Great Hall in which the elaborate academic ceremonies are held. My day to remember in this regard was at the University of Melbourne in July, 1974.

My academic dress for the Procession was a black gown based on the Oxford style Master's Gown, but faced in scarlet, which is the distinctive colour of Doctorates generally, with a black hood lined in scarlet and a fairly flat bonnet with a short scarlet cord hanging from it. Many full-time University teachers will own their academic dress, but mine was hired for the occasion.

The Graduation Ceremony begins with the Academic procession, which is headed by the Chancellor and the Vice-Chancellor(s), then the most important Professors and other teaching staff in a strict order of seniority. Then comes the long line, two abreast in my day, of those whose degrees are to be conferred, led by the higher Doctorates, then the larger group receiving the Doctor of Philosophy degree (known as the PhD), followed by the Master's and Bachelor's degree recipients. In my case, the academic staff and the Doctors-to-be continued our procession up onto the main stage where we were seated, while those receiving other degrees occupied the front rows of the auditorium. Quite stirring, loud, music was playing throughout the Procession until everyone was seated.

Usually it is the Vice-Chancellor, who is the administrative head of the University, who conducts the Ceremony. The Chancellor, who is more of a titular head and chairman of the ultimate governing body, stands centre stage at the front to hand each graduate his or her individual degree. I had hoped to get mine from Sir Robert Menzies, who had been Chancellor for several years during my enrolment, but he had been replaced the year before my graduation. The whole thing can take quite a long time. Eventually, a Valediction is said, and the main Procession, beginning from the stage, retraces its steps down the aisles and out of the hall, with the stirring music playing again until the last person has departed.

For each Doctorate recipient there is a testimonial statement read out by the Vice-Chancellor. When it came to mine, I listened with a very confused and troubled mind. The title of my PhD Thesis (which had been submitted almost a year earlier, in September, 1973) was: *Radioimmunoassay Studies of Prolactin and the Neuroendocrine Regulation of Lactation*. What I heard being said was that there had been no method for the serial measurement of prolactin in blood and very little known about what prolactin did. I had developed a radioimmunoassay and used it to learn about what triggered this hormone to be released and some of its effects on lactation.

The imaginative, more romantic, part of me had always glorified academia to some extent. I felt that the pageantry, colour and music, and the quasi-religious nature of an academic procession, was something to be admired and respected. So this day was the culmination of a long-desired dream. But I also felt ashamed and unworthy and wanted to hide myself away from the glare of a Great Hall full of people. I was sitting there thinking: Is that all you achieved? All that 'blood, sweat and tears,' and so little to show for it!

Scientific progress is the sum of a great many small pieces of detailed research, of course, but my confused state of mind was not happy with that. My grandiose vision from years before as an undergraduate was to understand something significant about the mysterious processes of 'Life.'

Pride is known as the first and foremost of the Seven Deadly Sins. This is something I didn't understand until later. Taking the credit for what you have achieved is a part of it, but for me at that time it was a False Pride based on thinking I was the best judge of everything. This is the 'playing God' that I referred to in relation to Alexis Carroll much earlier in the book. It's a consequence of living with my special flaw. The way I did it was not as diabolical as in his case, but it was the same in that I thought there should have been a better way of doing things – a reality that was closer to what I believed was correct.

Your world becomes narrower and narrower. I was losing the ability to hear what others were saying or to ask another person for advice or help. I felt very alone and I believed I was the only person who could work out the answer to my problems because nobody else would understand them.

The longer I lived with my special flaw the more dogged and damaged my self-belief became because I always knew in the back of my mind that I was letting myself down – sabotaging my ability to achieve what I wanted to achieve, which may not have been entirely realistic, anyway. The fantasy that was so readily available to me as a dreamer was being misused. I chose to wear 'rose-coloured glasses' so I could persevere, stubbornly, rather than look to make the changes that were necessary.

Fantasy is not the same as imagination. My escapes from reality were essentially selfish and prideful, whereas imagination is the untapped, unselfish, realm of possibilities that are created by the larger whole of which we are only a small part. I would eventually become pleased that I had an imaginative mind, but at that time it was working against me. [21]

I can now take some satisfaction in what I had achieved. Looking back at the thesis, I see my name as the first author of eight separate papers from this work, published in Conference Proceedings or in refereed Scientific Journals – two of them in the most esteemed Journal in this field. All of them are multi-author papers. You are always working in a team. My experiments with dairy cows did not involve the others, but the main body of this work, directed by my supervisor, was only achieved because we helped one another out in the team.

All of us were developing new radioimmunoassays to measure hormone levels in blood. An assay is a measurement and this type of assay has an immunological component whereby specific antibodies are added to the blood sample to react only with the exact hormone you want to measure. That particular hormone is also radioactively labelled so that different concentrations of it will be detectable in a machine for 'counting' radioactivity. The combination of these two procedures is what is known as a radioimmunoassay.

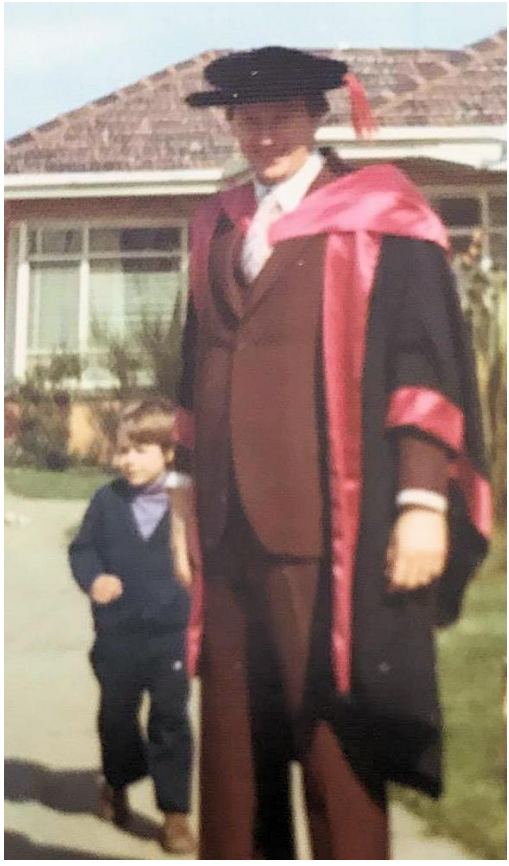
Traditionally, PhD students are expected to do the 'dirty work' in the laboratory. One of my jobs was to do the radioactive labelling of the

[21] If you recognise the unknown and how little you actually know you will have a better relationship with reality and avoid self-deception. I think that's how we learn the humility that counteracts false pride – the 'sin' of always needing to shame or inflate yourself.

hormones from time to time. When the radioisotope (I^{125}) arrived, I would don a lead apron and mask and carry out the steps to combine it with the hormone, working inside a special fume cupboard. We would use that 'tracer' material in our assay procedures until it ran out and a new batch had to be made.

I think there were more interesting and more useful research projects to come later in my career, but the important thing about this work was that it brought to fruition a very significant mission I'd had since my earliest days as an undergraduate. I would now be known, for the rest of my working life, as Dr Lloyd Fell.

The day after my graduation I still had the academic dress and Anne took some photos in the front garden of the house we lived in at Werribee South, while the next generation Dr Fell – my son Chris – looked on.



Chapter 14 Return to Richmond

The name, 'Dr Fell,' has some notoriety in literary circles, having been the name of several fictional characters, including a private detective in a series of novels. This stems from an infamous quote, 'I do not like thee, Dr Fell,' that originated as a student's witty response to the Dean of Christ Church College at Oxford in 1680. The Dean's name was also John Fell; it reads as Johannes on his tombstone. He challenged the student to translate a Latin epigram by Martial, off the cuff. The student, who was to become the poet, Tom Brown, not only did that, but he inserted the Dean's name in the appropriate places, a clever amusement that the Dean accepted with good humour. That has nothing to do with me, or my family, though it prompted my Uncle to send me a telegram on graduation day: 'Congratulations, Dr Fell. We like you very well!'

The Fell family arrived back in Richmond, NSW, at the very end of 1974. Though my employer was again the NSW Agriculture Department, the Dairy Research Centre at Hawkesbury College had changed a lot in the 10 years since I had left. Now in a separate building, it was much larger, with 12 Research Officers and a total staff of 30, none of whom I had met before. The College itself was in the process of becoming the Hawkesbury campus of the Western Sydney University, within which our Centre was to remain as a separate entity.

The living circumstances for our family of five were reasonably good, but not entirely happy (especially for Anne, with three kids including a baby, and a sometimes grumpy husband as well). We rented a house in a new housing estate called Hobartville and it was there that Chris started Primary School a year later. I remember going to his class one day to talk about science and trying to impress them by mixing vinegar (an acid) with bicarbonate (an alkali) to produce a fizzing reaction in a large test tube. I wonder what the boys and girls (including Chris) might have thought about that? Earlier, Chris had Whooping Cough for month after month, which meant a coughing fit followed by throwing up, every single night. I often changed the sheets on the bed in the evening.

A little later we managed to buy a house, with some help from Anne's family, at Winmalee in the lower Blue Mountains, which was an outgrowth of the township of Springwood. This was a half-hour drive to my work at Richmond, close to Primary Schools where Anne could teach, and to High Schools for the three boys later. I did some improvements to the house, including an extension at the back, which was satisfying work. The Kikuyu grass in the large, sloping yard kept us busy on weekends.

It was a comfortable weatherboard house on a block with trees behind it, being within the Blue Mountains National Park. There was ample space for our family, but only one toilet (not unusual in those days), connected to a septic tank that was pumped out from time to time. The town sewerage system was connected later. I mention that because one of my memories is of frequent blockages in our toilet system. It was, generally speaking, a very livable and happy environment for a young family.

Although Anne and I were to separate six years later, the time we had together at Winmalee when the children were young was certainly not 'doom and gloom.' She and I got on well most of the time. She taught me a deeper appreciation of classical music and introduced me to Opera, which I have loved ever since. Her favourite at the time was *La Traviata*, which we went to hear at the brand new Opera House in Sydney. A friend suggested we attend a Marriage Encounter weekend at the Mary MacKillop Centre, which was moving and certainly brought us closer together for a time. Anne played the piano at home, sometimes, which was nice.

We attended the local Anglican church at Springwood or at Winmalee from time to time. I was again on the Church Committee when a major extension (called a Narthex) was designed and built at the lovely old Christ Church on the Great Western Highway that has been there since 1889. At first the extension looked oddly different alongside the original church, but nowadays you can't tell that it wasn't there all the time.

I was hopeful, but uncertain, about the next phase of my research work. In our last year at Werribee I had turned down an offer of a Post-Doc position at the University of Uppsala in Sweden, which was famous for the kind of work I was doing. I knew that would be good for my career,

but the thought of making such a big move, with our family, at that stage, put it totally out of the question – for both Anne and I.

I was pleased to feel so welcomed in this new job, at the place where I felt I had let people down a decade earlier. I was especially pleased to get onto a new Research Scientist salary scale designed for those dedicated researchers who wanted to progress in their career without taking on managerial or administrative roles. The Dairy Research Centre had narrowed its focus onto milk processing and product manufacture. I was appointed to reconnect us with the farm production side of this industry, but I was no longer confined to milking sheds and machines. The dairy industry was undergoing great change and now overlapped with beef production, so I could envisage work with beef cattle as well.

But my research career did not progress as smoothly as I had hoped. The other researchers at the Dairy Research Centre were mostly chemists and microbiologists investigating new milk products, which included a dairy custard, yoghurts and cheeses. Our Research Leader was an Englishman who knew a lot about that field. After 18 months, I could see that he had fallen out of favour, quite seriously, with our Head Office. I was asked to be the Acting OIC of the Centre until they found a suitable replacement. If I had realised how awkward this was going to be I might have been able to avoid it, but in my rather uncertain state, I just went along with it.

It was valuable experience in some ways, I suppose, but I simply did not have the skills to be the administrative head of a group of this size, at that stage of my life. It was an unusually multi-cultural body of staff, with researchers from Iraq, Pakistan and India, as well as Australians. In Head Office they referred to us as 'the League of Nations.' I failed to appreciate crucial cultural nuances affecting different Nationalities, so I found it difficult to resolve the frequent internal disputes.

Then, I criticised another researcher, rather crudely, when he accidentally sabotaged an experiment I was trying to set up. I did this in a hastily handwritten note, so it was deemed to be 'in writing.' He made a case against me that eventually took me up before a Public Service Board Tribunal, where I was admonished. On another occasion, I mis-managed an Interview Process for a new appointment, which resulted in a person

from outside our existing staff getting the position. That's always tricky in Government Departments, anyway, but this time I was found to be 'not guilty' by a rather harrowing Industrial Appeals legal process. Not every day was as bad as those two examples, but I was far from happy in the role I was given.

As it turned out, the next few years at Richmond brought little change in this situation. I often felt that I was 'treading water' just to keep myself afloat. I hated having become so utterly dependent on the habit of regular drinking to maintain what I thought was my 'sanity.' I learned much later that some members of staff used to joke that if you really wanted to see 'The Boss' you should probably pop down to the local RSL club, which was where I often had a 'long lunch.'

One change for the better happened during that time. I had been a smoker (20 cigarettes a day), since my first job, and nowadays I felt I had to light up a cigarette every time someone came into my office to see me. At this point I resolved to give up smoking in an effort to feel better about myself. I have never smoked since then.

But that change was never going to be the answer to my primary problem. At this time of stagnation in my working life, two unexpected little 'sorties' came along that were entirely unplanned, but so different from my present work routine that I welcomed them. They were quite demanding and by the time they were over I was a physical and emotional wreck. That was actually a blessing, because it helped me to see that a more drastic change was needed to get my life back on track.

Chapter 15 Clinging On

My old mate, 'Blue,' who had been Best Man at my wedding, was now living and working in New Zealand, where he did research for dairy farmers and had a business that sold dairy sanitizers and other products. He organised and financed a lecture tour for a Mastitis researcher from NSW Agriculture and myself to travel around to different venues across New Zealand. My colleague, Rod Hoare, was to speak about controlling Mastitis and I was to speak about best milking practices. We were to be on the road for about a week.

Blue had organised our accommodation and he drove us in a hire car from place to place. There were often two speaking engagements in a day, so it was tiring. Travelling between venues, Rod and I admired the scenery or played chess in the back seat on a tiny travelling chess set I had brought with me. But it was another aspect of Blue's planning that had sounded good to me – at first, anyway.

In those days, there was a different brand of beer in almost every Province of New Zealand, so our aim was to try as many as we could and rate them according to our preference. I was already familiar with the Waikato brew where we started out; I was also going well with DB and Tui and then Speight's as we went further South, until it was the Southland Bitter that finally did me in. I was feeling terrible by the end of the week, anyway, but the morning after the Invercargill talk was the worst of all.

Then we flew back to Auckland via Dunedin. Internal flights in New Zealand are often bumpy and I made good use of the sick bags provided. Blue thanked us and put us on a flight to Sydney, so finally, we made it back home – in my case, a little 'the worse for wear.'

I know I had told the same joke (about a bull) at almost every venue, and retold much of what I used to say in my Ruakura days, so my mental state felt very stale, which seemed to match my stage in life. But, as we drinkers like to say, with rueful dishonesty – it was fun!

The second unexpected activity that came my way probably happened because I had a friend who worked in the Executive group in our Head Office; we sometimes drank together at a pub in the city.

I was seconded to another Government Department to conduct a Review of their research operations, which were considerably smaller in scope than ours in Agriculture. It was the Mines Department and they had a proud history of mining research and some very interesting current projects.

One of these was the Penrith Lakes project, that is now a much-loved reality between the Nepean River and the town of Penrith, but then the excavation for gravel and road materials had barely started and it was just a few architect's drawings that showed proposed stretches of water. One of them became the Rowing Course for the 2000 Olympic Games and another is the Whitewater Stadium. The other lakes make an important recreational and scenic attraction for the area. They were also supposed to ameliorate flooding further downstream on the Hawkesbury River, but I have my doubts about that.

I tried to write the best report I could about the impressive work of their research staff, with a few suggestions for change. But the fact is I was very jaded and tired, my home situation was difficult, and I was just clinging on to my career, and my life, at that stage. I had caught a cold while at the Mines Department and it was getting worse. That report was the last thing I wrote before going on two weeks sick leave.

It was towards the end of July, 1979. I was still in this same administrative position (on an Acting basis) and had made very little progress with my research. More than four years had passed since I had come back at Richmond. What happened next was to be a momentous change in my life.

Chapter 16 One Special Turning Point

The significance of both my special gift and my special flaw fades into the background now I can tell you about my special Turning Point, which was when I stopped drinking alcohol. Every day of my life has been enjoyed without the need for alcohol since August the 2nd, 1979.

The day before that happened I set out to return to work after two weeks of sick leave, spent mostly in bed with 'the flu,' feeling sorry for myself, while Anne was at work and the boys were at school. By mid-morning, I had got as far as the RSL Club in Richmond. Sitting on the verandah overlooking the bowling green, I had a small glass of beer in front of me that I couldn't finish drinking. I felt completely and utterly defeated and my dominant thought was: 'I can't do this anymore.' I drove home and went back to bed. That was to be my last alcoholic drink.

In accordance with the theme of this whole book, I have to say that it was only with the help of other people that this crucial change happened in my life. My gratitude towards them goes beyond words. Every day, I express it in small ways by trying to help others who are caught in the same horrible bind as I was – unable to give up drinking. Doing this is such a central part of my life that it often takes priority over anything else I could be doing. It is also at the heart of my spiritual journey that I hope will become evident in the rest of my story.

But the day-to-day details of this quintessential example of how human beings help one another are not for publication. So I will continue my story without specific reference to many individuals who helped me, and still do so, or descriptions of the various ways we interact. I have already said that I talk to my God (the unknown) every day and that everything I do is based on respect for something larger than myself – a wholeness of which I am just a part.

I believe the essence of my recovery from alcoholism – which is my life story from here on – is that I was taught to tell the difference between the force that we call 'self-will,' and all the forces that exist beyond oneself (which is everything else that happens). We are designed to learn to be

self-reliant, and that is essential, but it can also become one's downfall, as it did for me. My life had narrowed to the point where the only hope seemed to be whatever I could do for myself – I was on my own. The need to respect and depend on what is 'other than myself' that I mentioned in the Prologue had disappeared from my awareness – until that great Turning Point. [22]

The consequences of this change were not immediately advantageous for my life. There was a substantial price to pay for the way I had been living when I was so dependent on alcohol, so it was a very slow and steady process to get back to believing in myself and developing the mature kind of relationship with reality that makes for a successful life. It begins with getting honest. This includes learning where you have caused harm to others, often without realising it at the time, and exploring ways that you can make amends. In the case of your own family, who are the most affected, this is a gradual process that continues for the rest of your life.

An honest review of my work situation resulted in two important changes. Firstly, my research productivity did not justify my continuation on the special salary scale for Research Scientists. Secondly, I was appointed as the Principal Dairy Officer (Research) to continue as the OIC of the Dairy Research Centre. I had applied for the position, even though it felt like a backward step, when I was asked to do so. It was not actually a demotion – just a fairly logical sideways move – but to me it felt as if my research career had hit rock bottom.

I must emphasise that I was also feeling so much better about making a new life without alcohol that I didn't fret too much about my career at that stage. I was absolutely sure that my life was now heading in the right direction. It took a while for me to get things into perspective, but it started to dawn on me how damn lucky I was to still have a good job as well as a family still with me, for the time being at least. I have known many other alcoholics who, by the time they were my age – 37 – had lost much more than I had.

[22] This is the false pride that I referred to in Chapter 13, for which the necessary antidote is humility and systemic, or spiritual, self-belief.

And there were several things about this new (but also old) position that soon cheered me up quite a lot. I was getting to know some interesting staff members of the Western Sydney University, which hosted our Centre on its campus and was expanding rapidly. The NSW Government Department which was my employer relied heavily on me to look after our interests as the University set up new structures around us. I found this challenge satisfying and I think it earned me some respect from the University administration. A member of their teaching staff who was completing a PhD with Sydney University arranged for me to be an external examiner of his thesis. Then I acted as an external supervisor for one of our own staff to do a Master's degree at the University of New South Wales.

It was with another section of the University that I formed the closest bonds. They were pioneers in the field of Adult Education with a particular interest in how researchers communicate with their clients in the farming community. Potentially useful research results were not taken up in agricultural industries because of the huge gulf between the theory and the practical farming experience. Sociological and psychological issues were being investigated in a way that I thought was fascinating. I made several good friends in this field of research, and one in particular, David Russell, whose PhD was in Psychology, was to become my close associate, and co-author at times, during the next two decades of my new life. [23]

That group also had new ideas about the social dynamics of workplace management. I became so enthusiastic about these ideas I introduced new kinds of seminars and workshops for our staff, with invited presenters from the University. At the very least, these were a welcome change from the dreary 'public service' habits of our recent history. I think we were a talking point for idle gossip in our Head Office over many years, for both the trouble we had caused in the past and the unusual, 'new-age,' things we were now doing.

[23] Dr David Russell, who is now 81, was one of the architects of the Social Ecology School at Western Sydney University and an Associate Professor in the Psychology Department at the time he retired.

After a while our Centre was expanded to include tomato breeders and other vegetable researchers who were also on this campus, and was renamed as the Hawkesbury Agricultural Research Unit. I remained as its administrative head for another 10 years, until we were all relocated in 1990. But I did also get back to some satisfying research.

Chapter 17 The Big Orange Tent

One of the worst things about my special flaw was that it disconnects you from the people around you. This happens gradually so you hardly realise it until you wonder what happened to your satisfying sense of belonging and you feel terribly lonely, even when you are with other people.

For this reason, I think my memories of the relationship I had with my children during these years are probably distorted. I think of it as a hideous failure on my part in which I neglected these young people who had no way to really understand what was wrong. The reality is likely to be a bit less harsh than that; I hope so, anyway. We did a lot of things together that were truly happy experiences for all of us, as far as I know.

I had always loved reading out aloud, which was a saving grace, because each of my children did get to listen to many different books that we read together. Anne, too, was quite a fan of this. There were many nights we would get into our bed and I would read out aloud a chapter or two from a book we both liked. This included several Patrick White books – *The Tree of Man* is the one I remember most clearly – and other less demanding authors, too.

It may sound a bit weird, but I think I read aloud the whole of *The Lord of the Rings* by JRR Tolkien, several times. All of *The Chronicles of Narnia* by CS Lewis, too. Before that I liked nothing better than reading Dr Seuss or other children's books to each of my boys individually.

We were all keen on sport and I took them to various events including Test Matches at the Sydney Cricket Ground, where we would eat cheese and jam sandwiches I had made, and some fruit as well. The Springwood Soccer Club was a great attraction for all the young people and I ended up 'coaching' teams in which both Chris and Nick were involved. Then there was Little Athletics and they were all good runners, so we would travel to regional towns for the District Carnivals where all three boys had good success in their different age groups. Kid's sport keeps you busy most weekends.

I have very fond memories of our big orange tent – perhaps it was more yellow than orange – in which the whole family could set up camp, often at interesting places in the Blue Mountains area. Our longest camping adventure was by the Clyde River in the Morton National Park on the South Coast of NSW. There we swam and trekked around *Pigeon House Mountain*, so named by Captain Cook long ago because of its unusual top section that he thought resembles a coop for pigeons. It's Aboriginal name is *Didthul*.

Anne and some friends of hers had formed a Group called *Renewing the Dreaming* that had connections with Aboriginal people, so we had a guide during that camp whose 'teaching' affected me quite a lot, even though I did not feel I was really part of the Group. The top of that mountain looks, from a distance, much more like the nipple on a woman's breast than a pigeon coop, and our Aboriginal guide said we were gathered there to be with our Mother Earth. We climbed to the top of the mountain, from where you can see the coastline and the ocean.

The photo below was a different occasion, with Chris, John and Nick standing on a log by a lagoon.

I spent a lot of time on my own in the bush. There I decided to adopt a particular 'Aboriginal totem' – the creature I felt closest to in the bush – which is the Kookaburra. That part of my 'soul' is mentioned again in Chapter 33.

In early December, 1980, more than a year after I had stopped drinking, my son Chris and I spent several days camping in the big orange tent at a Mind-Body-Spirit Festival that was held near Morpeth in NSW. There was lots of open space to walk around and an excellent swimming pool where Chris spent much of his time. He was 10 years old and loved swimming, where he seemed to spend as much time under the water as on top of it.

We did Tai Chi together with the other people in the mornings and ate very healthy food. The Festival program was a bit surreal, with workshops on crystals, rainbows and your inner self – and lots of people walking around naked – but it was especially memorable for me in other ways.

It happened that John Lennon was shot dead on the 8th of December. It was a Monday evening in New York, so when the news came through on the morning of our last day, the whole Festival was brought to a halt. I got Chris out of the pool and all the participants – more than 100 I think – formed a very large circle inside the main marquee tent. We sang Lennon's signature tune, *Imagine*, and many of us cried.

In the evenings I was reading *Watership Down* to Chris by the light of our gas lantern, while the wind rustled the sides of the tent and some rain came down outside. It was a great feeling to be connected in that way. Later in the night the storm blew our tent down on top of us and it was a messy scramble getting everything back together again.

The following day we had two of the Festival presenters with us in the car for a lift back to Sydney. Chris was prone to carsickness, so we had a necessary stoppage along the way for that. Our passenger, who was the Festival expert on Healing by Touch, treated Chris by massaging pressure points around his neck and face. It got rid of his nausea completely – so that was a bonus.

A few days before Christmas that year I drove on my own up to the South Arm Road near Bellingen where our *Twin Pines* farm used to be. It was covered by forest, but that was not yet very thick and there were tracks and logging roads running through the trees, so I was able to get close to what we used to call the Big Dam to pitch the orange tent. I didn't visit the special tree in my beloved back yard, nor did I visit the cow bails

further up on the hill, from where you could see almost to the coast in the morning when the sun came up. [24]

It was a lonely, but interesting, vigil in the forest for a couple of days and nights. I regretted having chosen to go barefoot like the 'old days,' because the soles of my feet were sore for days afterward. One night there was a storm and I stood naked in the darkness and the heavy rain with a defiant sort of attitude that probably reflected a rather desperate state of mind. But the solitude was also quite refreshing and gave me a chance to take stock of where I was in my life.

I wrote this song, which describes my feeling of connection to the farm where I was raised. The lyrics are corny – so much so, they make me smile, ruefully, today – but whenever I sang this song later it felt like an authentic part of who I am.

THIS LAND IS MY HOME

Coming back to where I lived when I was very young
Standing on this earth that gave me strength to laugh and run
I recall how land and sky were innocence and joy
I saw the sunrise every morning as a boy [25]
I grew up on a dairy farm in northern New South Wales
Dad and I would watch the sunrise from the old cowbails
Life was mostly dreaming then of things that I would do
Now I've been and done them all and come back home to you

CHORUS: This land is a part of me
This earth, it is my Mother
This ground my feet embrace
This land, it is my home

This land was cleared to make a farm and raise a family
We all moved on and now the land is planted back in trees
But land and sky and you and I are one eternal plan
I saw the sunrise here this morning as a man
I know that life is asking me to love you without fear
Caring for the land and sky and all that we hold dear
Brothers, sisters, everywhere, come let me take your hand
And we can live in harmony, belonging to the land

[24] These are described in *The Twin Pines Story* - www.biosong.org

[25] This is poetic licence – it wasn't every morning!

On Christmas Eve, I left the bush to join my family at my brother's farm that was nearby at Raleigh and our families spent Christmas together. That evening, most of us attended *The Festival of Lessons and Carols* in a lovely, little church, nearby.

Chapter 18 A Family Divided

The breakdown of a marriage happens so insidiously that its re-telling is difficult. Anne and I had grown apart without that being very obvious, even to us, mainly because I had not been standing firmly alongside her to deal with the everyday stresses of parenting and financial management. Another factor could have been that I appeared more capable of standing on my own feet now I was not drinking, which freed her to consider other directions for her life in which I might not be so involved. There is no blame attached to that – it was an inevitable and inexorable waning of a marriage bond that had been strained too far by my alcoholism.

It's a bit like the Big Decisions to get married that I described earlier in the book. You are full of uncertainty and there is hesitation. I believe that both of us had second thoughts at times about what we were doing, but once a new course is taken, it creates its own momentum, like the flywheel of an engine, or a gyroscope. You are swept along by a new current, from which it is hard to backtrack. At times you feel incredulous – is this really happening? This can't be true. The enormous heartbreak, for everyone, is that one parent – in this case it was me – is no longer seeing the children each morning and night.

My experience in the mysterious tree as a child (and playing in the dirt under the house) was a great start for developing my imagination, which is a valuable asset to have. But for many years it had not been serving me well, as I've explained. Mind-altering substances such as alcohol fuel the illusion that there might be a way to get by without truly facing the reality – just yet. But it doesn't work. [26]

At first I moved in with my Iraqi colleague from the Research Centre who was wanting to stop drinking himself, but he changed his mind about that, so I had to move again. Another work colleague was a woman called Sally whose second marriage to a younger man had ended about that time. We were both Research Officers and she completed a Master's degree while

[26] Reality is not always going to be pleasant, but trying to avoid it with any kind of artificial 'fix' will never be successful. That sounds obvious, but sometimes it's hard to see.

working at Richmond. We were soon living together in Richmond, which I hoped would be a comfort for me, but that thought was another illusion. Even though I am thankful to her for the companionship and affection she offered me, I never had any real hope in my heart for this new relationship, which lasted for about two years. [27]

For a while Anne did not want the boys coming to the house where I lived and that was probably the most unhappy period of my life. I cried a lot in the evenings. It didn't last for too long. Amongst the first things I got to be doing with the children was swimming in the Hawkesbury College pool and running in local Fun Runs for which I trained assiduously on the back streets around Richmond. Running has always seemed to me to be good for the soul.

Gradually the three boys and I started building a new kind of relationship in which I was able to understand their personalities and interests better than I had before, and they could see me as a real person without the barrier that my drinking had created between us. John, being the youngest, was who I spent most time with because he still enjoyed my reading out

[27] Her name is Sally Berridge. She is a few years older than I am and she went on to other postgraduate qualifications including a PhD at Canberra University, where she is now, as far as I know. I respect her and thank her for the time we had together.

aloud. But I felt real hope for the future through having time to build a stronger relationship with each of them.

The deepest of all my feelings of thanks towards others for helping me in life is the gratitude I feel towards my children for never giving up on me and being prepared to build the strong and enduring relationships that we have today. Each of them is his own person, and they have their own families, so the relationships we have in adult life are strong in different ways for each of them, but my overall feeling of love, admiration and gratitude toward all three is boundless.

Not everything in my life was gloomy. I had my guitar with me and there was a great acceleration in my songwriting during this period. These were mostly songs about relationships and the experiences of life. At this stage I wasn't singing them for other people to hear – that was to come later. The song, *Take My Hand*, about separation from my children, was a special one and probably the first I got to sing for other people – though it usually made them cry. There were also happy songs about the joy of being a sober person. Another that I started to sing at gatherings was *I'd Love To Be the Gardener up at Old St John of God*, which referred to a rehab hospital at North Richmond. [28]

I haven't said much about songs before this stage of my story, but that doesn't mean they were forgotten. I listened to songs on the radio and was attracted to folk singers who told stories from real life. My belief in the power of music as part of the mind had actually grown stronger. I read books about 'music therapy,' though my instinct was that it is the long tradition of people singing together that makes music such a powerful force in human society.

I enrolled for a weekend workshop on songwriting after hearing a singer-songwriter from England on the ABC radio. I learned a lot that weekend. She listened to a few of our songs and commented favourably, but did not choose either of the ones I sang for our group activities. Singing together with the others that weekend was the first time I used my inner relationship with the Kookaburra (developed from time spent in bushland

[28] Song lyrics for nearly a hundred of my songs can be found at www.biosong.org

and occasional Aboriginal connections) to help me to open my mouth wider and breathe out more confidently.

It felt very strange to be a single person, after 16 years of married life, although Anne and I were not actually divorced until a few years later. Being sober was very important to me and the fact that I was not quite 40 reminded me, on good days, that I had a lot of my life yet to live and therefore a lot more of 'the unknown' to explore.

But before starting on anything new, I succumbed to the idea of a big holiday, away from work, on Long Service Leave – perhaps a time to lick my wounds and refresh myself before launching into the rest of my research career.

Chapter 19 England and Europe

The excitement of getting ready to fly to England with Sally was tempered, for me, by many doubts and fears about my future. Our relationship had not become a satisfying one and seemed to me like a stopgap arrangement or interlude, in my life, rather than the direction I needed to be taking. She was English (although born in India) and she had a brother living near Banbury, in Oxfordshire, with whom we could stay, so that was a decisive factor. We purchased Eurail tickets in advance which entitled us to first-class rail travel anywhere in Europe at a cheap rate. But it was mainly the idea of taking three months leave from my work that I thought would be a welcome break in a career that had languished in recent years.

It was all a bit unreal. I felt like I was acting in a play – there was a part written for me, but when the curtain came down, I would be able to give that up and resume a normal, happy life. I was confused and my actions were erratic and inconsistent. I know I proposed to Sally on a bridge over the Seine in a wild fantasy (being in Paris, the most romantic city in the world), but she did not respond. I think I knew, anyway, she did not intend to get married again. We actually got on well and enjoyed doing things together, such that we would have passed for a happy couple in the eyes of most people we met.

The month of May is a bit early to start your summer holidays in that part of the world. It was very cold – snowing in Oxfordshire during our first week – but over the next two months, being early in the season meant we avoided the big crowds and generally travelled very smoothly. I sent postcards to my boys from every place there was a post office, but they didn't arrive until weeks later, by which time we were somewhere else and the thoughts associated with that time and place had evaporated – though not the feelings of love that went with them.

I had never seen London or Oxford and the Banbury Cross down the road had only been a nursery rhyme for me, so everything was an eye-opener. The Bodleian Library at Oxford University with its incredible history and the Christ Church College where the original Dr Fell had

presided were special favourites. The Fell Archway in that College has the name of Charles Dodgson (Lewis Carroll) on the other side. Sitting in the theatre at Stratford-on-Avon for Shakespeare's *Twelfth Night* – these would surely be magical moments in anyone's life.

But it was a few places in Europe that became the most vivid memories for me. To be honest, much of what we did is rather blurry in my mind. I kept wanting to tell my boys about something, but they weren't there. That was painful.

The train trip from London to Paris involved a boat ride in those days because the English Channel tunnel that my ancestor, Sir Arthur Fell, had argued so passionately for a century ago, was not completed until 1994. [29] We did not stay in Paris – our European tour began with an excursion to the north. We saw extensive Tulip fields from the train window near Amsterdam and I'll never forget the fantastic Van Gogh Museum, which was the first of a long list of Museums (art galleries) we visited in The Netherlands, Italy, Germany and France. I could never have guessed how incredibly alive and striking the famous works of art are when you get your first look at the original. They take your breath away.

By rail from Paris to Milan, takes you right through The Alps, but that was mainly at night for us. The building in Milan that I really wanted to visit was the legendary Opera House called *La Scala*, which has been there since 1773. There was a Play on while we were there, so we queued up to go in a ballot for last-minute tickets and were given a number. When the word '*Otto*' came over the loudspeaker I took my number 8 to the window and purchased the tickets. I was wearing a jacket that was more suitable for bushwalking than the theatre, and I felt the glare of some well-dressed patrons, but the lady we sat beside, very high up in the stalls, spoke English and was very friendly. She said Australia had the best sopranos. The thought of Dame Nellie Melba and Dame Joan Sutherland made me feel more at home, even though I could hardly believe I was sitting in the most famous Opera House in the world.

[29] See *The Luck of the Fells* for more on that story.

After Milan there was Florence and then the Sistine Chapel in the Vatican in Rome where Michelangelo's famous work adorns the ceiling. After a while all this becomes quite overwhelming for your emotions and I was glad to get a few quiet times by myself. The old town of Assisi, on the way to Rome, was a welcome respite and a time for reflection. I wrote some words for songs and poems in my notebook, sitting alone on the Rocca Minori, just down from the Rocca Maggiore, away from the crowds that thronged the very large St Francis Basilica.

I enjoyed the trains very much. I have always liked travelling on trains, as my Mother did before me. On the way to Venice I sat in the observation deck at the very front of the train, which is better than any rollercoaster ride. Somewhere in Venice we watched people doing glassblowing and some memorable images of those remarkable shapes remain in my mind.

Occasional outbursts of displeasure and scorn from the locals were a reminder than you are very much a 'foreigner' in Europe when you only speak English. It was my first experience of being in countries where English is not the native language.

We had stopped only briefly in Paris earlier in our trip, but looked forward to returning there on the last leg of our journey. We set out for the *Louvre* on the Metro one morning, but soon found ourselves inside a large Police Station, answering uncomfortable questions. What happened was that Gypsies picked my breast pocket as we walked up an underground stairway at the Metro station. I thought they had just bumped into me. It was the first time on the whole trip that I was carrying my wallet in my pocket instead of in the zipped pouch around my waist. This was supposed to be our last day before arriving back in England.

The main problem was that my passport was gone. The Police wasted no words in telling me it was an offence to be in a foreign city without proper identification and I should make straight for the Australian Embassy. It took 48 hours to get a new temporary passport, so we had some extra time in Paris. I was thoroughly shaken up by the whole ordeal.

The last thing I did in London before we flew home was to buy one of the very new *Commodore 64* personal computers, to take home for Chris. I

know he enjoyed using that and learning about computers and even some basic programming skills, while he was still quite young. Later on, he and I played *Zork*, one of the early PC Adventure Games.

I don't remember what I brought home for Nick and John, who were younger, but the principle of not favouring one of your children ahead of the others was always at the forefront of my mind. I feel I never really got to share with them the excitement I felt visiting some of those places, but now some of it is recorded here.

Chapter 20 Copeland Street

I lived in several different houses in Richmond, but Copeland Street was the place where significant life changes occurred, Chris, Nick and John often stayed with me on weekends, and, eventually, another very significant Turning Point came out of nowhere and changed everything.

After we returned from England, Sally bought a large, old, Federation Style house, where we lived for the year or so it took to repaint and refurbish the building. After that we separated for good and I moved into a one-bedroom flat. Three months later I was able to purchase a cottage in Copeland Street, thanks again to Anne's family, who paid me for my share of the house at Winmalee. It was an enormous morale boost to be living in my own home, albeit as a co-owner with the Bank.

The two-and-a-half years I spent living there on my own, from 1986 to 1989, were exactly what I needed to regain confidence in myself. Until then I had never lived entirely on my own. It was quite satisfying to realise that I didn't need to have a partner to be able get on with my life. John, Nick and Chris were all at High School at Winmalee and Springwood and seemed to be comfortable with the idea that their Father lived elsewhere and alone. I think they enjoyed the meals I prepared for them, which were mostly a variation of Spaghetti Bolognese. They were all good runners, especially Nick, and we ran in Fun Runs and enjoyed swimming and tennis; also, in our back room, we played table tennis, where I was just able to keep ahead of them, knowing they liked that as a challenge. And we read books, of course.

My Mother, with whom I had always felt a close affinity, became ill during that time. I was blessed to be at her bedside when she passed away in a Nursing Home in Coffs Harbour. It was a sad, yet beautiful, experience. She was a wonderful example of how to become ready to die and to say goodbye with the utmost dignity and peace. I can only wish to be able to do something similar when my turn comes. I wanted to use my share of the small inheritance she left us to create an intellectual and spiritual 'base camp' in my new home to help with rebuilding my life.

I bought a *Commodore 64* computer and installed it in a room I called my Office with a special desk and bookshelves. This kind of 'sanctuary,' at a desk surrounded by books, was the forerunner of many such home workplaces in every house I've occupied since then. I spend a lot of my time in this setting, happily reading and writing, as I'm doing today.

At that time, my guitar was a part of it, too. I wrote dozens of songs, which played a major part in my self-healing, and as I said, I started singing them for small groups of friends. That happened because I had a special friend, a musician, whose name was Phill. [30] We met up every few days and did lots of things together because he enjoyed the same fellowship activities as I did. He brought along his 'tree' ('Muso' terminology for a double bass) to go with my 'axe' and, somehow, he instilled enough confidence in me that I got to enjoy singing and playing for others to hear, even though neither my voice nor my accompaniment really warranted it.

During this time, I completed a wonderful, part-time, Course at the Western Sydney University to earn a Graduate Diploma in Social Ecology. David Russell, the new University friend I mentioned earlier, was one of the Course Leaders. At the Residentials that happened twice a year, I made other new friends who influenced the future direction of my life by broadening my outlook beyond that of an Animal Scientist. This period of learning and self-reflection enriched my life and I am grateful to the teachers I had. But at that stage I felt even more gratitude for the way I was recovering from alcoholism, because I was beginning to believe in myself in a way I hadn't done for years.

Of course there was plenty of solitude and at times I did feel very lonely, though it was not an unhealthy state of mind. I took lessons on meditation practices (and read books, of course) and had some powerful experiences – along with a few cathartic episodes that were quite frightening, but from which I emerged a little stronger, I believe. Early in 1987, at 45 years of age, I think I was emotionally ready for the next major Turning Point, that was to be so important for my future life.

[30] He was Phillip Buckmaster, a Musician and Teacher, fellow traveller and a dear friend. He died in 2021.

A young lady called Penelope – she was 38 at that time – came to a 'party' at my house where Phill and I performed some of my songs. She had separated from her husband six months earlier. I had known her slightly for about six years because she frequented some of the same places that Phill and I did in our fellowship. I had also seen her during my work because she was an electron microscopist at a major Research Station not far from Richmond where I had a collaborative research project.

Soon after the 'party,' some time in February, I took Penelope on a dinner date to a nice restaurant in Katoomba. After that we seemed to want to chat on the telephone every day or so. We were both very cautious about having a relationship, especially as she was going through a messy divorce and property settlement, and her son, Andrew, was eight years old. The whole idea of starting again in that way felt strange, because I was not expecting it – in fact, it was very far from my mind, and from hers, too. That we were mature enough – and perhaps sufficiently cautioned by experience – to be patient and bide our time proved to be beneficial for both of us and for our relationship.

That Easter she was staying with her brother and his family who lived out west in Parkes; I took my three boys for a camping holiday (in the big orange tent) to Parkes so we could see Penelope and I could meet her family. There was a Fun Run, which the boys and I entered as a Team. We ended up in third place (for Teams), so we each collected a medal on a stage in the Park. I remember that John wore a T-shirt with something rude written on the back, but, all in all, it was a great weekend.

During the next year or so, as I was completing projects for my Graduate Diploma Course, I spent time with Penelope and her son, Andrew, and read the Tolkien books again to him. But I still enjoyed living at Copeland Street, which had been good for me in so many ways. It had a white picket fence with a small gate and some nice standard roses growing near the front door. I look back on my time there as a strengthening phase that prepared me for the next, very satisfying, period of my life. [31]

[31] I recommend to others the value of living alone at some point in your life.

Penelope and I went bushwalking together from time to time. In the Spring of 1988, we walked one of the major trails that is called the Grand Canyon and we finished at Govetts Leap, a popular lookout. I had decided to ask her if she would like to marry me – and I was reasonably hopeful she would agree. That was where she said: 'Yes please.' I was very happy then and have been happy about it ever since. [32]

We were married in February, 1989, under a tree in Buttenshaw Park, near Springwood. We wrote the Wedding Service and a good friend, Peter Williams, who was a Catholic Priest, conducted it. Another friend sang a song I wrote for the occasion called *Love is For the Giving*. The picture shows our Best Man, Phill, next to me, our Bridesmaid, Paula (Penelope's sister), Andrew and the Father of the Bride as well as Peter, our Celebrant.

We purchased our first house together at Glenbrook and have mostly lived in the Blue Mountains ever since. That tree in Buttenshaw Park still has a powerful significance for us. It is near where we are living today and we walk there from time to time because it is so special.

[32] My 2020 book, *I Said to Myself*, is dedicated to Penelope and it recounts that story.

Chapter 21 Animal Stress

I haven't mentioned my research work since way back in Chapter 14, but that does not mean the 1980's were barren years in that regard. It was a decade of enormous change, professionally as well as personally. To begin with, my workplace at the Hawkesbury Agricultural Research Unit became a much happier place for me, after I returned from the overseas trip towards the end of 1983.

One reason for that was the friendships I had made, especially with David Russell, at the University campus on which we were situated, which gave me the opportunity to study for my Graduate Diploma. Their research on the psychology of human communication and was quite different from mine, but we were to find a surprising amount of common ground over the next 10 years. I was now confident enough to let the administration responsibilities of being the OIC take care of themselves and get back to thinking about my own research.

From then on until I retired (the first time) at the end of 1999, I was known as an expert authority on Animal Stress. I should explain that you become known as an authority, even if you don't know much about it and haven't done anything yet, once you start speaking authoritatively about the subject – especially if there are very few others who are established in that field. The idea that undue stress could adversely affect an animal's health and productivity, as it does for humans, was not yet a popular research topic.

There was another reason my employer was keen on this research. The book, *Animal Liberation* (1975), by an Australian philosopher, Peter Singer, had sparked groups of activists into campaigning against any farm practices they deemed to be painful for the animals and therefore cruel. This was not a trivial concern because it was a worldwide movement affecting the attitudes of users of animal products, so it posed an insidious threat to export earnings for a country like Australia. I was to be a key researcher on what was known as Animal Welfare from then on.

I had grown up with farm animals so I was not unsympathetic regarding their welfare and comfort, but nor was I 'crying in my cups' about them being cruelly treated. The ones I knew had a damn good life, I thought. But good animal husbandry does include some short-term, painful procedures that will protect their health and welfare – which is also in the farmer's best interests, of course. A notch may be cut in their ears at a young age for identification, their horns may be shortened to keep them safer in a group, or a male will be castrated to avoid future mayhem. I knew I had endured short, sharp, painful episodes in my own life – probably more often than they had. I was certainly not an 'Animal Libber.'

But my task was to do scientific research, not offer personal opinions, and there were tools I had developed during the first half of my research career that would be helpful. Stress involves hormones, so the laboratory I had set up to measure certain hormones in blood samples I collected from the animals was one of these tools. The other, that I was still developing, was to observe and record the animal's behaviour to see how it changed when they were stressed.

I joked previously that I had been studying animal behaviour from my first playpen experience back in the milking shed at *Twin Pines*. In fact the science of Ethology (Animal Behaviour) only came into existence around this time with the work of Konrad Lorenz and the appointment in 1950 of the first Professor at Oxford (Niko Tinbergen). They wrote the textbooks, which of course, I studied. [33]

But I was never going to be a 'textbook' Ethologist. They described animal behaviour as a set of fixed patterns and emphasised 'instinct' as different from 'purpose.' The misleading Science of Behaviourism that had dominated Psychology was on the wane at that time, but had not yet died out. It explained learning as a repetitive stimulus and response, a process called 'operant conditioning.' Unbelievably, famous Behaviourists

[33] *The Study of Instinct* (1951) by Niko Tinbergen and *King Solomon's Ring* (1952) by Konrad Lorenz were starting points followed by Tinbergen's *Social Behaviour in Animals* (1953) and Lorenz' *On Aggression* (1963). Together with Karl von Frisch, they were awarded the Nobel Prize in 1973 for initiating this new field.

recommended against forming close relationships with your children and advocated strict repetition as the best discipline. I can't over-state how dominant the idea of 'stimulus and response,' as a linear cause and effect, was at that time in the Behavioural Sciences. The concepts of non-linearity, circularity, and multi-factorial causes as in Systems Theory were barely on the horizon.

I wanted to understand stress in a broader way – in humans, too – so I was not a typical animal stress researcher from the start. I knew that farm animals could think for themselves, make decisions and actually outwit a human at times – in other words, that they had a mind. But the word, 'mind,' was taboo for non-human animals. Instinct and conditioning were supposed to explain everything. Even when the idea of a Cognitive Ethology had gained some traction in the late 1990's, it remained a dubious idea for many.

My passion for reading had returned so, as well as scientific papers, I read many books about the relationship between physiology and behaviour in animals and humans. The Cambridge Professor of Ethology, W. H. Thorpe, differed from his Oxford counterpart by not dismissing the idea of purpose altogether, but he also denied the existence of consciousness in non-human animals. [34] Acceptance of the evolutionary continuity between animal and human behaviour was much more evident in the books of Robert Ardrey, as it had been for Charles Darwin before him. [35]

While I respected the differences between animals and humans, I thought the crucial issue was the same for both – too much stress could be harmful. But how can you determine if the stress is 'too much?'

I could measure several parameters of the stress response for a few hours or days following a certain animal husbandry procedure, but I soon

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[34] *Animal Nature and Human Nature* (1974) by W. H. Thorpe was based on his Gifford Lectures, which are about 'Natural Theology.' He also wrote *Purpose in a World of Choice: A Biologist's View* in 1978.

[35] Ardrey wrote a series of popular books, beginning with *The Territorial Imperative* (1966), and including *The Social Contract* (1970). *The Expression of the Emotions in Man and Animals* by Charles Darwin (1872, 1999) is a fascinating book.

learned the limitations of that approach. Animals (and humans) vary enormously in the way they respond, so what is stressful for one may have no effect on another. This raises a different question which I thought from the beginning could be the most important: what is it about some individuals that makes them more resilient than others in a stressful situation? But what I was charged to do at that time was to find out whether various animal husbandry procedures were notable causes of stress, pain or suffering in sheep and cattle. It was a tricky task, to say the least, and with the benefit of hindsight, probably not the best approach.

The Animal Welfare issue was attracting other researchers around the world, but most were concerned with the more intensive pig and poultry industries, that I was not given the license to research. Their work was defining the behavioural needs of pigs and poultry and identifying situations where their individual need for space or freedom was not being met, so the harmful effects of stress were becoming evident.

As I considered the approach taken by other scientists to learn how to manage my new research program, I realised something about myself that is an aside to my story, but is worth a mention.

Two of Tinbergen's early PhD students in Ethology at Oxford were Richard Dawkins and Marian Stamp Dawkins, his first wife. Richard became very famous for his clever science books, his Atheism and his criticism of religion. [36] Marian became a leading researcher on farm animal welfare whose work I followed. The contrast between these two people illustrates my preference, philosophically, for the more naturally holistic thinkers and observers of Nature rather than the (often highly successful) 'hard-line' scientists who can be dogmatic and full of hubris.

[36] Richard Dawkins wrote many books, two of the most famous being *The Selfish Gene* (1976) and *The God Delusion* (2006).

Chapter 22 Pain and Suffering are Difficult

Suffering and pain are not only difficult to endure; they are very difficult to study scientifically. They involve the mind and body, working together, and each of us has our own way of dealing with them. The ridiculous idea that non-human animals might not experience them was never even considered in my thinking.

In fact, pain and suffering are amongst the most difficult topics in the whole of biological and medical science and there is far more not known about them than what is known. One difficulty I've already mentioned is that no two individuals have the same experience. The experience is essentially subjective, so the mind is involved in a crucial way, which can make any situation better or worse.

I conducted many experiments during the 1980's at the request of the various bodies that were concerned with Animal Welfare, which included the farmers, of course. I hope I haven't given the impression that such research is straightforward and gives clear-cut results. The truth is it usually generates more questions than answers. And if you are working in a fairly isolated, small group, as we were, you do learn some things and publish a few papers, but you don't seem to achieve very much.

A worrying problem for the wool industry was Blowfly Strike that turns the rear end of a wrinkly, Merino sheep into a stinking, maggoty mess at times when the humidity is high and the wool growth has harboured an infestation by Blowflies. I had observed how distressing this was for the sheep, but I also knew that the standard procedure for protecting young animals against future Blowfly Strike was high on the list of what was being called 'cruelty to animals.' [37]

Today, the wrinkles have been greatly reduced by breeding, but at that time it was common to shear off the wrinkled skin on the animal's rear end so Blowflies couldn't take hold. This was called 'Mulesing' and it was

[37] I was examining sheep on a research property out west when two animals with severe Blowfly Strike were brought in for me to sample. They were so obviously distressed we euthanased them immediately after taking blood samples.

obviously a painful procedure. Other researchers (at the Centre where Penelope was working, as it happened) had developed a skin treatment that could be painted onto the sheep's rear end, as an alternative to 'Mulesing.' I was asked to compare the two procedures.

We measured two different hormones that we thought were useful indicators of the degree of stress in sheep at that time. The laboratory technology available to us was much more cumbersome than it is today. The radioactivity counter I am standing beside in this photo was the final stage in our assay procedure. You can see I haven't done much of the work because, if I had, I'd be wearing a lab coat.

Firstly, we were measuring cortisol, produced by the adrenal gland, and long regarded as the primary stress response. It strengthens the animal's physiology to deal with the extra metabolic, physical and psychological load imposed by the stress. If stress is unduly prolonged and cortisol levels remain high, that can become damaging, to the immune system in particular. The other hormone we measured was beta-endorphin which is associated with pain. Having a similar chemical structure to morphine, it is the natural analgesic within our bodies that effectively shuts down even extreme pain for several hours, so it is also a beneficial stress response.

In the animals subjected to 'Mulesing,' we found a significant rise in cortisol that lasted several hours and a substantial beta-endorphin release that alleviated pain for what we estimated to be 8-12 hours. After that there were significant abnormal behaviours such as hunching and standing still for another 24 hours or more in some animals. The alternative procedure caused no hormone response or behaviour change at first, but a few days later, when the skin started to shrivel up and contract, there were obvious signs of discomfort that continued for up to two weeks. We suspected this was not accompanied by the analgesic benefits of a surge in beta-endorphin.

So which was best? It was really a comparison between a short-term or acute kind of stress and a more chronic or longer-term stress, about which we had too little information to know what the consequences might be. As a general principle, chronic stress is likely to be more damaging than acute stress. The best thing to say about this now is that neither of those procedures is used in the wool industry today, as far as I know.

We got a similar result comparing two different methods of castrating young calves. The most common practice was minor surgery to remove the individual testes, but an alternative was to apply a tight rubber ring to cut off the blood circulation, after which the scrotum and testes would wither away and drop off after a couple of weeks.

The surgical method again produced a larger short-term response, but this had to be weighed against the more prolonged discomfort from the alternative, which was probably not accompanied by any analgesia from beta-endorphin. This result was quite predictable, really, but at least the published paper added to the available data about this kind of stress.

There were other experiments involving the rough transport of sheep and cattle and other handling procedures, none of which produced strong hormonal responses, except in a few animals. It seemed to me the most important question that needed to be answered was: why are some individuals less affected than others in stressful situations? I was able to address this in my research a few years later.

All our hormone measurements required the collection of blood samples from the jugular vein, which is not too difficult in those animals. Our colleagues in human research were now routinely using saliva samples for stress studies, because for humans, that was much easier to collect.

We refined our assay methods to work with saliva and invented a simple tool, based on a vacuum cleaner, to collect saliva from sheep. The idea sounded good and in fact my Department used a picture of our new method as a 'highlight' in its Annual Report that year and our first paper on this was well received at a Conference. But, in fact, the method didn't work very well and we abandoned it after a few months. We were sampling from sheep in Western NSW that were running in very dusty paddocks when we made that decision. Their mouths were simply too dry.

Our staff and laboratory facilities didn't allow for an expansion of our hormone measurement, but we did introduce some quite original, new methods for behavioural assessment, initially for sheep.

Chapter 23 Does It Matter What Sheep Think?

This was the title of an article I wrote for a Magazine. A few people treated it as a joke, others questioned my sanity, while some people realised I was drawing attention to the fact that a part of an animal's response to stress – albeit a smaller part than in humans – was its conscious awareness, or its mind.

Way back at Ruakura in New Zealand, my colleagues and I had learned that a single sheep is not a useful subject if you want to learn anything about sheep behaviour. Unless it is a pet lamb you have bonded with when it was very young, a sheep will behave in an anxious, bewildered fashion that is not typical of the species unless it is in close proximity with other sheep. The group I settled on for stress studies was four animals from the same flock that came through a drafting race together.

A standard procedure for observing behaviour is called an Open Field Test, in which an animal's position and activity within a specified area is recorded regularly. For example, the enclosed arena that I mostly used was a pen about 12 m long and 4 m wide, which we could observe from a 'hide' up above, for the period of each test, usually 10 minutes. I remember, when I was courting Penelope, taking her into the 'hide' to watch one of these sessions. It was not to be the last time in our lives together that she would sit with me in an uncomfortable place to watch and record what farm animals were doing.

Another kind of test is called Approach/Avoidance in which the distance away from something is the main measurement. For my new test I put about a dozen other sheep from the same flock in an adjoining pen at one end of the arena. Although they were separated by a wire mesh, they provided an attraction for the four test animals, who could see them and naturally wanted to join them. So the normal behaviour of the four test animals when they were admitted to the arena through a side gate, was Approach – they would move towards the other sheep and stand as close as possible to them. But I placed a human handler, standing quietly in the test arena at the same end as the other sheep, which caused Avoidance –

the test animals would favour the far end of the arena to keep away from the person.

Healthy sheep that were not stressed would realise after a few minutes that the person was not a threat and move closer to the other sheep anyway, sometimes going right up to that end, if the person was someone they already knew. Sheep that had been stressed by Mulesing, for example, did no such thing. They stood still, hunched together, in the middle of the arena as if they had lost interest in any normal behaviour. This is hardly surprising, but the point is I could use this test to measure the severity of their reaction and, by repeating it every day, how long it took to recover their normal behaviour.

I named this procedure, rather provocatively for fellow-Ethologists, a Confidence Test. It gave me a way of comparing different stressful experiences. It had another important use as well. We could measure the effect on their behaviour of any drugs or medicines given to sheep for another purpose. More interesting than that, and entirely new, we could measure the way the state of the animal's immune system is reflected in its behaviour.

I became involved with the Australian Behavioural Immunology Group, some Research Immunologists who were pioneers in a fascinating new field called Psycho-Neuro-Immunology. Changes in the immune system can affect behaviour, and the immune system, in turn, is affected by the attitudes and behaviour of both animals and humans. This is important for the relationship between stress and disease. Using this test we could see strong connections between the immune system and the psychology of sheep. Some useful papers came out of that work.

You have to be a member of the appropriate Scientific Societies and present papers at their regular Conferences. At that stage I belonged to the Endocrine Society of Australia, the Australian Society of Animal Production, and ASSAB (Australasian Society for the Study of Animal Behaviour), where I was its Secretary for a time. Later I joined the International Society of Applied Ethology and the International Society of Comparative Psychology.

As I said earlier, I had never had formal training in Ethology – in fact I was not impressed by the mechanical, rather rigid, way of thinking in that new field. As a member of ASSAB I presented a series of Conference papers about Confidence Testing that were not entirely to the liking of the more conventional researchers in Animal Behaviour. But they tolerated and even encouraged me and I'm thankful for that. And I learned to respect their demand for objectivity in this field of research.

When it was published, this Confidence Test attracted the attention of an unusual Professor of Animal Science in Colorado who was on the way to becoming a famous figure, worldwide, for her work on humane handling of cattle and, particularly, for her knowledge of Autism in humans.

She rang me at work one day, 'out of the blue.' We discussed farm animal welfare on and off over the years and I visited her at the Colorado State University some years later. Her Autism was quite obvious when you were with her, but we seemed to get on well and I am thankful to have met her. I thought she was a great example of the fact that, even if you are a bit 'out of the ordinary,' you can still be very successful in your own way. [38]

[38] Her name is Dr Temple Grandin. Now aged 74, she is the author of many books about animal welfare and her own experience of Autism. She champions the needs of Autistic people all over the world, has been the subject of several films, and was the title story for the book, *An Anthropologist on Mars* (1995), by Oliver Sacks.

Chapter 24 Stress is Natural

The grandiosity underlying my vision of the 'mysterious processes of life' that had frustrated and confused me, earlier in my career, became less of a burden and actually started to work in my favour around this time. But it carried with it an attraction for the enigmatic – for those aspects that are hard to nail down with certainty. I'm not saying this is an asset – it's guaranteed to make things more difficult – but it is a part of who I am.

The concept of stress is something of an enigma. The term did not exist in Physiology or Medicine until it was coined by a Hungarian-born doctor working in Canada in 1936. Opinion was divided right from the start about its usefulness. Many people seized on it as the explanation for a range of medical conditions that did not have an obvious cause, while many others felt it was too vague to be of much use in diagnosis or treatment. [39]

Essentially, it describes the way our mind and body deal with everything that happens to us. If nothing happened to us we would be dead, so the experience of stress is a natural and necessary aspect of life. It enlivens our body and mind, so it is exactly what we need. But there are limits to this, which are different for each individual. Prolonged or repetitive demands on our mind and body can overwhelm us. When this happens the stress response begins to have deleterious effects that, in time, may lead to trauma, which can be difficult to heal.

Some people tried to distinguish between 'bad stress' and 'good stress,' using the terms, 'distress' and 'eustress.' I wanted to define and identify stress more clearly to alleviate harmful effects, but I also wanted to recognise its central role in the 'processes of life.' Around this time I was writing a book (never finished) called *Stress: The Force of Life*. I felt it was simplistic to think of it just as a specific reaction to an outside event – a response to a stimulus. I saw it as a necessary flow of Life and not simply an externally generated 'problem.'

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[39] *The Stress of Life* (1956) by Hans Selye (who coined the term) was just one of hundreds of books and papers I was reading at that time about the physiology of stress and its effects on the behaviour and health of animals and humans.

In that flow of life, animals or humans generally trust their physiology to adjust to what happens around them without adverse internal effects. Most of that adjustment occurs beneath conscious awareness. The wonderful, involuntary, Autonomic Nervous System does internal self-regulation far better than we could do by thinking about it. As long as we, or our animals, can 'go with the flow,' reasonably comfortably, the stress will not have adverse effects.

At the point where a limit has been reached, animals and humans respond differently. This is because the human Autonomic Nervous System has changed as we evolved and is now more complex, giving us more options. Animals in general will resort to 'fight or flight' at this point, in an attempt to avoid the adverse effects of stress. But if they are properly trained, as many farm animals are, they will know that their best option is to continue to 'go with the flow,' rather than exert an independent 'will.' Their ability to do this is part of their individual resilience.

Evolution has given humans another level of response within our Autonomic Nervous System that promotes inter-personal connectedness, or intimacy. Using this we can often negotiate some relief from the stressful situation and also avail ourselves of the emotional comfort that loving relationships provide. [40]

The downside of this is that we humans also have a more deep-seated independent 'will' that stems from our idea of purpose. We have aims and goals and believe that we are living our life for a reason. I mentioned earlier that I was finding my 'life purpose.' This will always be our main source of stress. Needing a purpose, we will always need stress in our lives.

I was trying to explain this idea of a flowing connectedness in what I called a 'Communication Model of Stress,' whereby 'harmony' rather than 'dissonance' between the insides and the outside was the critical factor.

Researchers like myself were being required, at this point, to learn more effective communication skills. That was how I was able to enrol in the Graduate Diploma Course I described back in Chapter 20.

[40] This will be explained more fully in Chapter 38.

Chapter 25 Stress: The Musical

I continued to work full time while doing this Course, during 1987 and 1988, except that I needed approval from my employer to attend the Residentials that were a twice-yearly requirement to live in with the other students (and teachers) for a week at a time.

I hadn't been a Post-Grad student since finishing my PhD in 1974, so I was excited by the challenge and determined to make the most of it. When I eventually walked up onto the stage to receive my Graduate Diploma in Social Ecology in 1989, I felt enormously satisfied and pleased – such a contrast from how I had felt at the PhD ceremony in Melbourne, some 15 years earlier. My Thesis (entitled *Understanding Stress Through Music*) seems quite bizarre compared to the high-level research in the earlier Degree, but I learned about myself and my 'life purpose' in this Course.

The starting point was my 'grand' Communication Model of Stress. By 'communication' I meant that there was a constantly-changing interaction (conversation) between our internal state and our external circumstances and when these two became too disparate and mismatched, there will be an adverse reaction. So, rather than simply blaming the external stimulus for causing the response, which was the most common way of thinking about it, I wanted to find out why some individuals 'get on better with the world around them' than others.

We held workshops with staff and other students to get feedback on the questions each of us had brought to the Course and this was very helpful. Away from my regular workplace, I could speculate about 'energy fields' that we (or the animals) might generate, without being laughed out of the room. I was reading books about Bioenergetics. These workshops helped me to realise I was only complicating the matter I was trying to explain.

We also heard lectures about human communication and took part in mind-stretching, group activities that included acting, singing and dancing. I wrote some new songs about stress and enjoyed presenting them when we held concerts. At the end of the first year, you have to nominate your main project, or Thesis title, that you will hand in at the end.

I said to David Russell, the senior tutor, that I was now torn between my original plan of presenting a better intellectual 'model' of stress and the more fanciful and impractical idea of writing more songs about the subject, which I thought was proving helpful for my understanding.

He said: 'why don't you do both?' And with that, the idea of *Stress: The Musical* was born. I ended up with a set of 12 songs that I laboriously notated for my Thesis, connected by a libretto that told a positive story about stress causing some strain and hurt, but being a beneficial and joyful experience in the end. The play invited audience participation from the very first song and ended with a chorus and dance called *I Love Stress*. It was framed as a one-hour workshop that anyone could join to learn about stress and relieve some of its burden for themselves. [41]

It was not a one-man-show; I realised, not for the first time, I could never have done it on my own. A perfect partner, to whom I am extremely grateful, came along at just the right time,. Another Course participant, Graham Sharpe, was an animation artist who had studied clowning and mime. We created *Stress: The Musical* together, but he didn't want any lines to speak because he couldn't remember them, so while I strummed the guitar, sang and talked, he mimed the whole thing, and joined in the choruses, dressed as a clown. I played a Professor who was trying to understand stress, while he played a Clown who already knew all the answers without realising it. It did get a bit manic towards the end!

[41] An updated version of the libretto is available at www.biosong.org

We did about a dozen performances at various venues, after the Course ended, and I had the impression that everyone who took part in it felt invigorated and happy by the end of the session. That was when my 'trademark,' *BIOSONG*, was born. Graham Sharpe drew the logo that I have used ever since for my website and my online publications. We used to say: 'sing along with yourself!'

There are so many books that relate music to the human mind and body and to biology generally that I cannot even mention here all those I have read myself, but there are two by Victor Zuckerkandl that were especially helpful to me at this time. I had stumbled on them in a second-hand bookshop in Melbourne years earlier and they came into their own for the writing of *Stress: The Musical*. Getting hold of just the 'right' book at the right time can be such a joy! [42]

The theoretical framework of my 'model' of stress is woven into this musical play and further explained in my 'Thesis.' The simplified language in the play helped to clarify my ideas, at least in the human context. Stress is 'a disagreement between your insides and your outside' and you can overcome that disagreement, not by 'fight or flight,' but by stronger dynamic engagement, which may lead to an agreement to do things differently and also a calming of your mind. We used singing and making music as a metaphor for flowing with our world – based on the idea that music occurs, simultaneously, both inside and outside us.

How does this apply to animal management? Early in my career I used to be asked, often mischievously, if playing music to the dairy cows enhanced their milk letdown – my answer was that it would do so if it made the milker happier. Later it struck me that this emphasis on the attitudes, skills, and mood of the human who was handling the animals was always going to be the most critical factor affecting animal welfare.

The way this thinking about stress applies to farm animals is that they can be trained and guided to do almost anything when they trust their handler

[42] *The Healing Energies of Music* (1983) by Hal Lingerman, *The Secret Power of Music: The Transformation of Self and Society Through Musical Energy* (1984) and *The Music of Life* (2006) by Denis Noble are examples in this genre. Victor Zuckerkandl wrote *Sound and Symbol: Music and the External World* (1956) and *Man the Musician* (1973).

and enjoy what they are doing. There are limits to this, of course, and it's important to know what those limits are. But good animal handling, and training, really does work wonders.

Consider the example of the 'rider and horse' team that does incredible cross-country jumping of fences and hurdles in an equestrian sporting event. That is highly stressful and there can be nasty accidents, but when it is based on years of teamwork with one's favourite human rider (and her favourite horse), I have no doubt that both parties get enormous pleasure and satisfaction from it.

In cows and sheep it's a simpler story. They like established patterns of behaviour, especially those that include getting fed, of course, and their enthusiasm to assemble at a certain time and place on a regular basis is very apparent. In addition, they are highly social animals so they enjoy one another's company and the more experienced of them will teach newer individuals what to do. So the 'trick' for the shrewd animal handler is to get the animals to enjoy doing what you want them to do. My later research served to substantiate this idea (see Chapter 35).

I believe this Course helped with my research in many ways. It was where I started to learn about Systems Theory and why it is helpful to take a 'systemic view' of any situation. It was also where I first heard about a famous Biologist, Humberto Maturana, who would be visiting Australia in the near future. That story will be told a little later.

Chapter 26 Broader Horizons

The year, 1990, brought enormous changes for me that were to have lasting effects. It was now over 10 years since I had stopped drinking and also more than a year into my new marriage.

Those of us who know we are alcoholic and have chosen not to drink alcohol, value the length of our 'sobriety' because we are so thankful for the improvements that have happened in our lives, especially the inner strength we rediscover and the more positive spirit we can apply to our relationships with others and our work. We spend a lot of time with other recovering alcoholics in what we call a 'fellowship,' which I am not describing in this book, but suffice it say I had some very supportive and loyal friends whose experience and maturity were teaching me a lot about mind and life purpose and love.

The first major change in this year was that my workplace was transferred to The Elizabeth MacArthur Agricultural Institute (EMAI) at Menangle, NSW, which was 75 km to the south-west, still on the outskirts of Sydney. On a large agricultural property, it was a brand new, state-of-the-art, laboratory complex when I arrived there, along with several of my staff from Richmond, to continue the research we had been doing. The best thing about it was that I was no longer an administrative head, not even a Section Leader, so I had more time to think about my own research – and a considerable feeling of relief.

Our new laboratories for hormone assays were excellent – the best we had seen – and it was especially important to me that my most valued Technical Officer at Richmond had come with us to the new venue. Her name was Fiona Bertus and she continued with our team until 1997. As I've already said, people like her are absolutely crucial allies in the work that we researchers do. Because our laboratory used radioactive materials, I served as the Radiation Safety Officer at the Institute for the first few years.

The second major change was that the funding for my research became more obviously National, rather than State-based, which expanded the scope of my work. The funding source directs where you must put your attention, so I soon found I had become an instrument of the Australian Beef Cattle Feedlot Industry. I didn't particularly like Feedlots, where animals are confined in large groups in pens and obtain their feed and water from troughs; I was more familiar with livestock grazing on pasture at that time of my life. But I must add that Feedlots are not all bad. They avoid the huge damage to soil and plants that has resulted from over-stocking with hard-hoofed animals in some areas, and they can provide reasonably comfortable circumstances for cattle as long as they are well-built and the pens are not overcrowded.

The Industry is much smaller here than in North America and, at that time, much of it was owned by American (or Japanese) interests. It found itself in the News in a graphic way when several thousand cattle in feedlots died due to heat stress following a severe heat wave in Southern Queensland and Northern NSW. These were British Breeds of cattle, favoured for the kind of meat they produced, but not heat-tolerant like the Zebu breeds that were generally used further north. Most feedlots had no shade for the animals, so it was considered to be a serious Animal Welfare issue that called for immediate attention.

Although I had already started on a different project, I found myself being 'promoted' widely as the Research Leader of the Australian Feedlot Shade Project. Would it benefit the animals – and be economically viable – to install shade structures in the feedlots? When I gave talks about that – we used slide projectors in those days, by the way – I always showed a photograph of four cows lined up, head to tail, taking advantage of the very thin strip of shade provided by a single tall tree in the middle of a paddock. Do cattle prefer to be in the shade on a hot day? Of course they do!

It's little wonder that those of us doing 'applied' research – the kind that answers practical questions – sometimes yearn for more of an intellectual challenge and feel we are being 'played for a fool' when the answers we are being asked to find are already so obvious. But the saving grace is that

you can use the detailed observations you make to add to knowledge about animal behaviour and the effects of stress. Also, the industry people wanted to explore the costs and benefits of different kinds of shade, which we helped them to do.

Farming in Australia has become much more concentrated into a smaller number of large business interests in the period since I lived at *Twin Pines*. The family farm still exists, but in smaller and smaller numbers. I felt the might of that business model during this period of my work. I chaired an Advisory Committee for the Shade Project, at which the moguls of the feedlot industry sat alongside several animal scientists whose interests overlapped with mine. At one of our early meetings, the top Feedlot Manager in Australia, attacked me verbally for reporting some behaviour results at a Scientific Conference without the permission of this Committee. In the morning tea break, he told me out of the side of his mouth, to ignore what he had said – it was intended to show everyone present that I wasn't 'in the lap' of the feedlot industry. Which I was, in fact, though I could at least think for myself.

The third major change was enormously important for my scientific understanding of stress – in fact, my understanding of Biological Science. It was that I got to study the ideas of Humberto Maturana, the Professor from Chile whom I mentioned at the very beginning of this book. I read everything I could find about his work. In 1991 and 1992, I attended both of the three-day lecture series he held in Australia. In 1994, I organised and co-hosted his last series of talks in Sydney. [43]

We spent several days together; he visited my workplace and my home at Glenbrook, and in his words, we became 'good friends.' I corresponded with him after that and set up a website entirely devoted to his ideas. Students with a special interest in Maturana from all over the world visited that website, and it became part of an academic network, but it has since been removed and replaced by my current website.

[43] In conjunction with that visit, I organised the publication, and co-edited, a book entitled *Seized by Agreement: Swamped by Understanding* (1994) that was a celebration of his work. The contents are available at www.biosong.org

Many people were saying that Maturana was difficult to understand, both because the concepts were challenging and his writing style was rather abstract and dense. I found it difficult, too, but it resonated with my own thinking so strongly that I studied it intensely. It seemed to provide the basic concepts that would help to satisfy my lifelong quest to (almost) understand the 'mysterious processes of life.' It was instrumental in turning my 'direction to take' that I outlined in Chapter 6 into something more like a 'life purpose.'

My research on stress was refreshed. Maturana's Biology of Cognition replaced the more conventional thinking that our animals were simply 'automatons' responding to each stressful stimulus in a 'mechanical' kind of way. I had been saying for some time that this 'stimulus-and response' was not an adequate way of researching the impact that stress had in their lives. Now I had some new language and new concepts that helped me to understand this more clearly.

Maturana's name is best remembered today for his new scientific term, 'autopoiesis,' which means 'self-producing.' The theory of 'autopoiesis and structural coupling' redefined the way that living things engage with the world around them.

Chapter 27 My Maturana Obsession

The reason that Maturana's new scientific paradigm became a major strand in my life story has three parts to it. Firstly, his science explained my experience of researching stress in a way that made more sense. Secondly, it gave me the conceptual framework on which I built my own future explanations about the human mind. Thirdly, it underpinned my personal program of growing stronger through taking responsibility for myself more thoroughly than I had done in my earlier life.

Maturana was not hailed as a 'giant' of Science within the mainstream culture, nor did he receive a Nobel Prize. But he explained 'what is Life' in a way that had never been done before. [44]

He was something of a 'loner,' but nobody is working entirely alone in Science. There is a context already established within which new ideas can be accommodated. In this case it was the emerging field of Second-Order Cybernetics, founded by people like Gordon Pask, Ernst von Glasersfeld and Heinz von Foerster, who called it the 'cybernetics of cybernetics.'

I studied this aspect of Systems Theory closely from my first contact with it. Cybernetics (First-Order) had been concerned with control systems in engineering (for machines). The Second-Order version added in the very important human dimension. The human observer is as much a part of what happens in a system as the objective entities that are being observed; in fact, the human interaction is the most crucial part. So this field was concerned with the larger, 'real world' system in which we work together to manage all our affairs.

After Maturana completed his Doctoral studies in America with several leading neuroscientists, he 'disappeared' back to Chile for several years.

[44] Dr Humberto Maturana, who died in 2021 at the age of 92, was a Professor of Biology at the University of Chile and co-founder of an Institute for Research on Cognition in Santiago. He studied Medicine and then Biology in Santiago and in London, received his Doctorate from Harvard in the USA, but spent most of his life in Chile where he was honoured as their most famous Scientist. He was highly respected internationally, especially in some fields, but also largely ignored by the mainstream scientific community, which I think was at least partly due to the unusual breadth and depth of his Philosophy regarding mind and love.

He told me he needed this isolation from the mainstream in order to think for himself. He was considering the 'mysterious processes of life' from a new perspective. He told us in a lecture about the naiveté of a first-year Biology student who asked him: 'Sir. When Life first began, what was it that happened?' Now, this is a question of Biblical proportions, but it is also a scientific question, and Maturana responded to the latter. [45]

The first part of his answer came from his studies of visual perception in creatures such as frogs and birds which had very simple nervous systems. Along with a few other people, he found that the nervous system of the observer is the main determinant of what will be seen. Reconfigure the nervous system slightly and a different world will appear. The animal itself largely determines what the world around it looks like, based on its internal processes and its experience. He realised how important this was.

He also took the very broad view that the processes of Physiology and Biochemistry are essentially circular. Think of any big flow chart of internal processes you may have seen with substances coming in from outside, arrows leading from one to another, producing other substances and waste products along the way, and eventually arriving back where they began.

He proposed a new way of thinking about the life process. As long as the metabolic resources are fed in, life rolls along as a circular system for the constant renewal of each molecular process and each cell (though individual cells die off and are replaced). This was Maturana's 'autopoiesis' – literally 'self-creation.' Living things are not put together by outside forces, like a car is made in a factory – we produce ourselves.

The stimuli from outside that we call stressors are only perturbations or nudges, occurring in an already-organised life process; they will be accommodated, unless they are so severe they damage or destroy it. Living things can't be directed from outside – they already 'know' what to do.

[45] Two books that explain this are *Autopoiesis and Cognition: The Realisation of the Living* (1980) and *The Tree of Knowledge: The Biological Roots of Human Understanding* (1987), both by Humberto Maturana and Francisco Varela.

This 'knowing,' or cognition, was 'what happened' when life first began, but to have any 'independence' this phenomenon had to occur within a 'closed system.' Some kind of 'self' had to become an enclosed entity, kept separate from its 'outside' by a semi-permeable membrane – the cell wall. This is what gave the very first living organisms an identity of their own, rather than being just a part of a seemingly aimless stream of molecular interactions. It is the fundamental 'autonomous unity' that describes, not only the single-celled creatures that led the way to sustainable life on Earth, but you and I as well. We are alive, firstly, because each of us is an 'autonomous unity.'

But we do live in relation to the world around us, so we are also 'open systems.' The quality of our 'connectedness' to the outside world (that gives us food and oxygen and our changing circumstances) is absolutely crucial. The outside world doesn't control us, but how we relate to it with our body and our mind matters a lot. In Maturana's words: 'living is a process of cognition.' Knowing what to do is essentially knowing how to connect – with what and with whom – as each moment comes along.

Combining the notions of pro-active perception and self-generating process – the theory of autopoiesis – changes the way we think about many aspects of human behaviour or, for that matter, stress in animals. The stressors I investigated are not the significant causal agents that some people thought they were. All they do is disturb, temporarily, an already functioning biological system, which accommodates them well or badly, depending on its fitness to do so at that time. Knowing about them is not as important as knowing about the animal's physiological and psychological resources (its stress resilience) at that point in its life.

In human lives we have a habit of blaming our circumstances or other people for what has happened to us, thereby failing to take responsibility for ourselves. It's true that our circumstances do have some effect, and other people co-create our lives in partnership with us, but the biological fact is that each of us determines our own physiological processes at all times. The way we handle stress is in our own hands.

My mind had been fumbling towards this kind of realisation. The quality of connectedness for farm animals has to do with their relationship with

human handlers, whether they are properly trained for what they are doing, and the social situation in which they find themselves. In Chapter 35 I will describe my later research that showed how we improved stress resilience by strengthening the basic cognitive process – autonomy and connectedness – in farm animals.

Maturana then applied this idea that we are self-determined systems to a study of the varying quality of connectedness that occurs in human relationships. In a refreshing new language, he explained how our 'conversing' and our 'emotioning' are an interrelated flow that determines the course each of our lives will take. He chose the rather loaded term, love, to describe the most special quality of connectedness that he thought actually sustains our human society. He did not preach about the benefits of love; he simply said that without it human beings wouldn't exist. He said that, long before the idea of love became a virtue, or the stuff of all our stories and ambitions, it was simply a biological necessity by which our mind could balance self-interest against useful connectedness.

I built on this point for my first book, *Mind and Love – The Human Experience*, which I sent to Humberto in 2011 after he had retired. He was not noted as a correspondent by some of his colleagues, but he sent back a handwritten note to say that he was 'happy with the way I was using his ideas.' I felt a great sense of joy when I read that note!

Of course, we like to enjoy love as a uniquely satisfying and pleasant experience that derives from romance. There is probably no sweeter cognitive and emotional experience than 'being in love.' But, like all life experience, the feelings that come will also go. We need to convert them into a more lasting and more deeply satisfying experience. For me, the idea of love as such a fundamental 'force' was 'like music to my ears.'

Maturana went on to describe love as 'the origin of our humanness.' I think this was where he lost contact with some of his more 'clinical' scientific colleagues. [46]

[46] *The Origin of Humanness in the Biology of Love* by Humberto Maturana Romesin and Gerda Verden-Zöller, Ed. Pille Bunnell (2008). Pille Bunnell and her husband came to stay with us in Australia in 2012 and we enjoyed bushwalking together.

Some of the people who accepted, but disregarded, Maturana's thinking about autopoiesis did so because they said he was only 'stating the obvious.' But the obvious is sometimes the hardest to see, as many great thinkers have noted, among them William James, Ayn Rand and Isaac Asimov. I think there are still too few books that explain these deceptively simple, but important, principles. There is one by a journalist who got to know Maturana during the difficult period of the Pinochet regime in Chile when he continued to teach his biology without the dictatorship really understanding what he was doing. [47]

Another small book called *Something Beyond Greatness* is about a search for the special quality of people who have made significant contributions to the world without necessarily being rich or famous. Its message is that 'teaching about love' is that special quality. The authors chose, as their examples, Maturana as a 'man of science' and the renowned Brahma Kumaris leader, Dadi Janki, as a 'woman of God.' Maturana was chosen for his 'systemic vision' of love as the essence of our biological nature. He described love as the 'fundamental relational condition that makes human living possible.' This systemic vision is what we see contradicted all too often by 'linear, cause and effect, thinking' that leads directly to selfish ambition, the blaming of others, and the neglect (and even destruction) of our most crucial human needs. [48]

As I wrote and lectured about all this I relied once again on the unlikely tool of songwriting to help me capture the ideas and communicate them to others. Writing songs sounds like a trivial aside, but that was not the case for me. The songs I wrote had simple, but catchy, melodies so that people could sing along, but also carefully chosen words that could trigger new ways of thinking in those who wanted to learn about this subject. I found from the feedback I received that even subtle concepts could be

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[47] *From Being to Doing: The Origins of the Biology of Cognition* by Humberto Maturana and Bernhard Poerksen (2004).

[48] *Something Beyond Greatness: Conversations with a Man of Science and a Woman of* God (2009) by Judy Rodgers and Gayatri Naraine. The approach of the 'man of science' is subtly different from that of the 'woman of God,' but both centre on Love.

communicated in this way. I met a woman a few weeks after a Conference at which I had lectured (and sung) and she said: 'I can't remember a word you said, but I still remember the song and it reminds me of the point that I think you were making.'

It pleased me greatly that I was able to share some of my songs with Maturana himself and he responded very graciously. I wish I could give examples, but it would take up too much space. [49]

[49] *The Song of Autonomous Unities* has been sung at workshops and gatherings in many places since I first sang it during Maturana's lectures in Melbourne in 1991. I sang several more at his 1994 lectures. Song lyrics relating to his work are in the *Songbook Volume 1* at www.biosong.org

Chapter 28 The Accident

As the second year of my busy life at EMAI came to an end, there was a setback that put me out of action completely for three months. On Christmas Eve in 1991, I was driving, with Penelope in the passenger seat, towards Lithgow in the upper Blue Mountains when our car was hit head-on by a small, heavily-laden, truck that slid into our path. We had seat belts in those days, but not airbags. One of the metal pipes from the truck's load came through our windscreen and struck a glancing blow to my chin and neck, leaving a large wound. It fractured my lower jaw in several places that were later tied together with metal plates. But how lucky was that? How close I had come to the end of my life!

During the period I was unconscious I had strange visions of a pleasant pastoral scene with a path between two rows of trees that I was invited to follow. Then I saw myself from somewhere up above the wreck as men were working to cut pieces out of the car. I've never had any other 'out of body' experience such as that, but it did happen then. The first pain I felt was when nurses tried to straighten out my body on a table at Lithgow Hospital. Several ribs were broken, so it was painful to lie straight. Then, Penelope and some other people were talking to me as I lay in a bed.

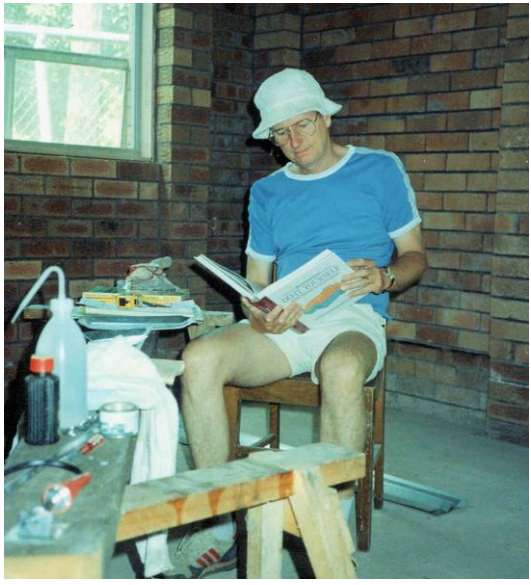
She had remained conscious after the collision, though with whiplash injuries that plagued her later, and had fallen out her side of the car when that door was opened. The bystander who had opened the door was a hitchhiker from Germany who was a qualified nurse. Penelope thought I was dead from what she could see. Later, in an ambulance, she heard over the intercom that I was alive and being cut out of the car, with another ambulance waiting to bring me in to the hospital.

Penelope also overheard a doctor saying on the telephone to someone at the RPA Hospital in Sydney that I had to be transported down there, despite their objections. In my wallet they found the title Dr alongside my surname, which happened to be similar to a Professor Fels, who was well-known in the media, so it's possible that his identity may have been used to get me into RPA for surgery on that Christmas Eve.

On Christmas Day, Penelope was at the hospital where my jaw had been plated the night before and my neck had been stitched up, but of course, she was not at all well, and I believe she was unable to get anything to eat all day. My sons and other family members came to visit over the next few days, but I remember very little of that. A high-profile Professor of plastic surgery, whose Assistant had actually done the operation, spoke to me in a very self-satisfied tone, shortly before I was discharged.

Our main bedroom, where I spent most of my time for the next month, was actually an extension that Penelope and I had built where the carport used to be at our home at Glenbrook. That extension was not a small job and we both got a lot of satisfaction from drawing the plans, getting the necessary approvals at each stage, and doing all the carpentry from the foundations to the roof. I used to lie awake at night during very strong winds, wondering if the roof would blow off, but it never did. I mention this because it reminds me of another strange foible I have that people used to laugh at, especially Penelope.

I love Instruction Manuals; she says I take them to bed to read before going to sleep, but that's an exaggeration! But I always like to read the Instructions before doing anything else, which is a bit weird, I suppose. She photographed me while I was 'hard at work' building the extension.



Towards the end of March, I was thinking about going back to work, though the physical consequences of the accident were still very apparent. There are a few parts of my body that are still affected by what happened, most annoyingly my throat, which had to learn to swallow differently because of damage to the back of my mouth. I could not coordinate breathing and swallowing food or drink for many months, which meant I gave up trying to have my lunch in the work canteen with other people. It was about a year before I was able to speak normally while eating a meal. My swallowing still causes a few problems to this day.

I'm glad my vocal chords were not directly damaged because they had a lot more speaking and singing ahead of them, and my voice had never been a strong point. My singing voice was not really good enough to sing in public, but my enthusiasm for my own songs got me through. I rarely sang songs other than my own. A friend who was known for her honesty once described my voice as 'adequate for my purpose.' It became more 'shaky' after the accident and as I got older.

When I reflect on my overall good fortune throughout my life, that near miss looms large in my mind as perhaps the luckiest break I ever had. Subconsciously, I knew this and there was a renewed vigour in everything I did for quite a while because I felt so enormously grateful to be still alive and able to get on with my life.

From L-R: Lloyd, Chris, John, Nick at Lloyd's 70th Birthday

Chapter 29 My Sons

If you are lucky enough to have children, their lives become seconded to your own life in a very powerful way. At this point in my story I want to acknowledge my sons for what I see as their individuality and their achievements. Each of them is a very different individual, but their 'blood' connection has always seemed very strong. It is evident in the regular communication between them and the quirky nicknames they continue to use in their email exchanges and conversations.

John studied Communications at Charles Sturt University, but also had a lively interest in the practice of physical fitness. He met his wife, Ruth, while living in Bathurst. They moved to London together where they coached people and managed a gymnasium; they also eloped to Gretna Green to get married. Back in Sydney they established *RISE Holistic Health and Fitness*, which has been a successful business since the late 1990's. They also spent time in India learning about Yoga.

My strongest connection with John is through an understanding of how mind, body and spirit are woven together to support human health and fitness. My research on stress fits with this and I've loved talking with him about the subtleties of the mind-body interaction. He has helped me with my fitness, though probably also despaired about my fairly low ratio of physical to mental activity. He and Ruth have two boys, my two youngest grandchildren, Jeehwan and Heemang, who seem to thrive on inner-city living with a Mum and Dad working long hours in the business of *RISE Health*. I admire their sense of family and what they have achieved through hard work and original thinking.

Nick is famous for his physical and mental energy. It is quite remarkable how many times he has moved house to achieve more things in his life and I am in awe of how much he has achieved to this point. He met his wife, Liz, at the University of New England, where he followed in my footsteps by doing the Rural Science degree. The 'farming blood' in our family flows strongly in his life and he puts his present acreage near Gloucester to good use running beef cattle, while at the same time,

holding down a fulltime job with a large Company, advising clients and marketing fertilisers for farm use. By avoiding promotions to Head Office desk jobs, he has maintained the freedom and open-air life he enjoys, living nowadays at Forster on the mid-north coast of NSW.

Their children, my first-born grandchildren, Emily and Will, are in their mid-twenties, highly educated and working in the banking business in Sydney. There is a strong sense of family loyalty and values that I admire. Nick reads my books with a keen eye, but reserves his judgment about having a Father who started off quite respectably in Agriculture, but has strayed into more dubious fields along the way, as revealed in this book.

Chris was always interested in computers, as mentioned earlier, and has a PhD in Physics that he has put to very good use in a long career as a Principal Research Scientist for the CSIRO. He also worked at Australian Universities and did a Post-Doc at Houston in Texas. So he has eclipsed his Dad in quite a few ways. His field of work – photovoltaics (turning sunlight into energy) – is so relevant and valuable in this day and age that I have great admiration for him, also. He and I can talk at length about any subject, but he is careful to keep his distance when I depart from the strict science into matters concerning consciousness and allegiance to a higher power that exists in the unknown.

His second marriage to Cathryn gave me, firstly a step-granddaughter, Emily, and then two more granddaughters, Jessica and Charlotte. They also live not too far distant, near Lake Macquarie in NSW, which is indeed a blessing. The enjoyment that Penelope and I have had in the company of their family is as much as any grandparents could possibly hope to experience.

Of course I have a step-son also, in Penelope's only son, Andrew, who lives with his wife, Kavitha, and three boys – Jai, Kade and Ajay – outside Melbourne at the present time. The time we spent together when he was young makes him as much a part of me as any non-blood relative could ever be. His practical skills and, nowadays, his people skills as well, have made his life and his family strong and healthy and thoroughly deserving of their success.

Chapter 30 Threads That Frayed

Shortly before I returned to work, officially, after the accident, I was an Expert Witness in a case being heard in the Land and Environment Court in Sydney. I had written my testimony for this case some months before, but the hearing began while I was still on Sick Leave and I didn't want to miss it.

A wealthy woolgrower near Yass, whose stud Merino sheep produced superfine wool, wanted to close down a gravel-mining operation at a quarry beside the creek that was one boundary of his property. Another Expert Witness was addressing the effect on wool quality from the dust, while I was to advise on the stress caused in the sheep by the loud noise and heavy machinery that operated at the quarry from first light until dark every day.

The crucial element in my case was that there was no drinking water available for the sheep up on the hill, away from the mine. Sheep naturally camp for the night at a high point in the paddock and, in this case, they walked down the hill to the stream to drink, first thing in the morning. This behaviour was seriously deterred by the noise, flashing lights and movement of trucks and excavators at the mine. I was told later that this was the critical piece of evidence that swayed the judgment in the woolgrower's favour.

It was a relief to me to hear that because I felt I didn't handle the cross-examination well at all. It's a rather gruelling experience, because the main tactic lawyers use wherever there is an Expert Witness is to try to destroy that person's credibility. I was almost in tears a few times until the Judge actually told him to change his tack and confine his questions to this case. At the end of my time in the Witness Box, the Judge asked me about his dog, who he said would run away every time he picked up the garden hose, and I felt I didn't answer his question very well.

The Court found in favour of the woolgrower. But the Minister for Roads said the gravel was needed for the extension of the Hume Highway and over-ruled the decision, 'in the public interest.' So that was that! I had no

idea about charging consultancy fees, which I probably wasn't supposed to do, anyway, so very little of the money that the woolgrower might have felt he wasted came to me.

Another off-shoot from my core business occurred around that time. It was exciting, but also fizzled out in the end. It was an International Conference in Sydney organised by the Centre for Human Aspects of Science and Technology, whose meetings I attended because I thought what they were doing was important. The three-day Conference (*Out of the Crucible*) had several impressive overseas speakers on the program as well as a Sydney Professor of Biology whom I admired. [50] It was organised by another Sydney University Professor who was a friend of mine. [51]

The keynote speaker was Dr Rupert Sheldrake, a Biological Scientist from England whose views were highly controversial. [52] In the lunch breaks, Rupert and I seemed to 'hit it off' and he mentioned in his closing remarks at the end of the Conference that I would be his collaborator in future studies of the behaviour patterns of large numbers of grazing animals in Australia. I remained hopeful about this as a future project for the next 12 months, during which we corresponded, but I couldn't drum up enough support at this end, so the plans were shelved.

The most dramatic part of the weekend for me was that my friend who was organising it asked me to fill in at the last minute with *Stress the Musical* as the 'entertainment' following the Conference Dinner. It was on board a Sydney Harbour Ferry, used for Dinner Cruises, which was a most unsuitable venue for Graham and I – the microphones didn't work, there

[50] Dr Charles Birch was a world-renowned Ecologist and Professor of Biology at Sydney University who wrote many books including *Nature and God* (1965), *On Purpose* (1990) and *Science and the Soul* (2008). He died in 2009.

[51] Dr Alex Reichel was a Professor of Physics at Sydney University and also President of the Centre for Human Aspects of Science and Technology and Chairman of the Academy of the Word, at which I spoke a few times. He died in 2012.

[52] Dr Rupert Sheldrake, now aged 79, is the author of many books beginning with *A New Science of Life* (1981) in which he proposed a radical theory that invisible patterns of energy shape behaviour and evolution. His criticism of conventional science for its narrow-minded dogma and materialism in *The Science Delusion: Freeing the Spirit of Enquiry* (2012) was not well received, but I always thought his ideas were important to consider.

was no room to move . . . Why did I ever agree to such a thing! We made it from start to finish, but I rated it a total disaster and I drove the long trip home to the Blue Mountains that night in a very sorry state. Rupert said to me the next day that he thought the songs were 'quite nice.'

As I said earlier in the book, you ask yourself when you look back: how did I ever end up in such a ridiculous situation? The answer has something to do with being swept along by life itself and being open to going to places that I hadn't been before. It wasn't always fun.

For better or for worse, my intellectual interests extended well beyond the accepted boundaries of my professional work. I don't feel a need to apologise for this, but I do acknowledge that some colleagues and friends considered me a bit strange. My path of recovery from alcoholism, together with close friends who had chosen a similar path, was an important factor in what I would call my 'spiritual' attitude, which meant I wanted to respect and pay homage to unknown influences that were clearly more powerful than I was – namely, a God.

From the early 1990's to the present day I have been a member of an international Society called The Scientific and Medical Network, which is unusual for its mix of scientists, doctors, philosophers, religious scholars and teachers whose collective vision is to expand the horizons of Science to include the Spiritual. I was the convenor of the Sydney Local Group of this Network for several years. We organised regular meetings with interesting speakers who explored the limits of Materialism, which is the belief that our world consists only of 'matter' – physical substance – and what we call 'consciousness' is fundamentally different from that. This Dualism sets strict limits on what Science is allowed to measure and hypothesise. I will return to that, briefly, later in this book.

The Network publishes an excellent Journal three times a year in which new books are reviewed; and they were kind enough to review my book, *Mind and Love – The Human Experience*, in 2011. Through the Network I met and spoke with some highly original thinkers, including the already-

mentioned Rupert Sheldrake, American author, Larrry Dossey, [53] and the Network Director, David Lorimer, [54] who came to Sydney several times. Other prominent members of the Network included the remarkable Physicists, Brian Josephson (Nobel prize winner) and the late David Bohm, and the Psychiatrist/Philosopher, Iain McGilchrist (see later).

The only Annual Meeting of this Network that I attended in person was The Mystics and Scientist's Conference in 2011 at Winchester in England. Straight after the last session, Penelope picked me up and we attended a meeting in a back room at the Winchester Cathedral. Hearing I had been at this Conference, the man sitting next to me – who was actually a Psychiatrist, it turned out – asked me: 'So, are you a Mystic or a Scientist?' Of course, I answered that I was a Scientist, but I suppose the question made me think a bit more about the fact that 'mystical' experiences could be more common than we think.

The same man then took Penelope and I to a certain tombstone in the grounds of the Cathedral where 'lies a Hampshire Grenadier' whose story is known to many other people who enjoy our kind of fellowship.

[53] Dr Larry Dossey, now aged 81, is an American Physician wrote many books including *Space, Time and Medicine* (1982), *Healing Beyond the Body* (2001) and *One Mind* (2013).

[54] David Lorimer, who is barely 50, I would guess, has written 15 books, including *The Spirit of Science: From Experiment to Experience* (1998) and *Thinking Beyond the Brain* (2001).

I still belong to the Scientific and Medical Network, read their Journal online and follow some of their Webinars, but otherwise these three threads are no longer major strands in my life.

What is still a major strand in my life, of course, is my relationship with Penelope, which leads us to the next Chapter.

Chapter 31 Penelope and I

When our relationship began – after a sing-a-long at my place and a simple dinner date in Katoomba – I'm quite sure there was no expectation for either of us that it would lead to a long-term commitment. There was certainly a spark of interest in talking to one another, but we had both experienced the pain of a failed marriage. In her case, a school-age son and a protracted property settlement were preoccupations enough to stifle thoughts about starting a serious relationship. I was enjoying having moved into Copeland Street, which was like a new lease of life. Later, we came to regard the long pause before we were married as a good thing.

Penelope and I are very different, yet we have fitted together extremely well. Her relationship with reality is thoroughly practical and pragmatic, which has been a great help to me in many ways. She manages money so much better than I do, with multiple accounts to meet every need, that it felt like a load was lifted from my mind after we were married. We consult thoroughly about bigger issues, but she makes many of our day-to-day decisions. We have a nice garden, with different flowers blooming all through the year, due to her lively interest in gardening that I have never had. She can't walk past a weed without doing something about it. As her physical strength has waned we've had to employ people to help.

In her employment she has been the superlative technician that less practical research workers like myself depend on so heavily. Her skills with an electron microscope were legendary in her CSIRO laboratory, until bad ergonomics and long hours of overzealous activity took their toll on her body. She loves patterns and shapes, whereas I string together linear lines

of thought. We've enjoyed going to the theatre, concerts, opera and ballet together, dining out and dancing, though much less of that nowadays. We watch different TV shows because she likes dramas and I like sport.

We share a few household chores, but I don't contribute to the cooking or food preparation. This is partly because I've never learned more than the most basic skills, but mainly because she is so good at it. She calls herself a 'laboratory cook' though she can be very innovative as well and some of her specialties (such as custard slices) have become famous amongst our friends and family.

It is what we have in common that I feel is our greatest strength. That is, we both recognise the difference between self-will (or selfish pride) and some higher force that shows itself through all the people and their doings that are other than oneself. I hope it's clear that this is a central theme of my story in this book. Penelope is every bit as selfish as I am by nature, and even more self-reliant, but we both experienced the downside of this and then had the good fortune to be taught, along the way, that it is what we do for others that makes us happy.

She is far better at this than I am. Her thinking about the cares and needs of other women and families is like a tap that is always turned on – it never stops flowing. Many times each day she is contacting people about little details that affect their lives.

Her schooling and childhood experience of the Christiam church as threatening, coercive and unkind, means that her spirituality is more secular than mine, by quite a margin. But our spiritual strength seems to me to be essentially the same.

Overseas travel was not high on our agenda because we both had done some of that, especially Penelope, who spent six months sailing via the Panama Canal to England, living in Scandinavian countries (Holland was her base), touring through Poland, Russia and East Germany (behind the Iron Curtain), then visits to France, West Germany, Italy, and Israel, and Singapore on the way home. Later she went to Japan to check out electron microscopes for the CSIRO before they purchased a new one.

Our trip to North America, together, was the only overseas trip for which my employer paid my way – my only 'junket,' you could say.

Chapter 32 North America

The World Conference of Animal Production happens every five years and in 1993 it was held in Edmonton, Canada. That was the first leg of a trip for Penelope and I to North America that included the States of Washington, Colorado, Texas, Arizona, and California. The prime reason for the trip was to learn about the use of shade in feedlots, as part of my Feedlot Shade Project, but it also enabled us to visit some other researchers I had not met before and spend time with a friend we had made (through our 'fellowship') in San Francisco.

We met up firstly with an academic in Vancouver who was an afficionado of Maturana, like me. I was so exhausted from the flight, I don't remember much, but I did give him a copy of a short book I had drafted with David Russell called *Co-Drifting: The Biology of Living Together* (never published), which was really my first attempt at writing about Maturana's ideas. Then we flew over the Rocky Mountains, which I would have loved to have viewed more closely from the train.

In the summer, it's hard to imagine what it's like further north in Canada during winter – the wide, flowing river at Edmonton completely frozen over, for example. Penelope visited the daughter of her Father's friend – a fellow prisoner-of-war – while we were there. For once, I didn't have to present a paper at the Conference; it was nice just to sit and listen.

The next stop was Spokane, Washington, where I attended the Annual Scientific Meeting of the American Society of Animal Production and Penelope and I went to some other interesting meetings together. Then we flew to Denver, followed by a short flight to Fort Collins to meet with Temple Grandin, whom I mentioned earlier. She really is an extraordinary person. 'Don't touch me' is the first thing she says and her Autism also made the two of us quite conspicuous at a local café. But she took me to her home and even ushered me upstairs to her bedroom to show me her famous 'Squeeze Chute' that has been espoused world-wide as a calming device for those with severe Autism. It's like a cattle 'crush.' She wanted me to try it, which I did; it was very relaxing.

From Denver we flew, in a very small plane, to Amarillo, Texas, which calls itself 'the Beef capital of the world.' That flight was memorable for the very bad weather we encountered. At first our boarding was delayed, then we stood in a queue of planes on the tarmac for an hour or so, until we heard an announcement that we would be the first to take off, once the storm had cleared. It crossed my mind that they should have a larger plane than our 12-seater to do that! When we arrived in Amarillo it was well after midnight. I spent the entire flight concentrating hard on a book we had been given at a meeting in Denver called *A New Pair of Glasses*, which was about recovery from alcoholism.

We visited several feedlots before flying out to Fort Worth and on to the small town, College Station, that is part of the famous Texas A&M University. I had long admired the research on cattle behaviour being done there by Dr Ted Friend, but I hadn't met him. The two days we spent doing things with Ted and his family were an absolute delight. He took us out to a Dance Hall, where the lively energy of the 'boot-scootin' locals carried us away. Penelope and I loved dancing anyway, and though this was different, it was great! Ted kindly loaned me his pick-up truck to practice driving on the right-hand side of the road, because we knew we would be hiring a car at our next stop.

That was San Diego, California. At breakfast, chatting with other hotel guests about driving in this city, I was advised to think of it as a sport – I just had to find the right lane to get into and the right freeway to get on, and then 'go for it.' That was a bit harder than it sounded, but eventually we found our way out of the city. I started to relax by the time we were halfway to Arizona, and there wasn't much traffic at all. Large, flat, desert-like paddocks with stacks of haybales were the only scenery.

Our main stop was El Centro (still in California), where daily temperatures of 110° F were the norm, the car parking was all shaded, and the feedlots had sprinkler systems to keep the cattle cool. Somehow, our enthusiastic host in that town took us across the US border to the nearby town of Mexicali to show us more feedlots and he also shouted us an unusual fruit drink in a café along the way. It might have been Frangipani. We had to go through a border checkpoint on the return journey, where the official

said he was pleased to meet Australians any time. I think our host was known to him. Entering Mexico hadn't been on our itinerary (or our Passports), but it happened so quickly and smoothly we hardly noticed.

That was the end of my work commitments, so we flew north and were met in San Francisco by a lady who had stayed with us in Sydney a year before, though we hardly knew her. One highlight of an enjoyable week looking around that interesting city was a visit to Muir Woods where the giant Redwoods grow, which I would rate as a truly incredible, spiritual experience. It really does take your breath away.

Another was the day we drove down the coast to Big Sur to visit the famous, and notoriously New Age, Esalen Institute. This is in a rugged, mountainous region right beside the Pacific Ocean. You have to book in to some activity to be on the campus and the simplest activity our friend found for us was therapeutic massage. It was strangely therapeutic, with everybody in the nude, as we sat relaxing in deep hot springs from which the water tumbled over the rocks a very long way down to the ocean below.

North America was an enjoyable trip. By the end of it, Penelope was doing the interviews with the feedlot managers, while I was starting to wonder how I was going to write it all up when we got back home.

As I said, world travel was not a major strand in my life. But this trip reminded me that the experience of putting yourself in a completely different context is one of the ways you get to know yourself better, which is an important element of the journey through life I am describing in this book.

Chapter 33 *Lode*

Getting to know yourself is an ongoing theme in my story. It brings us to a short diversion away from the chronological events of my life to consider, for a moment, the Kookaburra spirit that I feel is inside me.

Lode (pronounced *l-oh-dah*) is a short story I wrote while I was doing the Graduate Diploma Course. It's a name I chose as an alternative to Lloyd to represent my inner self. The sub-title of the story was *My Life as a Kookaburra*. The song associated with this story is one of two I sang at the final concert – our farewell event, as my time in this Course came to an end. The other song I sang that night was *Take My Hand*, but with an extra verse about the parting of friends.

The writing of songs and the singing of them was an important strand of my life story; so much so that I have to resist the temptation to add song lyrics to this book. I've included this one and one other (in Chapter 17), but all the lyrics can be found in the Songbooks on the website. Sadly very few of them have melodies written out at this stage. I did get to learn more about songwriting, from books and meeting other songwriters. While all my songs are simple, sometimes for singalong purposes when I was seeking audience participation, some of the more serious ones have a 'Bridge' with the 'key modulation' that provides the contrast in the middle of the song and allows you to make an interesting transition back to the main melody.

The *Lode* story is also on the website. As a young Kookaburra I had encountered some damaging setbacks that affected my ability to express myself with the distinctive 'laugh' of my species. This troubled me and set me apart from the other birds. It was my friendship with a Koala named *Rupert*, who was a musician, that began to free up some of the music inside me. After I met *Pica (the Practical)* my life opened up further in a sustainable fashion and I began to feel like a Kookaburra should. I never quite got the fullness of laughing that I believe is potentially there, but I had improved a lot and was now accepted by my peers for who I was.

LODE (l-oh-dah)

Lode, my friend
You're a part of my being
I love you, and call you my own
Once in a while
I can see what you're seeing
And I wonder at how much we've grown

CHORUS: Do you remember the magical music
And how we laughed loud and long
Through all the trials and painful illusions
They were playing our song . . .

. . . Of the Road in the Sky
You and I were agreeing
Even though I never knew
When I hated
Despaired of my being
I was just punishing you
But we remember etc.

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. . . Of the Road in the Sky
You and I are enjoying
Living one day at a time
The time of our lives
Is the moment we're living
When I can share yours and mine
And we remember etc.

. . . Of the Road in the Sky
It is onward we're going
Where the Road leads we don't know
But we can live
Content in the knowing
Wherever it leads we will go
For we remember etc.

. . . Of the Road in the Sky
Lode and I - Road in the Sky - Lode and I - We are one

Chapter 34 Co-Drifting Presentations

These happened sporadically in the years after *Stress: The Musical*, so they take us back to 1990 again, but also extend through to the late 1990's. I've lumped them together in this Chapter because they are an important strand and were a major interest, but they were never the 'main game,' being more like diversions or hobbies that I enjoyed 'in my spare time.'

Before I was relocated to EMAI, I was enjoying the company of my new friends in Social Ecology at the Western Sydney University, and we continued to do things together for many years. Along with David Russell, whom I mentioned earlier, there was a quite eccentric and unconventional lecturer, Graham Bird, who shared our enthusiasm for the ideas of Humberto Maturana. He welcomed my songs as integral parts of our presentations and our informal publications.

My first book based on Maturana's ideas – *Co-Drifting: The Biology of Living Together* (the one I took to Vancouver) – gave us the framework for several workshop/presentations that were quite unusual. David was a Storyteller and he drew from the rich history of myths and legends that carry thought-provoking messages. The songs I sang seemed to complement these stories. Together, we tried to explain new ideas in the science and psychology of human relationships and wellbeing, relying almost entirely on stories and songs.

Our participants and audiences varied widely. At one extreme was a formal Conference at the Philosophy Department of Sydney University on the work of Hans-Georg Gadamer, whose hermeneutic philosophy we thought was a bit like Maturana. We were politely received (with bemused expressions) and included in the whole of the Conference discussion, so I think we made a useful contribution. At the other end of the spectrum there were informal gatherings of students and friends that were more spontaneous. In fact they were always great fun and included lots of laughter and merriment.

These brought us into contact with an academic in Adelaide, Alan Stewart, who was also enthusiastic about the ideas of Humberto Maturana. I first

met Alan when he came to Richmond to attend some activities at the University, and we did many things together over the next 15 years, in Adelaide and Sydney and places in between. My song, *The Conversing Café*, was written as a gift, to honour the work he was doing, as we drove to Adelaide together via the Great Ocean Road and the Coorong. [55]

In 1990, Alan Stewart had the task of organising the Fifth Australasian Conference on Personal Construct Psychology, held in Adelaide. He wanted an Opening Session that was out of the ordinary and enlivening, so he invited Graham, David and I to do a two-hour presentation that we called *The Constructivist's Picnic*. This included several of my songs, a story told by David, a poem by Graham and short academic musings written by each of us, all of which was published as *The Picnic Papers*, brilliantly illustrated by Karen McLean. [56]

I chose to stay on for the remaining days of the Conference, because I was interested to hear how the academics reacted to our unconventional style. At no stage did I feel unwelcome and I made some new friends. But, some of the better-known leaders in this field felt that their important work had been trivialized by this experience. Some of the younger contributors thought it was a useful tonic for the Society. It's another case for me of wondering: how did I end up here?

Alan Stewart was also the convenor of The Cybernetics Group that met regularly in Adelaide to discuss new ideas in Second-Order Cybernetics. Maturana's reframing of the Biology of Cognition (and Love) was the main theme of their activities. David and I presented there in 1993. [57]

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[55] Dr Alan Stewart, who is now 81, was a Senior Lecturer at Flinders University in Adelaide and a former Fulbright Scholar. He became a good friend and was a co-editor of our book, *Seized by Agreement, Swamped by Understanding* (1994) that I mentioned. He brought Maturana to Adelaide on two occasions, also.

[56] This publication is known as *Social Ecology Treasure #1* at what was then the University of Western Sydney, Hawkesbury campus. The term, BIOSONG, first introduced for *Stress the Musical*, became further established as a part of this work.

[57] This was called *Co-Drifting: The Biology of Living Together* and included an ACROSTIC that I wrote (plagiarized) for the occasion. It is under Presentations at www.biosong.org

I had coined the term 'Co-drifting' from Matura's terminology of 'co-ontogenic structural drift' and we used it as a label for a lot of what we did at this time. But there were also background papers associated with some of the workshops. I researched some of the history of Biological Science looking for roots of Maturana's ideas and wrote a Dialogue called *Jacob and Lorenz: An Imaginary Conversation*, about two very early sources from different eras. David and I were also concerned about the limitations of the language of Science when explaining human cognition and I wrote another Dialogue about that called *The Scientific and the Imaginative*. [58]

During this time my close friend, Phill, was engaged in a Masters Project in Social Ecology that explored the way stories, art and song can serve as a bridge between different cultures. I was part of his group that met regularly to hear stories, look at art, and sing songs. The people I met became good friends, though we lost touch after the project ended. [59]

Several of my songs concerning Aboriginal culture were written around this time (including *Martin and Bennelong – Brothers in Arms*) and sung for the first time at that group. One of them (*I Can Hear My Colours Singing*), became my first (and only) recorded song. I had sung it in Adelaide at Alan Stewart's Cybernetics Group. Later, he asked me to make a tape recording for his choir leader to hear. She did a choral arrangement, which the choir sang in the Adelaide Town Hall in 1998. The next year it was recorded by an Armidale High School choir and band, and included with 15 other songs on a CD called *Together, Together* that celebrates our bonds with Aboriginal people. The CD was launched by Jimmy Little in Armidale in 1999. Both those performances can be heard on the same website as the books.

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[58] Both these papers are available at www.biosong.org under Presentations.

[59] One of these friends was Tex Skuthorpe, Australian Aboriginal Artist of the Year for 1990-91, who died in 2019. He gifted me a painting for my 50th Birthday in 1991. He co-authored the book *Treading Lightly: The Hidden Wisdom of the World's Oldest People* (2006). Another was Sonny Beckett, whose words I used (with his permission) for the chorus of my song *I Can Hear My Colours Singing*, which was first presented to this group. Sonny died, aged 21, in 1992. The song was also included in an event called *The Festival of the Coast* at Grange Jetty near Adelaide in 2001.

In 1994, I had a significant paper published (with David as co-author) in a new international Journal called *Cybernetics and Human Knowing*, entitled *Towards a Biological Explanation of Human Understanding*. I still regard this as one of my more important papers. However, it was also one achievement that counted against my further promotion from Senior Research Scientist to Principal Research Scientist, on the very reasonable grounds that it was not what I was supposed to be doing at that time.

Near the end of that decade there were other Conference presentations that I will describe later. But in case you think I spent too much time singing songs, I'm happy to report that I was also leading the largest animal research project of my whole career, which would also turn out to be my 'swan song.'

Chapter 35 The Pre-Boosting Project

The largest Research Grant my work ever received was also due to strong support from the Beef Feedlot Industry though its main implications were for the beef breeders who rear and prepare the young cattle that will go to be fattened in the feedlots. This project occupied me almost completely from 1993 to the end of 1999, when I went on Leave prior to retiring. More than 20 support staff were involved during the peak periods. I think it exhausted the last of my emotional energy that was available for animal research.

You have to attract external funds in the form of Research Grants. There are always far more Applications for funds than there are Grants, so it is highly competitive. Your professional standing depends on it. Except for the Shade Project, I hadn't brought in much during my first three years at the new Institute and I was feeling the pressure of that.

When I got the first phone call to say they were interested in my proposal, I felt that two of my tactics could be paying off. One was that I had coined a 'catchy' new term, not yet in common usage, that beef animals could be 'Pre-Boosted' at the time of weaning so they will grow better when they get to the feedlot. That may not sound like much, but I can assure you that little things make the difference between getting a Grant or missing out. The other, more significant, strength of the project was that it included Veterinarians from our Institute, who could research the disease issues that were of concern at that time.

From my experience of measuring an animal's response to stress (and from Maturana), I had learned about physiological and psychological attributes that I thought could strengthen resilience and reduce adverse effects for cattle in a feedlot situation. These were, firstly, aspects of their individual autonomy – affected by their history, including training at critical periods such as weaning – and, secondly, their connectedness, including familiarity with human handlers and social support from other animals with whom they had formed social bonds.

So the thinking behind this project was really just commonsense, once again – not in the least a brilliant idea – though it was shaped by my better understanding of the nature of stress. It's hardly surprising that young cattle already accustomed to yards and troughs and eating grain before they enter a feedlot should adjust more quickly during that critical early period than others for whom everything is entirely new. I felt that allowing them to maintain social bonds they had already formed could help them as well.

But the best way to achieve this still had many questions to be answered. And, as I mentioned before, you learn so many new things along the way in a project like this. With the extra staff and resources we had we could study in more detail how cattle respond to the stress they encounter on arriving in the feedlot and while they are there. That part of it was satisfying, though I had to accept the fact that the subtleties were lost on our industry clients, who were only interested in the final growth rate and health of the cattle – that is, the commercial 'bottom line.'

The project was judged to be very successful, overall, in that the Pre-boosted cattle had higher growth rates and better health than those that were prepared more conventionally. As the results became known, the practices that we called Pre-Boosting became much more common in the beef industry – in fact, many feedlots began to insist on them. Economists calculate the cost-benefit ratio for every bit of research that is funded. They concluded that, in return for the total outlay of 2.1 million dollars of external funding (added to our internal funding), the implementation of our research would yield an extra eight million dollars per year for the industry. I question how they work that out, but it sounds good anyway!

It was actually six years of damned hard work. Apart from the lab work, we all spent may days and nights on site at the feedlot with our animals. But firstly, there was the planning and construction of purpose-built cattle yards on the property at EMAI. There was satisfying teamwork in that. I wrote a song that mentioned every individual who was involved (*The Building of the Cattle Yards*) and we sang it together a second time when the project was finished.

Then we had to optimise procedures for what is called Yard Weaning (to distinguish it from Paddock Weaning). The most stressful event in any young animal's life is the inevitable separation from its mother. Calves can go on suckling their mothers for many months, even though they are also grazing pasture, but on most farms they will have been separated by about nine months of age. When that happens there is a lot of noise from both calf and mother. Penelope sat with me observing this behaviour once or twice and noted how dramatic it is, especially if the weaners are in the next paddock and can see their mothers through the fence. It quietens down after a few days.

In our purpose-built yards, our weaners had the company of their fellows, and learned to eat and drink from troughs, so they settled down more quickly. We painted large numbers on their backs that enabled us to observe them individually, in the yards and later, in the feedlot. I won't describe the different training procedures we employed for different experimental groups, except to say that they included a Confidence Test that I devised for individual animals, along the same lines as the Test I had used previously for sheep.

At the feedlot, in the middle of the large pen that housed about 120 of our animals, we built a six metre high observation platform with a cabin on the top that was reasonably weatherproof. Above the feed trough that ran along the front of the pen we installed cameras, including some that were infra-red so we could record at night. With a large team we made systematic observations of all animals throughout the day, every day, for two or three weeks at a time. It was a massive effort and I was impressed and thankful for the commitment made by each member of the team.

From being such a loner myself to leading this enthusiastic team was almost a surprise to me, but it was a satisfying experience. I feel very grateful for their loyalty. A fellow-lab scientist said to me one day (in a bemused tone): 'your staff work just as hard when you're away as when you are here.' In fact, my relationship with these colleagues was far from perfect. At times I was tired and impatient and there are things I regret, looking back. But I think all of us believed in the project and everyone got some satisfaction from it.

The whole thing was repeated for a second and third year, with some refinements each time. While our clients just wanted to know the 'bottom line,' my Veterinary colleagues and I were immersed in a mass of data from the behavioural observations and the blood testing that we did from time to time. There was a bout of sickness in all our animals during the second year, which seemed to be unrelated to any of our procedures.

It was a large project with hundreds of animals and not everything went smoothly. By the third year we had added too many subgroups to test other hypotheses and two of the groups that had to be kept separate were accidentally mixed at one point, which ruined that part of the experiment. Also disappointing, though probably expected with these numbers, we did not find any relationship between the Confidence Test results for individual animals and their productivity or health.

Our hormone assays did not show high stress levels in any of the groups, nor were they any different in the Pre-Boosted compared to other animals. American studies had shown higher cortisol levels due to overcrowding in feedlots, but our pens were not overcrowded. It was the behaviour data that showed clearly why Pre-Boosted animals did better and probably experienced less stress. They adjusted much more quickly to the feedlot situation. Their social behaviour was interesting, too.

Even though we knew that cattle were very social animals, we were surprised at the extent to which they found their 'friends' and 'hung around together' in the feedlot. This was most obvious in the yard-weaned animals. I am hesitant to make any comparison between this apparent benefit of social support and the stress relief available to humans from more intense social interaction, because the physiology of our autonomic nervous system is very different from theirs (see Chapter 38).

In September, 1996, when the third and final cohort of our animals was settled in at the feedlot, this project was entering its final phase, though it was far from finished. Unexpectedly, at that point, Penelope and I were relocated to Armidale, which was a major upheaval in our lives. I was 55 and she was 48.

Chapter 36 Armidale Again

Penelope had grown up and completed her schooling in Armidale under very difficult circumstances, so the idea of going back to live there was not on her list of things she wanted to do. In fact, early in our marriage she had said to me, only half-jokingly, that if I was to be transferred to another location, I must promise her it would not be Armidale.

But the State Government decided to close down its largest Biological and Chemical Research Institute at Rydalmere and transfer most of the staff out to EMAI where I was. They warned there would be jobs lost in this process. I felt quite secure because I had a large team and my work was going well. But I had heard that a new Cooperative Research Centre for the Beef Industry was being established at the University in Armidale, so perhaps it shouldn't have come as such a surprise that my entire team was transferred to Armidale to free up space at EMAI. That night when I got home I said to Penelope: Good news that I still have a job, BUT . . .

To her great credit she grasped this new opportunity with both hands. We managed to buy a very nice house – the newest house we've ever lived in – and resolved to make Armidale our home. Penelope had been forced to give up her beloved electron microscope on medical advice because its bad ergonomics had damaged her neck, but she was now a much-valued Ward Clerk in the Nepean Hospital, so it was a wrench for her to leave that. All our friends in the Blue Mountains farewelled us, not realising that we would be returning within a few years.

The huge task of rounding off and writing up the Pre-Boosting Project seemed to weigh heavily on my mind and occupied almost all of my time, so I can't say that my work life was very exciting during the time we were in Armidale. There was a lot of lab work still to be completed and my best Technical Officer was one of the members of our team who decided, for personal reasons, not to move. I was supervising two PhD students from my time at EMAI who were writing up their work. At times, my spirits were quite low, but at least I could see the end of this project in sight.

One saving grace for me was that I became an Honorary Research Fellow at the University, attached to its world-renowned Neuroscience and Behaviour Group, where I co-supervised some graduate students. I had a paper published in the *International Journal of Comparative Psychology* in 1998 called *Animal Cognition in Relation to Farm Animal Welfare: The Need for a Different Approach*. I was pleased with it, but it certainly didn't help much with my future promotion.

Penelope had several clerical jobs while we were in Armidale, but none of them was the least bit satisfying for her. Added to this, our social life was strangely fractured in that we found, after a while, that our friends were divided into two groups that were completely incompatible. I will explain how this happened.

The serious game of Contract Bridge had been a very strong interest of Penelope's for much of her life, so she joined the Bridge Club in Armidale. She was always amongst the better players in whatever club she joined, so she was accepted with open arms. So much so that we got to know the University Vice-Chancellor's family and played tennis at their home on weekends with others from the 'Armidale Elite.' We hosted dinner parties that included some 'important local people.'

At the same time, we formed close bonds with other Armidale people whose lives had been a struggle because of alcoholism, including some of the Aboriginal men and women whom we met for coffee in the town. So we became aware of a more divisive class consciousness than we had ever experienced before. We tried to ignore our uncomfortable feelings and just get on with everyone, but our earlier idea of making Armidale our home for the longer term evaporated away.

By the third anniversary of our arrival in Armidale, in the Spring of 1999, we had made arrangements to sell our house and had purchased a future home back in the Blue Mountains. My son, Chris, helped in that regard because he lived in the house for a few months until we arrived.

Chapter 37 Retiring Twice

I was just 58, so the conventional retirement option for me was still two years away. But there was no doubt in our minds that we were going to return to the trees and the sandstone, bushwalks and canyons, and the community we had come to love in the Blue Mountains. On Christmas Eve, 1999, we landed at Faulconbridge, where we have lived ever since, with a great pile of boxes to unpack and an assortment of furniture that didn't quite fit, but very happy hearts. The removalist said we had too many chairs.

Reflecting once more on the gratitude I feel towards all the people who have helped me is a reminder, again, of the huge part that Penelope has played in my life. Heading a long list of practical things that she managed well is our financial situation. From the day-to-day convenience of having separate accounts for every purpose to the broad vision of achieving financial security, she had led us so well that we were now completely free of debt in a comfortable home that was our own. It was a happy place to start thinking about what retiring from work might actually mean – even though I was still employed and on long-service leave at that stage.

I was very unsure about retirement, like many people who work all their life for an institutional employer. I also knew it hadn't really started yet, because my leave would run out in February, 2001, but my Super scheme required me to work right up to my 60th Birthday in August that year.

Immense thanks go to my employer who gave me another job from March to August in the form of a small research project that I could manage from an office in Richmond, back in the building where I had been the OIC all those years ago. I collected data about the efficacy of the Department's new website for assisting farmers during a drought. That kind of proper evaluation had been a requirement laid down by the funding body that had paid to set up the website.

So I ended up retiring twice – firstly at a nice luncheon in Armidale in December, 1999, and secondly at a riverbank party during the Conference in Dubbo where I presented a Report on the drought website. I remarked

on that occasion that it was not easy to say goodbye to the people you have worked with for a long time, so I needed to have two attempts; it was true.

Summing up, I spent almost 40 years, from January, 1962, to August, 2001, employed as a Research Scientist in Animal Agriculture, essentially the Dairy, Beef and, to a lesser extent, Sheep, Industries. My idealism tells me I fell far short of achieving what could have been achieved. So, what is it you are trying to achieve in this kind of career? The answer, in a word, is publications. Every working day you remind yourself that, just as a baker produces bread and cakes, a florist dispenses flowers, and a tailor fashions fine clothes, every little thing we did was supposed to lead to a scientific, or semi-scientific, publication.

These vary in quality, of course, and you may achieve more of them if you work in a strong team in a fairly narrow field. I am happy to have been allowed to play, mostly as a loner, on a broader stage, though my obsessive interest in stress, and later in cognition, kept me reasonably contained, I suppose. I was happy to have been able to touch on some of the 'mysterious processes of Life,' in line with my rather vague ambition.

When you take stock of your life, so many things are going to be unfinished. I don't think I'm alone in thinking that. There were several scientific papers still to be written about cattle behaviour and stress when I packed up and left Armidale. My colleagues completed some of those. I had finalised the Industry Reports and was quite exhausted at that stage.

My salary promotion was stalled and even though I understood the supposed reasons for that, I was not particularly happy about it, because my superannuation payments would have been higher for the rest of my life if I had been promoted. But I must say that my sense of gratitude for my life easily outweighs that negativity.

Beyond Senior Research Scientist, which I was for many years, there was one more rung, with several levels, called Principal Research Scientist. The first time I applied for that was a few months after The Accident. I was told that one member of the Interview Committee believed I may have suffered brain damage, because my publications now included some weird

ideas about cognition that he felt were not relevant to farm research. Later, in Armidale, another Committee came to the same conclusion.

They were right, in a way, because The Accident did affect me, but only my attitude, not the workings of my brain. I felt much more carefree after my life had been spared in that way and was strongly inclined to research what interested me, about human life in general, rather than some of the more mundane practicalities of animal farming.

My grandiose philosophy that had served me quite well at times brought me undone when it came to salary progression in the NSW Agriculture Department.

But I certainly have no regrets about broadening my thinking and my work – it has been a great source of satisfaction and has filled my 20 years of retirement, so far, with pleasure and fulfilment far beyond what I might have expected.

Chapter 38 Stress and Love

So that's it for my 'career' as a Research Scientist, but not for my life story. I like the idea that your employment does not define your identity entirely, though I realise it shapes your life emphatically. My research interest was Stress and my broader obsession was, and still is, the idea of Love as a biological phenomenon, with a metaphysical aspect as well. Behind everything I've done there has been a background melody playing 'the mysterious processes of life' to remind me of 'the unknown.'

One thought that gave me satisfaction, even though I was yet to try to write it down, was that Stress as a natural 'force of life' seemed to be complementary to the other 'force' from the unknown that I called Love. Around this time I was putting these two together more seriously. In fact, my 'life purpose' seemed to have aligned itself with the idea that the rigours of the stress of life are ultimately redeemed only through the practice of love.

Maturana described our 'humanness' as a Biology of Cognition originating from the quality of connectedness that we call love. He was not the only scientist talking about love. An American Physiologist, Stephen Porges, also used the word in his research on stress in relation to the Autonomic Nervous System. The vagus nerve has been a crucial component of this as far back in our evolution as we can discern any kind of nervous system, and it has always been involved in the response to stress. By taking an evolutionary approach (like Maturana, in a way), he has worked out why we humans have several strands of the vagus nerve that have different functions (hence his term, Polyvagal Theory).[60]

The most primitive response to stress, suitable only for cold-blooded reptiles and such, was a 'freeze.' We still have this response, though it only operates in the most extreme situations. In mammals, which are more

[60] Dr Stephen Porges (now 76) is a Distinguished University Scientist at the Kinsey Institute and a Professor in the Psychiatry Department of the University of North Carolina. The best book about his work is *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-Regulation* (2011).

social animals because they suckle their young, the natural stress response is 'fight or flight.' We still have this function, too, in a more subtle form such as avoiding the issue or arguing against it, but it is not very effective for dealing with human stress. We have additional strands of our vagus nerve that promote the much greater intimacy that humans enjoy and also provide a natural 'brake' for our racing heart. These enable us to be deeply comforted by loving social connections and to negotiate with others regarding the sources of stress.

Porges defined love as 'an emergent property of the mammalian Autonomic Nervous System' – an evolutionary development that gave us another kind of response that has its effect through the quality of our connectedness. This is the extra level of response that I mentioned earlier (in Chapter 24). It seems fitting to me that the emotional support we receive from one another is our best antidote against harmful effects of stress. There are many therapies based on this principle. [61]

I feel personally connected with this idea in another way, too. I served an apprenticeship trying to measure the milk letdown hormone, oxytocin, in cows. Steven Porges' wife, Sue Carter, was one of the first to show, in her research on social animals, that oxytocin is what causes the strong attachment between one individual and another. In humans, it is now often called 'the love hormone.' It is one of the hormones triggered by stress and has a calming effect on the brain in both animals and humans.

Of course, I didn't know this at Ruakura in the 1960's. Nor could I have known that one of the strongest triggers for releasing oxytocin in humans is the experience of singing together in a group! So now I feel that the last part of my life is connecting up with where I started out.

There's a lot here that I wanted to write about in my retirement, but at that stage I was still looking around in all directions, wondering where to begin.

[61] Two examples are *Accessing the Healing Power of the Vagus Nerve* by Stanley Rosenberg (2016) and *The Polyvagal Theory in Therapy: Engaging the Rhythm of Regulation* by Deb Dana (2018), who worked closely with Porges.

Chapter 39 Spirituality, Leadership and Management

Being retired sounds like a license to live happily ever after, but in fact the transition is quite a difficult phase of one's life; it was for me, anyway. You don't realise how important the regular work routine and the challenge of meeting the expectations of others is to your contentment and wellbeing until they have disappeared from your life. In fact, I found you have to re-create those same disciplines that you had complained about in order to feel comfortable. But, you can choose your own direction and scope; that feeling of freedom was like the gold at the end of the rainbow for me.

I already had a support network of my old University contacts at Richmond. Before I retired, a group of them (including David Russell and others from Sydney University at Orange and Charles Sturt University at Bathurst) had set up a small Company to promote spiritual values in the workplace. Its name I didn't like very much, but its aims and ideas I thought were wonderful. It was called Spirituality, Leadership and Management, or SLaM, Inc. [62]

Before I realised how incongruous this was, I had become the Company Secretary – unpaid, of course. Learning about the Government (ASIC) requirements for Company Directors and the obligations, even for non-profit Companies with Charity status, was so different from anything I'd done before that I had that funny feeling again – how did I end up here?

I had already contributed to the first, thoroughly international, SLaM Conference held in 1998, with a Workshop presentation entitled *Science and Spirituality Converging*? This included several new songs and a group activity that involved looking through prisms to explore Johann Wolfgang von Goethe's unconventional, but brilliant, Theory of Colour. [63]

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[62] An organisation with the same aims, name and logo exists today and publishes an international Journal, but its website does not include the earlier work and Conference Proceedings of our Company that was its predecessor.

[63] I'd learned about this from Henri Bortoft's book *The Wholeness of Nature* (1996), which is based on Goethe's scientific consciousness. I corresponded with Henri later when I was using his work in my lectures for the University of the Third Age.

At the second SLaM Conference in 1999 I contributed quite a long paper for the Proceedings titled *Songlines in the City: Hearing the Spirit Dimension*. Though I was still working at Armidale at this time, it's obvious that my other interests were taking over; in this case, exploring the effects of sound and music in human interaction, including some illustrations from Aboriginal culture. At the Third SLaM Conference, held at the University in Ballarat, I combined with Julia Hardaker, a friend from Armidale, to present a workshop about managing people. My last involvement with this pioneering group was when David and I did a Workshop in Canberra called *Love at Work* that included new songs and ideas. [64]

A member of the SLaM Board was the CEO of Stanwell Corporation, a major electricity supplier in Queensland. [65] In 2001 he hired me to do a Workshop at their Head Office in Rockhampton. It was called *Knowledge and Spirit in the Workplace* and included the new songs *A Little Knowledge* and *No Singing Allowed in This Boardroom*. I couldn't really gauge how the attendees felt about what must have seemed an unusual presentation, but they were open and receptive and laughed at the funny bits, so I felt reasonably satisfied. I felt honoured to have been given this opportunity.

Within my Department I was given a voice regarding ways to improve the effectiveness of our oral and written communication with our clients. I had a paper published on this – *Words are Not Cheap: New Theories of Communication and Their Relevance to Our Program*. Perhaps the most surprising thing, to me, was that my Talk on this subject to my colleagues was awarded the Prize for Best Presentation (a bottle of wine) at an internal Conference. They were more interested in hearing my ideas about Maturana and connectedness than I had expected.

[64] The songs and some texts from these presentations are available on the website.

[65] His name is Ted Scott and he wrote (with Phil Harker) *The Myth of Nine to Five* (2002). Since then he has been a Director of Human Factor Australia and Chair of the Cooperative Research Centre for Engineering Asset Management.

Chapter 40 Home Exchange

A very economical way to travel and enjoy living in another place is to swap your house and car with someone else for a few days or weeks, through an agreement that protects the property of each party. We embraced this idea of Home Exchange several times, between 2010 and 2017.

Our first exchange took us to Perth, WA, for about a month. Particularly for Penelope, the experience of living in a place that was not thoroughly clean, by her standards anyway, was one of many small challenges that we were determined to take in our stride, because we loved the idea of having enough time to explore the place we were visiting and make a home away from home for a while. As well as time in Perth, we took short trips a few hours to the North and then South, including Margaret River. But our favourite place was Fremantle where there are bookshops and cafes to satisfy the most eager souls, as well as museums, ships and an infamous jail. We went back to Fremantle several times.

While we were on this trip I was finalizing the manuscript for my first self-published book, *Mind and Love: The Human Experience*. We talked about taking the new book to England, perhaps to promote it through my contacts in the Scientific and Medical Network. That was how our next Home Exchange came about and it was a truly wonderful experience, though we didn't end up promoting the book much at all.

We lived in a large house just outside the village of Grundesburgh in Suffolk, England, but I remember the time more particularly for the delightful East Anglia town, Woodbridge, that was on the coast, nearby. We went there often and got to know some people and enjoyed just walking around the old town. We explored the coast further north with its long jetties, seafood and icecream shops, right up to Norwich in Norfolk; also several local towns along the very narrow roads that were a new kind of challenge whenever you meet a vehicle coming the other way. Penelope played Bridge with some very highbrow new friends and we enjoyed going to Sutton Hoo, where archeological treasures are buried.

Cambridge was not far away and we spent enough time at the University to marvel at its history (since 1209) including the Cavendish Laboratory and associated Museum. We travelled to London by train a couple of times. For the final week, on our way to the airport to fly home, we visited Winchester and Salisbury down south and also my cousin John Fell and Juliet at Farnham in Surrey.

We arranged the next trip with a retired medical researcher who lived in Wellington, New Zealand, especially because I wanted show Penelope some of the places where my Father grew up and do some more research on family history. We lived at Karori and would often catch a bus into the city for me to go to the National Library, which was wonderful. We also drove up to visit a cousin, Alison Mildon, at her home outside Palmerston North, where we learned a lot more history. I've kept in touch with Alison since then. We also had dinner with another cousin, Peter Hector, who lives in the original Fell house at Mahina Bay.

Our visit to Nelson, across Cook Strait on the South Island, was the highlight of this trip. We were able to walk the streets where my great grandfather, Alfred Fell, had lived and worked, and stay for two nights in his original residence. It is now a larger establishment called Warwick House, with elegant suites, but because these were already booked, we were offered a very ordinary room in the original part of the house, which made it more exciting for us. We had hired a car for the last leg of the trip to Nelson, so we could also travel into the hills towards Motueka where another cousin lived with his wife on an organic farm with milking goats and a host of other animals and plants. [66]

We had other Home Exchanges, including Auckland, later, during which my brother, Bill, came over, so that he and I could drive up to the Bay of Islands, where our Father had been farming before he came to Australia. That was a memorable connection with the past.

[66] His name is Francis or Frank Fell, though he is better known as the New Zealand poet, 'Cliff Fell.' He teaches at the University in Nelson.

Chapter 41 University of the Third Age (U3A)

The Nepean-Blue Mountains University of the Third Age (now called Western Sydney U3A) became the perfect outlet for my desire – now stronger than ever – to write and speak about what I had learned about 'processes of life' from Maturana, Stephen Porges and others, and from my own experience.

University of the Third Age was created in France in 1973 especially for older people whose education may have been interrupted by the Second World War. A decade later it was modified in the UK to be more of a self-help community. There are now some 300 semi-independent U3A bodies in Australia, filling an important role in adult education for seniors and retired people. The beauty of it is that all the unpaid lecturers are retired people themselves, there are no Course fees, and no Diplomas or awards of any kind for those attending. It is 'learning for the sake of learning' so all those who come along are there for their own pleasure, which makes every session a lecturer's delight! You soon find out whether what you are offering is of interest to people, because if it's not, nobody turns up!

How was I going to translate quite complex biological science and ideas that were not really part of mainstream thinking, anyway, into interesting Courses for retired people whose background education was unknown? It turned out that many of my attendees did have some experience related to Psychology and, of course, all of them had the most valuable experience of all from having lived their own lives for many years. In the years from 2002 to the end of 2018, this is what I did, and it was the most satisfying and wonderful activity I could have imagined. People kept turning up and some came back year after year, because I developed new material each year. Without U3A, my life would have been very different and, I would guess, very much the poorer.

My first Course was called *Mind-Body Science*, though perhaps the very personal way I presented it was one reason some people called it 'Mind-Body-Spirit,' that being quite a popular phrase, anyway. There was a spiritual component to it, because of the way I emphasised the unknown

as being more important than the known. But there was a lot of neuro-physiology and other science, too, and all participants knew the name, Maturana, and the word, 'autopoiesis,' before they were halfway through. It was all about the human mind and quite a lot about stress, but when I asked the class from time to time what they thought the Course was actually about, they generally answered that it was about love. I must admit I was secretly pleased to hear that.

Over time I simplified the concepts of autopoiesis and structural coupling into two words, Being and Belonging. My definition of Mind was 'that which connects us to the world in such a way that we can also be ourselves.' We talked about the practice of love – not as something you might happen to 'fall into,' but as something you can work at every day, in all kinds of relationships. The attitude that we call 'loving' is what optimises our Being and Belonging so that both can be strong and fulfilling. It's the only way we can ensure that our individuality and our togetherness are kept in a healthy balance.

There were new books coming out all the time in this field, and I was always browsing in a bookshop. At each fortnightly lecture I took a few of the newer books along to talk about and show to the group. [67]

These were in addition to the acknowledged classics such as *The Art of Loving* (1956) by Erich Fromm, *Man's Search for Meaning* (1959) by Viktor Frankl, *Love and Will* (1969) by Rollo May, *The Road Less Travelled* (1978)

[67] These included *The Social Animal: The Hidden Sources of Love, Character, and Achievement* (2011), *The Road to Character* (2013) and *The Second Mountain: The Quest For a Moral Life* (2019) by David Brooks; *Intelligence in the Flesh* (2015) by Guy Claxton; *The Neuroscience of Human Relationships* (2006) by Louis Cozolino; *The Emotional Life of the Brain* (2012) by Richard Davidson and Sharon Begley; The *Buddha's Brain: The Practical Neuroscience of Happiness, Love and Wisdom* (2009) by Rick Hanson and Richard Mendius; *The Happiness Hypothesis* (2006) and *The Righteous Mind* (2012) by Jonathan Haidt; *Anam Cara* (1997), *Eternal Echoes: Exploring the Hunger to Belong* (1998) and *Divine Beauty: The Invisible Embrace* (2003) by John O'Donohue; *A Guide for the Perplexed* (1977) by E.F Schumacher; *The Mindful Brain* (2007) and *Mind: A Journey to the Heart of Being Human* (2017) by Daniel Seigel; *Mind and Life* (2007) by Evan Thompson; *The Biology of Wonder* (2016) and *Enlivenment* (2019) by Andreas Weber; other books that have already been referenced in this book and dozens of others as well.

by Scott Peck, *The Chalice and The Blade* (1987) by Riane Eisler and *The Power of Now* (1999) by Eckhart Tolle.

I was trying to share my enthusiasm for the fact that the happiness and satisfaction we enjoy in our lives is essentially self-generated and fuelled by the way we relate to people other than ourselves.

I served on the U3A Management Committee for five years and was the Vice-President (Blue Mountains) for two of those. I have the greatest respect for the individual U3A's everywhere, because I think they meet a great need we have to keep our minds active as we get older. I'm a little sad that women far outnumber men in U3A generally. But there are Men's Sheds, Golf Clubs, Rotary and Lions where the men probably outnumber the women.

Speaking of Golf Clubs reminds me that I joined at Springwood and played golf in a foursome once a week for the first few years of retirement. The physical exercise and the mateship was enjoyable, but my skill level was so poor, with no signs of my handicap improving, that I gave it up altogether and have hardly ever played golf since then.

The lecture notes I prepared each fortnight for U3A became the basis for the self-publishing enterprise that has come to be so important to me since then.

Chapter 42 The Quest Is Far From Ending

What you find in the strands of your life story includes everything you have chosen to pay attention to over the years. In writing about the human mind I came to realise that one's attention process is indeed the driving force. Life will consist of whatever we choose to attend to.

When describing Maturana's ground-breaking ideas (back in Chapter 27), I mentioned the significance of 'proactive perception' – the fact that the world we notice around us is not exactly the same as it is for others, because our nervous system shapes it according to our own nature and our experience. The most radical 'constructivists' like to think there is no objective world that is independent of us – that we make it all up. I don't agree with that, but I do believe that our interaction with the world is a co-creation.

Beginning in the Prologue and throughout this book I have emphasised interdependence. Nothing I have done in my life has been done alone. My identity as a person is the result of every interaction I've had with other people and with the other ideas I've studied in my reading. So I regard my perception – what it is that I attend to – as being a combination of what is out there and whatever shape I want to give it, a co-creation.

The person who has written most about the fact that we become what we attend to is the man I am studying most closely today. He isn't the only one, but it's fair to say that, just as Maturana was an obsession in my 50's and 60's, Iain McGilchrist has become my hero and my hope for the positive power of systemic thinking in our future lives together. [68]

He is a British author, philosopher and polymath who lives on the Isle of Skye, having previously been an Oxford literary scholar, neuroscientist,

[68] Dr Iain McGilchrist, who is now 68, is the author of several books, two of which I believe are extremely important. The first of these is *The Master and his Emissary: The Divided Brain and the Making of the Western World* (2009, updated 2017). His new book, continuing this monumental analysis of how the divided brain affects our lives, is *The Matter With Things: Our Brains, Our Delusions and the Unmaking of the World* (2021). It is in two volumes, 650,000 words, 1600 pages, and has 5700 citations!

and psychiatrist in a distinguished career. His work has demonstrated that the two hemispheres, or two sides of our brain, are so different in how they utilise our attention, they create different 'worlds' for us to live in. The increasing emphasis, nowadays, on attending with our left brain, in preference to the right, has produced a society and a world with many problems. Our best chance of overcoming these difficulties will include paying more attention with the right side of our brain.

This is a completely new idea – not simply the 'folk science' from the 70's and 80's that language and reason are left brain activities and art and music come from the right, which is mostly incorrect, anyway. The world as we see it (all the people, everything), and understand it with our mind, is not something separate from us – it is our co-creation and we are a part of it. So we need a systemic view of how it all works together, which is actually much the same as understanding Biological Science.

The left side of our brain is a very useful tool, but it gives us a particulate view of our world as made up of many individual parts that need to be considered as separate, so we can find ways to manipulate them to our advantage. That is the great power of our logic and linear thinking, which although it distorts the idea of causality (which is never linear), gives us a semblance of control over our world. It also lulls us into thinking we know more than we do about everything.

In the Prologue I emphasised the unknown and the importance I place on weaving everything together to try to 'embrace the wholeness.' It's my belief that we need to appreciate wholeness to understand the parts, not the other way around. It is by drawing on the right side of our brain that we are able to do this. Our left-brain-heavy society runs on bureaucracy and abstraction, but each of us is capable of a more holistic and beautiful existence, which is what I wish for you and for myself. I have written about this in my previous books and want it to be a part of my life story.

I hoped to meet McGilchrist in England in 2011, through the Scientific and Medical Network, but he wasn't at the meeting I attended. One of my U3A students who heard about him from my lectures did arrange for he and his wife to visit Iain at his home on the Isle of Skye, where he cooked them a nice dinner. I was so envious!

Of course there are many other contemporary authors and researchers whose ideas about systemic, as opposed to linear, thinking are building new concepts around this central idea. The incredible connectivity of the online world gives us access to podcasts and video presentations in far greater volume than I could ever have accommodated in the much simpler world of my intellectual journey. These are a few books that have been important for me. [69]

So the quest is far from ending and I am grateful that my wits still allow me to be part of it. I hope you will enjoy your own quest, whatever form it takes, long into the future.

[69] *Wholeness and the Implicate Order* (1980) by David Bohm and *The Web of Life: A New Synthesis of Mind and Matter* (1996) by Fritjof Capra are classics in this field. *The Patterning Instinct* (2017) and *The Web of Meaning* (2021) by Jeremy Lent are more recent and more starkly political. *Interdependence: Biology and Beyond* (2015) by Kriti Sharma captures the essence.

Chapter 43 One Day at a Time

To say nothing about the stressful rigours of getting older would be hiding the truth about one's life, but to labour the point would be of little interest to others, so this Chapter is brief.

2018 was a year of new opportunities for spiritual growth arising from the diagnosis of a life-threatening illness for both Penelope and I.

My diagnosis with Prostate Cancer in May came as a surprise; I had been vigilant with blood tests, but the critical change in my PSA level was quite sudden. There are different strains of this disease and this one was described as 'aggressive.' It had already spread into lymph glands so it was also labelled as 'advanced.' But even so, treatment is effective, at least in the short term. I was told my prospects of getting to my 80th birthday were quite good!

Then, in June, Penelope was diagnosed with a kind of Pancreatic Cancer known as Ampullary Cancer, which was discovered in her bile duct. Her prognosis was far worse than mine. There is a huge surgical procedure for treating this cancer, which involves months of recuperation and longer-term risks, so Penelope decided she did not want to go down that path. She wanted to hang onto her quality of her life for whatever time she had left. This was estimated by Oncologists to be six to twelve months – perhaps more, perhaps less.

A year later, in June 2019, she had lived through quite intensive palliative care and had lost weight very noticeably. In the three years since then she has not needed the palliative care team and mostly keeps pain, nausea, and some unpleasant convulsions at bay with medication. Not every day, but on many days, she is able to weed the garden, do some cooking, go out for coffee with friends, and even do some ironing (which is her least favourite chore), but she had to give up playing Bridge (that she loved) and most of the other outings we used to enjoy. She needs to sleep during the day, but certainly makes the most of her waking hours.

We both learned more about what it feels like to really live 'one day at a time.'

When my 77th birthday came along in August that year we had a gathering that was prompted by our life-threatening situation, especially with regard to Penelope. It was held at our house with our reassuring sandstone in the background. Chris organised the food to be professionally catered. It was wonderful to have so many of my family, including the grandchildren, there on that day.

From L-R: Nick's daughter Emily, John's wife Ruth, Chris's wife Cathryn, Nick's son Will, Nick's wife Elizabeth, Nick, Chris, John, Anne, Chris's daughter Jessica, John's son Jeewhan, Penelope, Chris's daughter Charlotte, Andrew's wife Kavitha, Penelope's son Andrew, Andrew's son Jai, Andrew's son Kade, Lloyd, Chris's daughter Emily (added in later), Andrew's son Ajay, John's son Heemang.

Chapter 44 Self-Publishing

When I first retired, I thought it would be easy to write a book about the Biological Science that had shaped my thinking about the human mind. I felt that Maturana's original ideas were not being utilised as they could be. Following from this was the feeling that Porges' understanding of love and stress was also under-estimated, and McGilchrist's insight on the way we are using our brains was not being heard widely enough.

But my first attempts to write it down came to nothing. It was not just that the task was daunting – who would publish such a book anyway? I wondered if my lifetime work of producing publications might be over. It was the writing of lecture notes for the University of the Third Age that provided the impetus and the organisation that I needed. After a while I found I was writing 5000 words each fortnight for a handout on *Mind-Body Science* and doing sufficient reading to include the latest developments that were coming thick and fast.

In 2010 I decided that a re-write of these lecture notes would constitute my first attempt at self-publishing. I chose *Lulu.com* to facilitate this because they offered Print on Demand (POD), which means a book is only printed after it has been ordered, so nobody has to carry a large stock of printed books. The costs were minimal because I used the simplest of their formatting and publishing options. They also have a large online catalogue, which means that you do sell some books, though the income from that was not my main concern. [70]

Mind and Love: The Human Experience (2010, ISBN 9781446613334, paperback, 266 pages) sold on *Lulu.com* in small numbers at a steady rate for several years, as did my second book, *Dancing With The Unknown: Feelings and Everyday Mind and Soul* (2017, ISBN 9780994333216, paperback, 145 pages). In 2021, I removed both books from sale to make them free downloads, the same as everything else on the website, so I no longer had to explain the very small cheques coming from America every

[70] All my books bear the publishing name, BIOSONG. This is not a Registered Trademark, simply a label I have carried with me for many years.

few months. I didn't really want a second income and the complicated, lengthy process of working with a professional publisher didn't appeal to me, even though I knew their professional editing skills would have improved the quality of my work.

When the first copies *of Mind and Love* arrived, I was so excited I told some friends at the University and they kindly organised a Book Launch for me during the Residential for their Masters students in Social Ecology. It was a reasonable success judging by the number of copies sold. All my U3A classes purchased those first two books for their Courses over the next few years and some wanted multiple copies of *Dancing With The Unknown* for friends and family. I passed on some copies of *Mind and Love* to members of The Scientific and Medical Network in England when we were there in 2011 and, as I said, it was reviewed in their magazine.

I also realised that my website could be more important as a contact point for my own family; I had been thinking about and beginning to write two books about family history. The first was about our growing up on the family farm; it was also a kind of memorial for our parents because neither of them has a tombstone. It became *The Twin Pines Story* (2015, ISBN 9780994333209, paperback, 163 pages) which was entirely self-published. I don't claim sole authorship, because it is told partly by Bill and Margaret, my brother and sister. It's surprising to me how many people from outside our family have read and enjoyed it as well as many family members.

Then I put some stories about my ancestors on the website. Amazingly, relatives from all around the world started to contact me – some to correct what I'd written, several to provide new information, and others just to introduce themselves. This illustrates the power of the internet for making connections. A few years later, *The Luck of the Fells* (2020, ISBN 9780646817965, paperback, 108 pages) was completed and added to the website. Printed copies were sent to many relatives overseas and one is held in the Fell Family section of a University library in New York where a cousin of mine is an Emeritus Professor. [71]

[71] Jocelyn Godwin is a great grandson of Sir Arthur Fell (1850-1934). He has been a Professor of Music at Colgate University in New York and a prolific author on musicology and related matters that are quite esoteric.

This book you are reading now completes the Trilogy concerning family and personal matters. The whole idea of writing those three books is to pass on some information to future generations.

My writing about Maturana's ideas gradually morphed into my own story about the human mind and the importance of love, culminating in a little booklet (5000 words) about the way I use these ideas myself, called *Get Life: A Personal Philosophy and Practice* (2019, uncatalogued).

The most recent book, *I Said to Myself: Wondrous Mind* (2021, ISBN 9780994333223, paperback, 106 pages), is a bit different, being a Dialogue (in the honoured tradition of Plato, Socrates and others). Dedicated to Penelope, it includes the little story about how I proposed to her at Govetts Leap (see Chapter 20). It's an update of my basic ideas about the human mind and again celebrates kindness and love, but this book also has more of the thinking of Iain McGilchrist running through it. I had mentioned his work in the earlier books, but in this one his ideas take centre stage. My thinking about consciousness as being prior to materiality is also elaborated a little more.

Getting these seven books into a publishable form, even up to the mediocre editing standard that myself and a few friends could achieve, has taken many hundreds of hours of hard work. As a result, my life and work have not been very well balanced in recent years, in that I spend too much time working at my office desk. A contributing factor has been the amount of sleep Penelope needs to cope with the Cancer she has lived with for years, and before that a painful and debilitating Fibromyalgia, which means we can only do things together for a part of the day.

I don't mean this to be a complaint because it has also been a gift at this stage of my life. I love writing, even on difficult days when the words don't seem to flow. It gives me a sense of purpose and thoroughly occupies my mind.

I feel connected to natural beauty and wonder by the garden I see through the window of my office and strengthened by the sandstone outcrops that are common around here.

When I'm not writing, this is also the place for the prayer and meditation that is my communing with God, the unknown whole – or simply Nature.

A heart attack near the end of 2021, followed by open-heart surgery, interrupted the flow as I was getting close to completing this book. Thankfully, I am still here to work on more detailed editing. You never quite know when to finish up a book – until one day you make that decision.

Chapter 45 Spiritual Awakening?

One morning I awoke to a blinding flash of light and a terrifying tremble, and immediately understood the meaning of everything. No! No! I am joking. Nothing like that. But I used the phrase, 'spiritual awakening,' at the very beginning of this book, so I'd like to explain what I mean by that.

It has been a gradually increasing awareness of what is other than myself.

My special flaw had two opposite effects in my life; it looked like being my downfall for quite a while, but then it set me on a path that has been more beneficial than I could have imagined.

For as long as I was trapped in my addiction to alcohol, I had an abiding need to think of myself before I could think of the rest of the world. The significance of anything that happened was the way it affected me and my life. I didn't even want to feel special or of primary importance – in fact I often felt ashamed and unworthy in those days, as I've tried to explain. And it didn't mean that I was always inconsiderate towards other people; I was polite and respectful in many ways. It was a state of mind that defined me at a deeper level.

The path that gradually revealed what I call my spiritual awakening began with tiny steps towards seeing myself as one small part of a larger system. Whatever happens to me has to be dealt with by me, but it is actually just a small part of a much larger whole. Had I not become so trapped in the 'bondage of self,' I might never have been so attracted to appreciating the systemic nature of Biological Science, the human mind and the whole human race. Nor would I have glimpsed the potentially destructive nature of non-systemic, linear, left-brain mindsets. So my special flaw became my saving grace – though this was a very slow, gradual process.

Seeing myself as just a tiny part might sound like an excuse for not taking responsibility for my own actions. In fact, it has been the opposite, because I could now see that what I do really does have consequences, and some of these may not be what I intended. By taking the emphasis away from what was being done to me, I could look at what I might do

to try to support others. When I feel bad about myself and I get stuck in this self-absorbed state, the most effective way I know to get out of it is to think of someone other than myself and try to contact him or her to find some way I could be of service or good cheer.

This does not mean I see myself as a 'Good Samaritan' who is always doing 'good works' – far from it. Even my friends would laugh at that suggestion. I lose heart from time to time and the 'bondage of self' takes over for a while, so I don't feel very charitable or generous towards anyone or anything. But now I can move on from that state fairly quickly.

The very idea of what is 'other than myself' is another enigma, and it invites another paradox, because I am also a part of everything there is. I need my personal autonomy – 'that which happened when life first began,' to quote Maturana – to be myself and to have a 'life purpose.' That life purpose will always be a 'work in progress,' but it will have something to do with practicing love to the best of my ability, which means – to me – that my personal autonomy is infused with a systemic vision.

I would hate to have missed this spiritual awakening. I'm quite a happy, contented person most of the time. My desire to be ahead of where I'm meant to be is less demanding than it used to be. It doesn't seem to matter quite so much that the answers I am seeking are always just out of reach. I have moved towards loving the questions, as suggested by the famed Austrian writer, Rainer Maria Rilke, in his *Letters to a Young Poet*. He wrote: 'Be patient towards all that is unsolved in your heart and try to love the questions themselves . . . Do not now seek the answers, which cannot be given because you would not be able to live them. And the point is to live everything. Live the questions now. Perhaps you will . . . gradually, without noticing it, live along some distant day into the answer.'

A wonderful thing happened to me recently. I was invited to write one of the tributes to the late Humberto Maturana for a special issue of *Cybernetics and Human Knowing* that celebrates his life and work. This gives me one more peer-reviewed, scientific publication. [72]

[72] L.R. Fell (2022) Animals and Humans Alike. *Cybernetics and Human Knowing* (In Press).

Chapter 46 Awareness of the Unknown

I was going to call this Chapter: The Unknown – until I stopped and had a laugh at myself. I can't describe the unknown! There is an enormous human urge to learn more and obtain more information to try to make the unknown known. My research career is an example of this. Often, it's not easy to accept the unknown, or come to love it as I'm suggesting, when we would really prefer it to be known.

This closing Chapter is actually about an awareness that what I know is very little, compared to what could, perhaps, be known. This is not a scientific statement – it's simply a belief I have, which I cherish because I find it useful.

At the beginning of the book I mentioned that it helps me to build self-confidence along with humility. It underpins my experience of 'spiritual awakening.' I also said I wanted to belong to something larger than myself with an attitude of trust and positive expectation, because I believed it would 'take care of me.' I simply thought: the unknown could be my friend, or my enemy, so I chose it to be my friend.

I try to love the unknown because I have a sense that the wholeness of the larger system to which I belong, that includes the unknown, is expressing love towards me. Because what I attend to really determines the quality of my life, I generally try to expand my attention, especially when I find it being attracted to separate, negative-sounding, parts. By expanding attention, I become aware of a larger system in which interdependence prevails and, therefore, also, kindness and love.

I don't claim to understand human consciousness, nor do I understand human love, but I feel they have much in common. My daily communing with an unknown God seems to remind me of that.

I don't think of the unknown as an endpoint because it's a constant presence. One's life story concerns a journey, rather than a destination. I've written about this in *The Twin Pines Story*, where we made a farm that is no longer there, yet the making of it was an important part of our lives.

The strands of this story are not meant to be permanent fixtures, either. Writing it down preserves it in a small way, but I prefer to imagine the strands of my life as experiences that passed by, like stories you've heard or movies you've seen – you noticed and appreciated them, but then they moved on, like a Kookaburra's laugh or the clouds in the sky.

I love my life as it stands at this moment. When it comes to an end, I will have re-entered the unknown.

One great thing about the unknown is that what we don't know gives us an attitude of wonder and, fundamentally, we need wonder to have hope. Knowing everything that is going to happen would be an impossible burden.

My Father died in 1957 when he was 67 and I was 15. In the last conversation I had with him, he expressed his hope for my future. He said there were so many new scientific developments on the horizon that my world would keep changing in unbelievable ways. He hoped I would absorb and enjoy each new change and put it to good use in my life.

I have tried to do this, but also to balance the rather narrow-minded expansion of what we call Science with a broader vision that is our Spirit.

Those of you who are younger will encounter far greater changes than I did, occurring at a greater rate. That accelerated change is very evident, even now. My closing lines are therefore the same as my Father's: I hope you can absorb the changes and enrich them with your positivity and love. Try to carry the virtue of wonder with you every day. That way you will always have hope in your heart.

EPILOGUE

The Whole Embraced

I don't even know what 'the whole' is; I can't give a material description of something called 'the whole.' But that doesn't prevent me from wrapping my arms around it as an expression of that primary need I mentioned at the beginning of the book – my need to belong.

I am one of many researchers, writers and thinkers who believe that matter is probably not the basic 'stuff' of our existence – that our consciousness is primary and can't be explained in terms of anything else. There is a part of us that deals with material reality on a daily basis, without which we wouldn't survive; our classical Science (Physics) helps us to do that. But that is not everything we are – we are more than that. Material reality does not entirely satisfy what I feel as my need to belong.

The conscious experience I have of my life includes a yearning to be a part of something larger than myself and to respect that, unconditionally. That is what I call love.

My consciousness wanted to weave together some strands that make up my life story. That weaving has created the 'fluffy ball' that is this book.

If nothing else, it has helped me to accept my life as it is: a bit weird in places, but not obtrusively so; essentially hopeful and kind-hearted; a bit too idiosyncratic to be a role model, but there might be some mistakes I made that you can learn from. I have no need now for congratulations or commiserations. That's just how it is.

Your idea of consciousness and your own experience of life will be unique and different – and wonderful. May I wrap my arms around that, too? To embrace is to love.