

Biographical Memoir

(Excerpts)

By Anthony Klein

Ancestry

The opening chapter of a biographical memoir should, traditionally, be about origins, genealogy and all that, which required a lot of research that I was not so sure about, so I left it for later and began with Chapter 2, about my childhood and earliest memories. One of my main reasons for leaving the ancient history for later was that I had always felt that genealogy is bunk, to echo Henry Ford's thoughts on history. Let me explain: with 2 parents, 4 grandparents, 8 great-grandparents and so forth, any individual can claim to be descendant from 2 to the power n after n generations. So even going back a modest 10 generations, conventionally about 250 years, one has 1024 ancestors.

Going back 20 generations – to sometime during the renaissance - one would have over a million and after 30 or so generations something like a billion direct ancestors, that is more than the whole world population at that time! Tracing back through the family tree one could therefore claim to have descended from practically anyone, including all the famous people who have lived at that time, say at about the turn of the first millennium. By the time we go back about 2000 years therefore, I can claim with virtual certainty to be descended from Jesus of Nazareth. (On his Mother's side, of course). Beat that, you who claim Charlemagne or William the Conqueror as your ancestor!

The earliest factual connection is with my great-great grandfather, ... , David Klein (b. ca. 1800) somewhere in Hungary, possibly in Kolcse, which is a village in the Szatmár region, in the Northern Great Plain region of eastern Hungary, bordering on what is now Romania. No idea what he did for a living, other than noting that the region in question was a hotbed of ultra-pious religious Jews, so perhaps he was another rabbi, carrying on the Eisenstadt tradition. Indeed, the town of Szatmár (Satu Mare –Large Village- in Romanian) is the birthplace of a famous rabbi (the Szatmári rebbe), the founder of an ultra-religious sect of Jews, spread all over the world, including an enclave even in Melbourne. They are known for wearing outlandish garb, having lots of children and embracing many fundamentalist ideas about Judaism.

David Klein married Fina Fischer, a young lady from the same village, who gave birth to my great-grandfather Abraham Klein (*Asher Avram ben David*) in 1831. Regrettably nothing much that is factual is known about him. Again, no idea what he did for a living, apart from procreating, after marrying Borbala (Barbara?) Leichtman who gave birth to 2 girls and 4 boys, whose names, for the record, were: Amalia (?-?); Rella (1876 – 1946 - echoes of Fiorella?); Vilmos (William, 1863 – 1911), Lajos (Louis ? - ?); Moritz (Morris, 1864-1927) and Antal (Anthony, 1867 – 1911), my grandfather, the second youngest, whose name I carry. Each of them had several children, Moritz (my father's uncle *Moishe*) in particular, who fathered no fewer than 10), all born around the start of the 20th Century.



Ana (née Gramisch) and Antal Klein – paternal grandparents

Grandfather Antal Klein - uncle Tony , or Tony bácsi in Hungarian, (Antal being the equivalent of German Anton or English Anthony) - is identified on my father's Birth Certificate as a "liquor retailer" of 6 Rottenbiller Street in Budapest. The place is still there, of course, but no longer a pub or liquor store. I visited it in 1994: It is in the erstwhile Jewish quarter, not far from the famous and monumental Budapest Synagogue. I was very chuffed indeed when Maia sent me photographs of herself outside the same place that she visited too, on a continental holiday in her student days.

My grandpa Tony married a very beautiful young lady called Anna Gramis (Gramisch) who hailed from a place near Bratislava in Slovakia - another place where Jews prospered after being driven out of Austria, but still part of the Austro-Hungarian Empire. A photograph of the young couple from around 1890 shows her in profile standing next to and holding hands with her seated husband. Without a doubt the hereditary Klein nose is clearly identifiable as inherited by me and along with that, her good looks passed on to Maia and to cousin Thomas's beautiful daughter Fiorella. Anna Klein, after whom Anita is named, had masses of beautiful wavy dark hair too, which I also inherited... that's when I still had lots of hair!

In due course she gave birth to four boys, of whom my father, Imre, (German equivalent Emerich, English: Emeric) was the second youngest. The oldest two were Artur (Arthur) and Miklos (Nicholas) and the youngest was Dezső (Desmond). Tragedy struck in 1911: Both my grandparents came down with pneumonia and died a few months apart, leaving their four boys orphaned. A family conference agreed to pack them off from Budapest to the provinces, namely to '*Vetter Moishe*' – Uncle Morris in the village of Kolcse near Szatmár. From there, the older two were sent to a boarding school in Szatmár, thereby separating the four boys.

The story that my father told me is that great and unhappy wailing accompanied the preparation of the horse-drawn cart that was to take the older boys away but uncle Moishe pacified the two younger ones, aged 10 and 7, by setting up a couple of seats on boxes, on the ground behind the cart, making the young ones think that they would travel along too. The cart duly set off, much to the dismay and consternation of the little kids who were left behind. A cruel trick indeed that remained engraved on their memories.

Being a super-pious family, the little ones were put not only in the local primary school but also enrolled in the early-morning religious instruction class – the Cheyder - attached to the village prayer room. With early morning rising and stripped-to-the-waist washing as well as the regular prayers made the whole experience a very unhappy one for the poor kids, in spite of the example of Uncle Moishe's own kids. Some time later, following bitter complaints about their terrible treatment, the two younger kids, my father and young Dezső were 'rescued' by Aunt Kati who took them back to Budapest. A maiden Aunt on the mother's side, Aunt Kati brought up the two young boys, effectively as their stepmother, until they finished their education, in a Commercial High School in Budapest, and got jobs as 'chalk-boys' in the Budapest stock exchange. (This means that they stood on a long balcony above the trading floor and recorded the shouted transactions on a blackboard that lined the wall behind them).

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As was quite common among Hungarian Jews, even before the Second World War, each of the Klein brothers, with the exception of my father, changed their Jewish sounding German name to one that sounded Hungarian: Miklos Klein took on the surname Kis – a direct translation of Klein (Little). Artur Klein followed suit – but by that time there being too many of them, Kis was no longer available, so he became Artur Kadas. Dezső **was next** – he changed his name to Kelen. Thus, the honorable ancestral name of Klein was retained only with my father, thence passed on to me but, having no sons, it will disappear in due course. (My daughters Anita and Stella retain it as their professional names but that will eventually disappear too).

So, back to my father: Imre (Emeric) born in 1902, grew to adulthood in Budapest but decided sometime in the early 1920s to betake himself to the provincial city of Temesvár – a couple of hundred kilometers to the south of Budapest – which by this time, following the carve-up of the Habsburg Empire after the First World War had become Timisoara and was a part of Romania. There is strong suspicion – but no proof – that he wanted to escape the clutches of some woman in Budapest and so, started a new life in Timisoara where he met, courted and eventually married my mother, Rose Teichner, when they both in their 20s.

Initially working as a shop assistant in a large grocery, his prospects didn't look all that good (as seen by his future father-in-law) but being an ambitious and commercially talented lad he rapidly picked up the import-export aspects of grocery and aimed to go into that type of business – which he eventually did, importing chemicals rather than groceries. My mother continued to work as a commercial secretary for a few years until he was sufficiently well established and so I came upon the scene at the end of 1935.

Before continuing, I must now delve into the maternal side of the genealogy and examine my mother's antecedents which are centered around the town of Temesvár (Vár = castle in Hungarian), today called Timisoara, situated in the western-most end of Romania and one of its most important cities. *Castrensys de Thymes* the castle on the river Temes, is first mentioned in a 12th Century chronicle but the surrounding area had been settled since ancient times. Destroyed by the Mongol invasion in the year 1241, it was re-built as an important Hungarian town in the 14th Century and became one of the bulwarks of Western civilization resisting the advances of the Ottoman Turks who repeatedly besieged it and finally conquered it in 1552. It then became the administrative center of an Ottoman province and stayed in Turkish hands until the year 1716.

The liberation from the Turks was accomplished by a Habsburg Imperial army led by Prince Eugene of Savoy, who was renowned for having defeated the Turks at the gates of Vienna a few years earlier. Having surrounded and besieged the city of Temesvar for a few months, he then called a 'parley' with the Ottoman Pasha, told him about his earlier feat in Vienna and advised him to go quietly. Whereupon the Turks folded their tents and disappeared without a shot being fired – or so the story goes.

Temesvár thus became an increasingly important Habsburg city, protected by a stone fortress built between 1732 and 1765. Apart from Hungarians, a large number of Serbs and Romanians inhabited the city and surrounding villages as part of a genuinely multi-cultural area. Later, under the rule of empress Maria Theresa, a large number of German and other nationalities were brought in to settle in the area. The new, hard-working settlers drained the marshland around the city and reclaimed very fertile agricultural lands by digging canals and regulating the flow of the rivers. (One of the puzzling results of this activity was that the river Temes, after which the city is named, is now some ten kilometers to the South having been replaced by the Bega, one of its earlier tributaries, which now flows through the center of town.

Along with the mass resettlement of German and other migrants came a fairly substantial number of Jewish people who became a pivotal part of the population: They were needed because they were very enterprising, having learned to be like that following centuries of persecution, but also because, unlike most of the surrounding population, they were literate, having acquired such skills as part of their religion: They were indeed the "People of the Book". Thus they became the traders, merchants, shopkeepers, and organisers of markets in the city as well as in each of the surrounding villages. In short, they were responsible for the development of commerce and also banking, tax collecting and other highly resented activities.

Later they also became involved with the founding of various industries, usually in the out-lying suburbs, concerned with the processing of primary products. Thus, factories for

brewing, distilling, manufacturing leather, textiles, tobacco products and so forth, became established and managed (and principally owned) by Jews. They also gravitated towards the professions – doctoring and lawyering having had substantial proportions of Jews involved. There were also many less prosperous Jews – my maternal ancestors being mainly in the latter category, initially not city-dwellers but living in the surrounding villagers, as farmers or shopkeepers.

The earliest records show my maternal great-grandfather, Salomon Kohn, orphaned at an early age. He married another orphan, Therese Mandl (born in 1852) who had been brought up by a wealthier family and whose dowry may have financed the budding family business. Initially a hawker, or rag-and-bone man, he became a second-hand dealer. (My late cousin Vic Spitzer used to say that, because of my proclivity in eBay dealings, I inherited his talents!) The Kohns lived in Temesvar, spoke German, and in due course had 3 daughters and a son. (The Kohns clearly belonged to the hereditary, priestly sect of Jews, the Cohens, thus my first wife, Mavis Cohen was not the first Cohen in the family).

Their oldest offspring was my grandmother, Regina (or Rebecca – Hebrew name Rivkah) Kohn, who was born in 1875. Her sisters were great-aunts Esther, born in 1885, and Frieda, born in 1893. (Little is known about their youngest son, Paul Kohn, who died on the Russian front in the First World War). Esther married Karl Spitzer, a well-to-do land-owner, and their son Louis and daughter Nelly bear the distinction of being the pioneers who first came to Australia around 1930 – presumably to escape Louis Spitzer's conscription into the Romanian (or Serbian?) army at age 18. Nelly was about a year younger. Great-aunt Frieda, the prettiest of the three sisters was so fussy, according to family folklore, that no young man was deemed to be worthy enough, so she ended up an old maid. All the Spitzer family eventually emigrated to Australia, some before and some after the Second World War, and also Frieda, as well as my grandparents and my side of the family. More about this in a later chapter.

Grandma Regina married Joseph Teichner, my grandfather, who was born in 1872 in a village near Temesvár. He was the son of Ignacz Teichner (b. 1830) who hailed from Galicia, in the Polish end of the Austro-Hungarian Empire, a region that had a sizeable Jewish population. Nothing much is known about great-grandpa Ignacz who lived in the small town near Temesvar where he died in 1916. He and his wife (whose name is not recorded) had two sons and two daughters. The daughters, Katy and Frieda, got married and lived in Budapest.

Grandpa Joseph's older brother Franz Teichner (1868 - 1920) became a rich grain merchant who lived in the town of Orsova, on the Danube, some 100 km to the South. (This town disappeared sometime after the 1950s when a dam on the Danube flooded it and its neighborhood). Franz and his wife Giza (Giselle) had one daughter and two sons, one of whom, Arthur Teichner was quite an interesting character: He worked as a sailor in the British Steam Navigation Company on the Danube; was consequently interned as an enemy alien and survived the Second World War unscathed, only to re-surface in Timisoara after the war, full of fascinating stories.

We now come to Grandpa Joseph whom I knew quite well as a child and from whom I think I inherited many character - as well as physical – traits, including colour-blindness (of the classic sex-linked genetics, shared with cousin Vic and passed on through my daughter Stella to my grandson Benjamin). Later in life it became clear that I also inherited grandpa's bald pate. He was a friendly, gregarious and likeable character who, before World War I, lived with his wife and 3 daughters in a cottage inside the large central brewery in Temesvár where he worked, as what would today be called the Transport Manager. In practice, this meant that he was in charge of a large stable of Clydesdales that used to pull the beer carts, which delivered barrels to the many pubs as well as to the railway station for transport to the provinces. He had under him a motley crew of drunken louts who were the drivers of the beer carts. Apparently, while he kept them on a short leash, making sure that they were sober and available for service early each morning, they loved and respected him as a sort of surrogate father who was fair and approachable. It seems he was a very good manager, with great people-skills and a great sense of humor that he maintained throughout his life.

Although relatively old by the time the war broke out, he was nevertheless conscripted into the Austro-Hungarian (Royal and Imperial - K. und K.) army artillery corps. Luckily he was sent to the Italian front, not the Russian front where a huge number were killed. His battery of horse-drawn guns was one of many that kept the Italian army in check. Eventually after the defeat of the Hapsburgs he was de-mobilised and returned to the family and to the brewery. Apparently he used to dream about his military experiences and talk about them in his sleep. One of Grandma's stories was that she used to try and quiz him and try and extract more "confessions" until he would wake up and give her rude and evasive answers. He also acquired some strange habits, such as eating ham, which was simply not on, in Grandma's kosher household. A compromise was reached whereby he could eat the ham that he used to buy...but only off the paper wrapper, not off Grandma's crockery, which remained kosher. Thus, in my family, the rot set in two generations ago as far as transgressing the dietary laws and other religious strictures goes.

Eventually grandpa retired from the brewery job at about the age of 60, bought a property consisting of a several modest ground-floor apartments around a central courtyard, one of which they lived in and rented out the others. A deep well, a vegetable garden, and quite a few fruit trees stay in my memory, including some apricot, pear, plum, sour-cherry and some most accessible mulberry trees. Climbing them used to keep me entertained as a little child when visiting grandma and grandpa, along with a little stool, a bagful of apricot pips and a hammer for cracking them. There were also chooks, geese and ducks. The ducks were known to get drunk and fall over after eating fruit that had fermented after falling off the trees. However the fallen plums, apricots and pears used to be assiduously gathered up and left to ferment in barrels, later to be distilled into schnapps by grandpa.

By the time I was born, great-grandpa Kohn had been widowed and was living with the grandparents. My memory of him, whom I called "little grandpa", was of a very old man, sitting very close to the tiled stove and mumbling an indistinct reply to my greetings. He died at the age of 91 in 1940, when I was 5 years old.

I have vivid memories of my maternal grandparents home: a freezing-cold bedroom with a cast-iron stove that was rarely lit, a large living-dining room with solid heavy furniture, a couch where I used to be put to sleep after family dinners, opposite a 'grandfather clock' whose pendulum I would watch and listen to while going to sleep.



Tereze (née Mandl) and Salamon Kohn – great grandparents



Rebeca(Regina (née Kohn) and Joseph Teichner – maternal grandparents

I particularly remember the Passover 'Seder' ritual dinners at which, being the youngest I had a special role to play in reciting the 'Mah Nishtana' – the set questions in Hebrew to which grandpa would read the "official" answers. So in response to "Why is this night different to other nights?" the reply starts with: "Avadim chainu... Slaves we were in the land of Egypt ... " etc., commemorating the Exodus and eating matzo – the unleavened "bread of affliction".

Grandpa also had a precious radio set in the living room, a mysterious object driven by two large batteries and equipped with a horn loudspeaker, whence a disembodied voice would speak to one. I remember it well because it gave my little fingers their first electric shock when, out of curiosity, they tried to find the little man who spoke from inside.

Outside the living room was the large kitchen, with its massive cast-iron stove and huge oven in which delicious white bread was baked weekly, after the laborious kneading of a great lump of dough. (A tiny lump of this had to be pinched out and thrown into the fire for some reason that probably goes back to Zoroastrian, fire-worshipping superstitious sacrifice). Delicious bread would be the end-result, a slice of which, smeared with goose fat and sprinkled with paprika – occasionally with a slice of baked goose-liver – would be a regular treat when visiting grandma and grandpa. Outside the kitchen and facing the courtyard, was a glassed-in porch with a table for informal dining and a door leading to the larder – grandma’s special place containing rows upon rows of large glass jars with preserved fruit and vegetables, large containers with pickled cucumbers, pickled cabbage, and who knows what other great delicacies.

Grandpa’s day began with daily shopping at the market square (Traian Square) a couple of streets away, where a polyglot group of peasants from the neighboring villages would bring their produce. I say polyglot because they came from their separate Hungarian or German or Serbian or Romanian villages and simply had to speak each other’s languages for the purposes of commerce. The Habsburg realm was a truly multi-ethnic, if not multi-cultural empire, whose inhabitants possessed the virtue of not hating one another any more than necessary. Grandpa, of course, spoke all their languages, as well as Romany, so as to be able to talk to the many gypsies who also inhabited the area and engaged in horse-trading and other more nefarious activities. There was a story, probably true, that grandpa ran away from his mother’s clutches once, at the age of three, only to be found, hours later, being suckled by a gypsy woman outside her caravan – hence grandpa’s so-called ‘gypsy blood’ – for example he had a great liking for gypsy music. After the market he was to be found in a coffee-house, reading the newspaper, playing cards with his cronies, or having his ‘elevenses’. Alternatively, he might be in a pub near the railway station where he would sometimes meet and share a beer with his old employees from the brewery. Lunch was the main meal of the day, prepared by grandma who rose early to light the kitchen stove, followed by a regular afternoon siesta. He was, after all, a ‘very old man’ – well over 60 – by the time I knew him.



Rose (née Teichner) and Imre Klein – my parents

All went well until sometime during the Second World War an influx of Romanian refugees from the East, such as Czernovitz, and increasingly drastic anti-Semitic measures resulted in the confiscation of Jewish properties by the state. That was sometime in the 1940s. My grandparents were forcibly evicted and came to share our 2 bedroom rented apartment in another suburb. Our living room became my bedroom, and my grandparents took over mine. We also had my cousin Hedda staying with us, sharing their bedroom – she was the daughter of my mother’s middle sister Yolan who remarried and went to live in Serbia with her new husband and left Hedda behind to complete her dressmaking apprenticeship. By the time she was ready to join them they had been deported by the Nazis to the Theresienstadt concentration camp and were never to be heard from again.

So I had a 10 years older ‘big sister’ living with us for a few years, under rather crowded circumstances but I was unaware of any hardships, being under 10 years of age at the end of the war. Grandma took over the kitchen, of course, and grandpa used to take me regularly for walks in the park and a couple of times he took me fishing in the Bega river and once ‘we’ even caught a sardine-sized tidier, with a bent pin. He taught me games such as ‘Ten-man-Morris’, played on an improvised board with peas and beans – a sort-of 3-dimensional noughts and crosses, as well as chess and childish card-games. Grandpa was an avid card-player who used to tease my father along the lines of: “You like playing cards? So, why don’t you learn to play properly?” They used to play a Hungarian version of whist, with special packs of Hungarian (or German?) cards. That was their main form of entertainment – Jews’ radios having been confiscated by the authorities as one of the many restrictive measures.

Another of the restrictive measures was that we were not allowed to leave the city boundaries. Thus the small woods outside town that used to be a favorite picnic spot where I was taken as a toddler, became out of bounds. So was the river beach above the hydroelectric dam on the outskirts of town, where I used to be taken before the war. The only place where Jews were allowed to bathe was an inner city swimming pool where, in due course, I learned to swim. Later, as I grew a bit older, I was allowed to brave the river Bega, which although pretty muddy, didn’t seem to have done me any harm.

In retrospect, being surrounded by loving parents and grandparents, who shielded me from the surrounding hardships, I grew up in a fairly happy and secure environment in spite of the wartime privations. We even had good white bread made from flour that my father obtained by bartering from the surrounding villagers.

The main snag during this time was that my father, being a Hungarian citizen, needed to renew his passport and Romanian residence permit at regular intervals. Although accomplished by means of bribery, it gave rise to more than one episode of threatened deportation to Hungary – on one occasion he was even forcibly taken to the Hungarian border and threatened with expulsion. Because of such hassles, my mother became a nervous wreck, with concomitant gastric and thyroid problems that didn’t disappear until we came to Australia.

My father, meanwhile, was conscripted for a while into a forced labor brigade along with most other Jewish men in Timisoara, in spite of being a ‘foreign’ (i.e. Hungarian) citizen. Luckily

he survived it without too much harm. There was even one episode, (fortunately only one) where a group of Jews (mainly men) from Timisoara were deported to Transnistria, in Eastern Romania, whence they never returned. However, by some miracle we survived - but I am convinced that it was only a matter of time. We were saved because the pragmatic Romanians saw what was coming and 'changed sides' towards the end of the war and became allies of the advancing Russians who kicked out the occupying Germans and became our 'glorious liberators' in August 1945.

All this time, my mother's oldest sister Ella, who had married Geza Spitzer, a Vienna University-trained civil engineer, had been in Australia: They emigrated in the nick of time, in 1939, as will be described in a later chapter. After re-establishing contact with them after the war, and having become resigned to the sad fact that Hedda's mother had perished in the holocaust, it was agreed that Hedda would join them in Melbourne and live with them. This she did, in 1946, travelling alone, as a vulnerable 20-year-old girl, by train from Timisoara to the Italian port of Genoa and thence on an Italian ship to Melbourne. My father who accompanied her by train as far as the Yugoslav border, bought her a wedding ring as a form of false protection. She survived unharmed, lived with the Spitzers for a while, until she met and married a very nice and decent bloke from Adelaide – the late Ron Gild. They lived in Adelaide and had two boys, Geoffrey and Robert. Hedda died in Melbourne in 2008, Ron having pre-deceased her by several years.

The grandparents were soon to follow but unfortunately Grandpa suffered heart failure in 1947, which delayed their departure. However, he recovered sufficiently the following year so that they undertook the long sea voyage and arrived safely in Melbourne to be greeted by their eldest daughter Ella, her husband Geza Spitzer and son Victor. They lived with the Spitzers for several years, having started a new life, in their late 70's, in a strange country and a strange environment. Grandma was also reunited with her sister Esther whom she had not seen since before the war. The youngest sister Frieda, the 'old maid', also joined them eventually in Melbourne where after a few years she married an older man, Sam Mantelmacher, whose family had perished in the holocaust.

My parents and I were finally able to join the rest of the family in 1953, after leaving Romania and spending a year in Israel, as will be described in Chapter 3. Grandpa died in 1955, at the age of 83. Grandma then moved in with my family for the last few years of her life; she died in 1958, aged 82.

My late cousin Vic, who died in 2013 at the age of 89, remained my closest relative in Melbourne, after my mother's death, and we became very close, almost like brothers, especially after 1986 when they built a house in the next street from ours. During our regular morning and weekend walks we often rehearsed the family stories and reminisced about our common grandparents and their house, about the Jewish primary school and the Jewish High School that we had both attended – albeit 11 years apart. Alas, I remain the only repository of these memories... so just as well I have written some of them down.

Childhood memories of a scientist

I have vivid memories of my maternal grandparents home: a freezing-cold bedroom with a cast-iron stove that was rarely lit, a large living-dining room with solid heavy furniture, a couch where I used to be put to sleep after family dinners, opposite a 'grandfather clock' whose pendulum I would watch and listen to while going to sleep.



With my Mother, Rose

My earliest memories are, of course, like everyone else's, olfactory: I don't remember my pram, which I am told, was a fancy four-wheeler with a hood, but I do remember my stroller which was upholstered with oilcloth, in those pre-plastic days, with a not-unpleasant odour of linseed oil. The same material was used for covering the kitchen table, with edges tucked under and held in place with drawing pins. It was wiped down daily and replaced annually as part of a grand spring-clean and it then had the same, strong odour of linseed oil. My paediatrician's examination bench was covered with the same stuff - because I remember that it smelled

the same - but I also remember the peculiar smell of old Dr Wittenberg himself. Some sort of antiseptic stuff, I suppose - not unpleasant per se, but associated with less pleasant experiences such as his cold hands and worse, things like injections.

Dr Wittenberg's surgery was a fascinating and mysterious place that I still remember (obviously from later years): A large room with the examination bench on one side and a central work-bench - probably covered with oilcloth too - on which were to be seen (but not touched!) little bottles, test-tube racks, a funny-looking inclined brass tube (obviously a microscope) and various strange odds and ends. Clamped to the side of this bench was an interesting piece of equipment that resembled an eggbeater with a handle that turned two hinged brackets (into which test-tubes could be fitted). When the old boy allowed me to give it a twirl (as a reward for being brave!) the two brackets would fly out under the influence of the centrifugal force. Obviously a simple centrifuge for the sedimentation of blood - it, along with most of the other gear, was an example of the apparatus used in what nowadays is done by pathology labs but was, in those days part of a doctor's job. Anyway, it all looked rather intriguing and may, at an early age, have aroused my curiosity in things scientific.

Speaking of Dr Wittenberg' perennially cold hands, I distinctly remember an aversion to being bathed in the huge cast-iron bathtub, which, even when supplied with hot water from the big, brown, wood-fired water-heater, still had a cold bottom. It probably gave me too a cold bottom, hence my reluctance. This was overcome when some very shrewd person suggested to my mother that little kids like nice-smelling soap. So she bought some (probably rather expensively luxurious) sandalwood soap - and I still remember sitting in the tub -cold bottom or

not - happily sniffing the cake of soap - brand name: "Bob". To this day, Suzanne reminds me, I am rather fond of nicely scented soap!

Around the age of 5 I had a bout of pneumonia – accompanied by a high fever and an uncharacteristic lethargy. Dr Wittenberg's diagnosis gave my parents great cause for concern. Pneumonia was a lethal illness in those days: After all, my paternal grandparents had died of it many years earlier in Budapest, when in their 30's, leaving my father and his three brothers orphaned at an early age. Fortunately the great triumph of the German pharmaceutical companies was already available: sulpha drugs.

The form of sulpha drugs that Dr Wittenberg administered was called "Rubiazol", considered by my parents as a miracle drug because it was almost instantly effective: Next morning I was bright and chirpy, no fever, and absolutely fascinated by the bright red colour of my urine – caused by the drug which, after all, was a coal - tar dye derivative. Apart from a very few childhood diseases such as chicken pox, measles and recurrent sore throats eventually cured by a tonsillectomy when I was about 14 years old. A few things I remember about the tonsillectomy: walking to the surgeon's rooms about one block from home, holding a kidney dish under my chin while he scooped my tonsils out with what seemed like a sharpened spoon, and walking home again in bitter cold weather. When the local anaesthetic wore off unlimited supplies of ice-cream controlled the pain which seemed no worse than some of the sore throats that I used to suffer before. Oh, and another thing: a little girlfriend I had at the time sat by my bedside and comforted me by holding my hand. The instinctive solicitude of women has always been a great consolation to me whenever I felt unwell!

This was the only surgery that I have ever undergone, apart, of course, from my circumcision, performed ritually when I was 7 days old and which I don't remember at all, but which must have been quite traumatic because I am told that I couldn't walk for over a year. Otherwise, I have escaped serious illness and had never even had a broken bone.

Like my father, who was a remarkably healthy man, until he had his first heart attack at the age of 63 (from which he recovered with the aid of a bedside electronic marvel called a pacemaker), I was a completely healthy specimen, too – until my first heart attack at the age of 65.

Back in Europe, I remember that my father, although himself a businessman and entrepreneur, with no technical training, was, nevertheless, fascinated by things chemical. Together with a Vienna-trained chemical engineer as partner he slowly built up a little factory in Timisoara, for making chemical products - mostly ersatz materials such as detergents and tanning materials for the local textile and leather industries hit by wartime and early post-war shortages. Taught by Dr Vadasz, his partner, and by the 8-volume German "Ullmann's Enzyklopädie der Technischen Chemie" he was, to my childish eyes, a great expert. He prided himself of having a good nose for recognising smells - an important prerequisite for a chemist in those days - as he used to show me on my frequent visits to his smelly factory and its primitive laboratory. I got to like the game and learned to recognise quite an array of organic compounds.

To this day, I can recognise and distinguish things such as benzene toluene and xylene (the solvents in contact adhesives); acetone, amyl acetate and methyl ethyl ketone (nail-polish removers); methyl salicylate (liniment) and several others – all of which, to me, smell quite nice, as well as a number of less pleasant-smelling compounds such as phenol, formaldehyde, and various sulphur-containing ones, starting with hydrogen sulphide and carbon disulphide, which positively stink!

More about my father's chemical and industrial activities elsewhere, but suffice it to say, I was quite determined to follow in his footsteps (and those of his rather foreboding partner - a rather morose bachelor from what I remember) and become an industrial chemist. I had a sort of a home laboratory in a corner of my room with an impressive collection of different chemicals - include some hair-raisingly dangerous ones such as concentrated sulphuric and nitric acids and other, less corrosive but highly toxic compounds. I wasn't alone in this - comparing notes many years later with other scientists, it was quite a common hobby - not discouraged by teachers and parents and, on the whole, adequately protected by common-sense safety warnings. I suppose there were occasional accidents but we all seem to have survived some pretty dangerous activities. For example - it was well known that nitro-glycerine was far too dangerous and unstable so I remember not attempting to titrate nitric acid into glycerine (though I possessed both) but using phenol instead - to produce picric acid (nitro-phenol) - a far less unstable explosive. I did this together with a boyhood friend, with whom I reminisced at a reunion 55 years later, recalling the yellow-stained hands that we sported for days. Eventually we produced a small quantity of yellow crystals but we never tried to actually explode them. One of my favourite experiments was to bubble acetylene - produced by dripping water on calcium carbide, bought in a hardware store, through a solution of silver nitrate. A white precipitate of silver carbide is produced and is collected on filter paper. It eventually turns black under sunlight – along with one's fingers, which were inadvertently stained with the silver nitrate too. When dried, the small flakes of silver carbide explode with quite a loud bang when tossed onto a hot stove - great fun indeed but we never dared to use it as primer to detonate the picric acid. Perhaps just as well too! Various fireworks produced with mixtures of potassium chlorate, sulphur and starch, and given colour by sodium (yellow) potassium (purple) and strontium (spectacular red), were also great fun to make, better than commercial fireworks which couldn't be bought by minors - unlike the prime ingredients that I mentioned. I must have been about 12 years old when I incurred severe parental wrath because holes appeared in my clothes and, worse, a Persian carpet, caused by sulphuric acid that somehow escaped from a glass-stoppered bottle. How could that have happened?

I also incurred a deep cut when attempting to force a piece of glass tubing through a rubber stopper with a clearly under-sized hole. I still have a slight scar in my left palm to show for it but - mercifully, nothing more untoward happened as a result of my amateur chemical activities. On the contrary - I learned a great deal of empirical science, mostly from kids' science books, from some more advanced textbooks and from the fabulous Ullmann's Enzyklopädie that although not wholly comprehensible, could still be scoured for good recipes not just for fireworks and explosives but also for other marvellous things. For example, a mixture of iron

filings and sulphur could be ignited to form iron sulphide which, when doused with hydrochloric acid forms hydrogen sulphide - the quintessence of stink bombs. (We didn't know that it was as toxic as hydrogen cyanide, which we knew was lethal, but luckily we came to no harm).



Mr. Herskovits with his class 1942-1943. Tony is standing in the back row, 4th from the left

One of my earliest accomplishments - at about the age of ten - was to build an electrolysis apparatus. It came about because Mr Herskovics, the 4th grade teacher told us that water, H_2O , consisted of two parts Hydrogen to one part Oxygen - both colourless, odourless gases. "How do you know? " - enquired the precocious little brat that I was. Because we can take water apart by using electricity. "Is that so? How do you do that? " "Well, you put two carbon rods into a jar of water, connect it to a battery, and watch the bubbles come up". To cut a long story short, I got two carbon rods by wrecking spent torch-batteries, a glass jam jar, and bits of wire and, probably with a bit of help from Mum or Dad, I managed to electrolyse some water and collect the little gas bubbles in test-tubes placed over the carbon electrodes. Quite a mind -bending experience and quite a source of kudos when I was asked to show it to the whole class! Mr Herskovich obviously has a lot to answer for! He was a great and kind teacher who clearly loved children and whom I remember with great fondness.

One thing that I remember about him is that shortly after the war, when he would have been about 30 years old, he married a beautiful young lady – a Holocaust survivor who came to Timisoara as one of many refugees who came directly from a concentration camp in the Western part of Romania whence they were liberated by the advancing Russian army. This poor young woman, whose name I forget, always wore heavy makeup on one side of her face, attempting to hide a large burn scar. Who knows what horror lay behind it. I can only hope that marrying such a fine man and later taking up a teaching position herself and perhaps having her own children erased some of her terrible experiences. Several children – some of them orphans, also came to town as refugees, many from the city of Cernăuți (the former Chernowitz of the other end of Austro-Hungarian Empire), – we knew them collectively as “the Transnistrians” – they all originated from Western Romania and were rounded up in concentration camps on the far side of the river Dniester. One of the children whom I remember was a strikingly beautiful little girl, whose name (but not face) I forget. Sadly, she had very ugly rotten teeth, for obvious reasons. I am sure she had the problem fixed at some later time, but who knows what other, less obvious, consequences of her past traumas she carried with her.

I used to think that, along with my father’s influence, it was Mr Herskovics who kindled my interest in chemistry. I do recollect another specific incident, however, which may account for my later taking up electrical, rather than chemical engineering. I told the story once in a column in “The Australian Physicist” during the time that I was the President of the Australian Institute of Physics. It was in the January/February 1990 issue and had the title: “Woorlookadat” and was accompanied by a cartoon of a naked Archimedes running along a street. Here it is almost in its entirety:

“Last November’s issue of The Australian Physicist, with its emphasis on articles of educational interest, reminded me that I had vaguely promised Jan Powe, the Associate Editor (Education), to contribute such material but have not yet done so. Perhaps I can remedy that! [Note added later: Sadly, Jan Powe died of breast cancer a very few years later, still a vigorous and vivacious science teacher – a great loss to the profession!]

Along with her invitation to write something, Jan had sent me a cutting from an issue of the New Scientist of a couple of years ago, in which the author of a Letter to the Editor confessed that she had become a scientist as a result of a “Woorlookadat” experience: A classroom demonstration in which convection currents were illustrated by a crystal of potassium permanganate in a heated beaker of water had led to the spontaneous exclamation “Woor...” and the later speculation that the intrinsic beauty of the experiment had “turned her on” to science.

This struck a resonant chord in me because I distinctly remember the classroom experience, which, well over 40 years (but considerably under 50 years) ago, permanently warped my mind. It happened one day that Mr Herskovics, the fourth form teacher, came into the classroom carrying the battery from his motorbike. He sat up on the corner of his desk, as was his habit, with his feet dangling over the side, and put the battery down beside him. He then took a few things out of his pocket, one at a time. A length of wire (d.c.c.: ‘double cotton

covered' they used to have in those pre-plastic days), a long coach bolt and a few nails. An air of suspense was building up. It was quite clear that he was going to do something unusual; he was that sort of bloke.

"Well", he said when he saw that he had our attention, "today I want to tell you a story about a young apprentice bookbinder who was a very poor but very clever lad. His name was Michael Faraday and he lived in London a long time ago. He used to like reading very much and had read many of the books that his master had given him to bind. ("Here we go: He is trying to get us to read more!"). As he was talking, we were all intently watching his hands. He seemed to be fiddling with that bolt, winding the wire on it like one winds string upon a bobbin. Quite distracting, really.

The story continued, that Michael Faraday had heard about a very famous man who used to give very interesting science lectures, and that young Faraday went along to these lectures and was very impressed by what he heard and wrote down every word of it. ("How could he do that, I ask you. What's he trying to sell us here? Pay more attention to writing?") "And then he copied it all out in the finest copperplate handwriting".

("Here we go! Handwriting! ...") "And went along to see the famous man and presented him with a copy of these notes that he had, himself, bound into a handsome book."

- " Why did he do that? Are you paying attention, Klein?"

- " Yes Sir, you said he was a bookbinder, Sir"

- "Very good. An apprentice bookbinder, actually. But when he took the book along, he asked the famous man if he could become an apprentice chemist instead, and the famous man said all right". Or something like that. Meanwhile, he had continued fiddling with the wire, which by now was all wrapped around the long bolt.

"Now, I want to show you something very interesting", said Mr Herskovich. "You all know that a magnet can pick up steel pins and nails, but this bolt can't, of course, because it isn't a magnet" and he showed us that indeed, it couldn't. Big deal! (Or equivalent... the phrase had not yet been invented). "Well, I 'll tell you something that young Michael Faraday did later on, when he had learned everything he could from that famous scientist and had become a famous scientist, himself. One day, he picked up a bolt like this one, and wrapped a lot of wire around it, just as I did, and then he took a big battery..."

"No, Klein, not like this one. This one is off my motorbike; they didn't have motorbikes in those days. He had another one. Now stop interrupting!"

"So, Michael Faraday took the two ends of the wire that was wrapped around the bolt and touched them momentarily to the two bits of metal sticking out of the top of the battery, like this, and ..." Zap! Sparks. ("So what! I've seen bigger sparks than that...")

"Now watch this." The bolt with the wire wrapped around it, just a piece of steel before, was now picking up the nails scattered on the benchtop!

"Woorlookadat!" It had become a magnet! Just like mum's magnet with which she picks up dressmakers' pins! It blew my mind! There and then I decided to become a chemist, just like young Michael Faraday. It was almost seven years later that I was saved from that fate when I discovered that what I really wanted to be was an Electrical Engineer. It took another seven years for me to make the further discovery that Michael Faraday was really an experimental physicist and that it was actually physics that had gripped my imagination all those many years ago.

That the story was wildly inaccurate is beside the point. I may even have remembered it incorrectly. But the magic of physics spoke for itself. It still does, from time to time, when I experience the thrill of something really new. Such as holograms; new permanent magnets so strong that I can't separate them with my fingers; levitating superconductors at liquid nitrogen temperature; electron holograms of a single flux quantum and so on, ... and so on.

But I'll never forget the first experience...the first "Woorlookadat". Nor will I forget Mr Herskovics who left as great an impression on me as did Michael Faraday himself, and certainly a greater one than the famous Sir Humphrey Davey, whom I had almost forgotten. Perhaps teaching physics is a worthwhile occupation after all!"

These were some of the highlights of my early scientific education but I seem to remember equivalent pieces of biological sciences too. Elementary fact about how plants produce food, how ruminants digest cellulose, how fertiliser is needed to enrich the soil and so forth - all quite interesting and educational but, speaking for myself, not as exciting as chemistry or electricity.

My formal education began at the age of 5 in a private kindergarten run by a young lady who had studied in France and insisted on speaking French to the children at all times, presumably in the hope of allowing them to pick up another language. The only things I remember are the fun with the modelling clay, the wooden frame with various types of clothes fasteners to do and undo, useful experience for learning how to undo bras and suspenders (though I was far too shy a boy to put the knowledge into practice until very much later), and a precious few words of French such as "Je veux sortir" when one wanted to go to the loo - if remembered in time! And also a little ditty to recite to one's Dad on his birthday: "Cher Papa je t'aime beaucoup..." After all, he paid the bills!

Primary school didn't begin until the age of 7 (in my case at the age of 6, by special dispensation because my birthday is in mid-December). By that time I, along with most reasonably bright kids, had taught ourselves to read - one of the advantages of languages in which spelling is strictly phonetic. It started with the decipherment of shop signs on one's daily walks and led to story books and newspaper headlines - even though they made little sense. I also learned to write block capitals and I distinctly remember writing words sometimes from left to right and sometimes from right to left, seeing that it is purely conventional and for no logical

reason. In primary school I learned to write cursive script - one letter each day. I missed the day the letter p was taught and hence, to this day, I alternate between two versions of the letter in my handwriting. We also learned our multiplication tables, by rote, in singsong drill "three sevens are twenty-one; four sevens are twenty-eight...." etc, in the Romanian language! Now, my mother tongue, and the language spoken at home was Hungarian, so apart from the content of the lessons I imperceptibly picked up Romanian too. Now, since I learned to add up numbers at home, taught by my parents, before I started formal schooling - simply to keep my active brain entertained, in those pre-television days, there remains the fact that, faced with a column of numbers to be added up (and too lazy to get a calculator), I can hear myself doing the sum in Hungarian. Conversely, doing a multiplication, I can hear myself doing it in Romanian. "Cinci or sapte, treizecisisinci": Five times seven, thirtyfive. (cf. Cinq fois sept, trentecinq - in French - another Latin language). I heard it said that they used to catch spies during the First World War by giving them sums to do and observing their lip movements, which were always in sync with their mother tongue. But I hasten to add that I perform higher mathematical operations in English, which became my primary language a very long time ago and I hardly ever use the Hungarian that is still deeply buried in my head. As for Romanian, having not had the opportunity to speak it since coming to Australia, I can no longer speak it or even understand it fluently. I seem to have converted its almost purely Latin vocabulary into other Romance languages, namely French - in which I can be quite fluent, especially after a few days in a Francophone environment - and Italian or Spanish, which I can hardly speak at all - but which I understand sufficiently to follow on SBS news.

Having grown up in a very diverse and multicultural area, surrounded by Hungarian, German, Romanian and Serbian villages whose inhabitants learned to live with their "foreign" neighbours as part of the original multi-cultural empire of the Habsburgs, naturally all learned a smattering of each-other's languages mostly at the weekly market in town or, later, at school. They also learned to get along without despising each other any more than was necessary in order to preserve their ethnic identity and avoid becoming a melting pot. I distinctly remember after arrival in Australia, by which time I was fairly fluent in English along with several other languages, meeting local kids whose great difficulty in learning a second language stemmed from the fact they were totally unfamiliar with the concept that there are indeed languages other than English.

In my case, ESL doesn't stand for "English as a Second Language" but something more like "English as a Sixth Language"! Since my parents spoke Hungarian and my grandparents spoke German (as good citizens of the Austro-Hungarian Empire), German became my second language, followed by Romanian at school. Formal instruction in French started early in High School, since French was the official second language in Romania. Hebrew was taught to all good Jewish children, mainly straight out of the prayer books and out of the Torah - and it became my fifth language, greatly improved by a year spent in Israel, on our way to Australia when we emigrated, in 1952, when I was 17 years old. Before that, however, following the Russian "liberation" of Romania and the descent of the Iron Curtain in 1948, Russian became a compulsory subject in high School (replacing Latin), and I studied it for four years. Enough to

learn the alphabet and a smattering of a few hundred words which are enough to get by without being bought or sold into slavery! So it became my sixth language of which I made good use in a visit to Leningrad (as it still was - but only just) in 1989 and in various interactions with Russian colleagues. Nothing unusual in that, for someone of my background - in fact my cousin Vic, who hails from the same town, also has "ESL" but in his case English is his Seventh language.

Although, as I mentioned, the language of instruction in my time was Romanian the school system ran along ethnic and religious lines. Apart from the "official" Romanian schools, there were Hungarian, German as well as Jewish schools. Remarkably, even during Romania's alliance with Germany during the Second World War, two Jewish primary schools, at opposite ends of the town, as well as the Jewish High School, were allowed to exist in this multicultural part of the world with remarkable tolerance and absence of conflict (apart from occasional minor gang warfare accompanied by mild anti-Semitic overtones). Of course I was sent to the nearest Jewish primary school for my four years of primary education, from 1942 to 1945. (Alas, it is no longer functioning as a school - it was boarded up and semi-derelict when I visited it in 1994). It was a good little school, attached to a Synagogue (which is still there) and a special school for religious education and Bible study, called a "*cheider*" - Hebrew for Chamber - where one learned one's "Aleph-Beth" (cf Alpha Beta) - ie the Hebrew alphabet and the rudiments of Hebrew language and culture - meaning the traditional prayers. The part of town where this school was located was inhabited by a more observant group of Jewish people than our family, so I had to get used to being a bit of an outsider - occasionally taunted as a "*sheigets*" (heathen) for not being quite as religious as most of my class-mates. I continued to regard myself as somewhat of an outsider, through a period of agnosticism in my adolescence and eventually as a 'card-carrying' atheist in my adulthood. Religion never made any sense to me and I never had any time for a God who insists on being praised and worshipped all the time while all kinds of atrocities are being perpetrated against His "chosen people".

The paradox is that, in spite of this, I feel a strong affinity with Jewish culture and "learning" and I am, in my own way, quite proud of my ancestry and its cultural traditions, especially of its non-religious aspects. For example, in comparing notes with a Greek friend not long ago, concerning the "Alpha Beta business" I was quite proud when I suddenly remembered that my grandfather gave me a spoonful of honey the first day that I started learning my Aleph Beth - a lovely tradition, intended to sweeten the process of learning. My father and grandfather were both quite definitely followers of the Jewish faith, though neither of them was strongly observant: they attended Synagogue on special occasions, such as the Jewish New Year, Day of Atonement, and other principal Jewish holidays, as well as weddings and bar mitzvahs. Alas, I don't much participate in such community activities (except the weddings, bar mitzvahs and funerals), but I do have fond memories of lighting Chanukah candles and partaking in Passover meals as a child and would probably "turn it on" for my grandchildren and great-grandchildren, if they lived near me. As it is, I am very pleased that my two daughters carry on a little of the traditions, largely as a result of their mother's influence.

So, most of what remains of my Jewish primary school education is a smattering of Hebrew, a nodding acquaintance with the main prayers (even if I don't believe much of their content) and memories of a few of the traditional tunes to which they are sung.

The main thing is that the teachers were kind and dedicated and shielded us well enough from the harsher realities outside the school and made us feel secure. Meanwhile the Holocaust was raging all around us at a distance of less than 100 kilometres in almost any direction and our parents felt much less secure as a consequence. To this day, it seems a miracle that our town was like an oasis in the midst of deportations and persecutions. It is true that there were economic sanctions against Jewish businesses, expropriation of Jewish properties, forced labour for the men (who could, however, return to their homes at night - possibly by bribing the Romanian guards¹) and other extremely worrying anti-Semitic measures instigated by the occupying German forces. Nevertheless, we survived and were not deported to the death camps, unlike our kith and kin just a little distance away. My father lost two of his brothers who were rounded up in Budapest and died in a forced march to a death camp; my mother lost a sister who went to live in Serbia a matter of 100 or so km away and that's just the immediate family. I do remember many a solemn memorial service after the war and a succession of refugees from East, West and North several of whom were billeted with us for various lengths of time until they regained their strength sufficiently to return to what was left of their homes. But, as I said, we survived! How did this come about? A sensible explanation eluded me - my Father didn't know either - until only a few years ago. At a reunion of my Jewish high School classmates in Israel in 2005, I posed the question and the only sensible answer that was forthcoming was that it was just a matter of time. Had the war continued for a little while longer, and had not the Russians troops been advancing swiftly through Romania, eventually leading to its liberation on 23 August 1945, we would have joined our brethren in Terezienstadt, Buchenwald, Dachau or Auschwitz. A legend has it that, apparently, the orders were ready but the local stationmaster could never find the railway trucks needed to deport the Jews of Timisoara - the trucks were always elsewhere. He may have been a kind-hearted Romanian man (as opposed to some of the cruel Hungarian fascists a little to the North of us) but it is rumoured that he was the recipient of regular and substantial bribes from the local Jewish industrialists who, although their factories had been expropriated, managed to secrete sufficient resources to keep their families and indeed the whole community safe.²

The full story has not been documented, as far as I know - but the more I learned about the situation, the more miraculous it seems. From my point of view as a child, I am happy to say,

¹ Editor's note: Most Jewish men between 18 and 55 were deported to labour camps far away from their place of residence.

² Editor's note: This is, indeed, a legend. A plan to deport the Jews was developed by the Romanian and German authorities, but shortly before its implementation, on 11 October 1942, Ion Antonescu cancelled the order. The interventions of Queen Mother Helen, Chief Rabbi Alexandru Safran, Wilhelm Fildermann, the president of the Jewish communities, Metropolitan Bishop Bălan, Baron von Neumann from Arad, politician Iuliu Maniu and others may have steered Antonescu from his deportation plan against the backdrop of his discontent with the Second Vienna Award and the situation on the front.

I hardly knew of any privation - except for having my grandparents living in our apartment in rather crowded circumstances, and my father, who was a Hungarian subject living in Romania, having to disappear across to the Hungarian border from time to time, and my mother being a nervous wreck whenever that happened. Compared with various friends who were less fortunate and were more closely affected by the Holocaust, I did indeed live a charmed life and escaped unscathed and un-traumatised.

After the war, my grandparents returned to their house in another suburb, my father regained control of his factory and I went on to the Jewish High School for a couple of years, to continue my studies in Romanian, French, English, Geography, History, Music, Mathematics, and Science as well as Religious studies and sport (Athletics and Gymnastics). I can't remember much, except that I was bored a lot of the time, and got up to all kinds of mischief. Ironically, the ethnic/religious schools were abolished after 1948, when the communists took over. The education system was reformed, making 8 years of schooling compulsory, instead of 6, and so I had to move to another high school. It didn't do me any harm to mix in with the other kids from the German and Romanian schools and besides, the new school was co-educational and I was 13 years old and ready for a bit of biological education!



With my parents

Meanwhile, my father's factory was "nationalised" by the communists but he was left in charge, under increasingly difficult circumstances, such as having an ill-educated party apparatchik to answer to. Immediately after the war, a shortage of raw materials for the textile and leather industries was a great boon for my father's business because he began to manufacture replacement products from available materials. For example, by titrating castor oil with sulphuric acid, an excellent detergent is produced (sulphonated castor oil, or Turkish Red oil) almost as good as the synthetic detergent Teepol, which became available much later. Constructing crude apparatus on a semi- industrial scale, out of oil drums, (which had to be

lined with lead to withstand the acid), truck axles, stirring paddles made from lead sheet etc - he and his partner and a couple of faithful employees - one of them a brilliant practical mechanic - managed to supply the local textile industry with the much needed detergent. The stuff was manufactured in batches, slowly adding the acid to the oil while continually stirring and checking the acidity at frequent intervals. I think it must have been quite a lucrative proposition, producing a greatly 'value-added' product, because we enjoyed a couple of marvellous summer holidays, and a special trip to Budapest in 1947.

A shortage of leather tanning materials was remedied by another substitute product, of which I never knew the details, beyond the fact that it was called "Chrome tanning" and involved sodium or potassium bichromate. The local leather industry adapted to its use and business was good - until the communists wrecked it all.

Following two years of the co-ed school, I was ready to move on to Senior High School and I passed the stringent entrance exam of the elite boys' high school - the Lycee - named after an noted local educationalist called Diaconovici Loga. (The School is still there - I visited it, with my grandchildren in tow, in the year 2004). Before that however, I underwent an important formative experience that has coloured my views on Mathematics education. I never cease to tell the story to all and sundry - so here it goes: During my second year in the new primary school we began the serious study of Maths: Algebra and Geometry. I revelled in it – formulating and solving the typical linear equations as solutions to arithmetic puzzles, learning the rudiments of Euclidean geometry and proving simple theorems seemed like a lot of fun. However, I was away from school for a few days, on one occasion, with something like my chronic throat infections, and upon returning, I started to get the problems wrong. The Maths stopped making sense and I was falling further and further behind. It was my great good fortune that the shrewd old Romanian lady teacher noticed this and called up my mother and offered to find out what the matter was, in the course of a couple of private lessons (for which she would have been paid of course – there being no such thing as pure altruism. My mother agreed, of course, and in a very short time it emerged that I had missed out on crucial concepts while away from school. In algebra, it was the fact that $-1 \times -1 = +1$. One would be very unlikely to discover this for oneself at the age of 11 or 12 – and hence I was consistently getting things wrong in multiplying two binomial expressions, for instance. Once she explained it to me, I never looked back! Likewise in Geometry: I missed out on learning the Theorem of Thales, as the law of similar triangles is called in Euclid's books. Without knowledge and understanding of this theorem, the simplest geometrical proofs became too difficult or even impossible. Again, by teaching it to me in a private lesson, she filled in a crucial gap and I was back on the rails, never to look back. Imagine what would have happened if these vital lacunae had not been corrected: I would probably have performed worse and worse in maths, getting to hate the subject more and more as a repeated demonstration of my inadequacy and I may even have ended up as a lawyer, or worse. The point is that Mathematics is a quintessentially sequential subject: One thing leads to another and everything depends on what went before. I daresay that most people who say that they hate Maths – a surprisingly large proportion of the population – may have had a similar experience at some crucial stage but may not have had the benefit of a smart

teacher to pick up the problem and rectify it. The untreated problem would then grow worse and worse, leading to an ultimate bafflement followed by the hatred of a beautiful subject, which should appeal to all intelligent people! By that time it may be too late and a whole range of worthwhile careers would become simply inaccessible to the unfortunate victims of this common phobia. I am convinced that this explanation fits most cases and leads to a great deal of unhappiness and feelings of inadequacy, especially in our increasingly technological world. It also leads, eventually, to the chasm between people who understand how the world works and those - technophobes - who are the hapless victims of an apparently senseless universe. All because they hate maths, all because they missed out on some simple but crucial concepts, somewhere along the line. Perhaps it was sheer good luck that I struck an excellent teacher at a crucial time but I do remember several other excellent teachers – even though I can't recall all their names. I do, however, remember with gratitude the name of that old Romanian maths lady: She was Madame Soceru, bless her, quite sure to be long since dead – except in my memory.

I can't recall the names of many of the teachers in the Jewish High School – Liceul Israelit de Timisoara – except for an old history teacher, Mr Wagmann, who meted out regular punishments for inattention in class: One had to copy out large slabs of the textbook – a truly hateful task which took up a lot of my spare time (and wrecked my handwriting into the bargain, according to my Mother) all because I was terribly bored a lot of the time at that school and hence prone to all kinds of mischief. A more pleasant memory is that of Monsieur Bong, the French teacher who refused to utter a word other than in French and who, apart from his funny name, was quite a nice man and a very good teacher. Yet another was a Romanian football player who taught music, quite effectively, by composing little melodies on the blackboard to illustrate various musical concepts, such as syncopation. Religious Instruction was given by a very handsome young man, Rabbi Neumann, who later officiated at my Bar Mitzvah and, later still, became the Rabbi in one of the Synagogues in town and later still, the Chief Rabbi of the region. Interestingly enough, an indispensable condition for being confirmed in his first Rabbinical job was that he should get married within a year. This was a source of amusement to his adolescent pupils but illustrates a crucial difference between religions that insist on a celibate clergy, and this diametrically opposite precept in Judaism. I find the logic of the latter far more compelling!

Having successfully gained admission to Liceul Diaconovici Loga, where I spent years 9 and 10, I was surrounded by a very talented group of students, quite a large number of whom ended up as doctors, engineers, and scientists. Remarkably, of the several Jewish boys in my class, no fewer than three of us ended up as physicists: Peter Freund, a professor of theoretical physics at the University of Chicago; Nicky Kidron (Kauftheil), a nuclear physicist working for the Israeli Government, and myself. Possibly pure coincidence, because although we had some competent teachers in Maths, Chemistry and Physics, none were really outstanding. Mr Schechter – I think that was his name – another of the Jewish refugees from Cernauti, (Chernowitz) who taught physics was perhaps better than we gave him credit for at the time. One other teacher stands out in my memory, although I forget his name. He was a nice old man

who taught biology - an interesting course which covered most living creatures, starting with single-celled organisms such as the paramaecium and the amoeba, to multi-cellular organisms such as the hydra, then more complex invertebrates such as worms, then insects, amphibians, reptiles, fishes, birds and so on up the evolutionary scale to mammals and finally, man. I found the story fascinating - especially the great variety of invertebrates and their often extraordinary solutions to the problems of living. I was also fascinated by the essential unity of all mammals who all have pretty much the same basic structures and organs. There was just one major snag: The Stalinist-inspired dogma prescribed the teaching of Lamarckian, rather than Darwinian evolution - that is, it fostered the belief in the inheritance of acquired characteristics, rather than random mutations followed by the natural selection of the fittest. That somehow seemed to agree with Marxist-Leninist dialectical materialism, as proposed by that notorious pseudo-scientist Lysenko, who had Stalin's ear, and hence his heresies became the prescribed syllabus for biology teaching all over the soviet block. Naturally, the poor old-timer who taught us felt a revulsion against teaching such blatant nonsense and somehow managed to convey this to us while, at the same time, exposing the facts. "This is what I am supposed to teach you", he used to say, faintly ridiculing the idea that succeeding generations of giraffes grew longer and longer necks in order to reach higher branches, but he managed to convey the true Darwinian story at the same time, inviting us to make up our own minds. A memorable experience, in the light of what I learned later, through reading more biology and histories of biology, at an older age. I also seem to remember that the poor old teacher took to drink and died not much later. He seemed to be a kindly and humane teacher, unlike most of the others who were stern, distant and somewhat unapproachable – characteristic of most European teachers. This is in marked contrast to the friendly, approachable teachers that I found a couple of years later in Australia – but that is another story – we had to get here first!

Our emigration was expedited by another, more serious brush with Marxist dogma: A more sinister chain of events unfolded in my final year at that school. We were all supposed to learn some Marxist-Leninist philosophy as part of social science lessons and as part of all other subjects - not just biology - and we were all enrolled into the local chapter of the communist youth organization UTM (Union of Workers' Youth) modelled on the Russian junior communist party, the "Comsomol". The local "commissar" was an unpleasant peasant lad, comrade Marish, who had a huge chip on his shoulder and a strong and cruel streak reminiscent of the fascist youths of only a few years earlier. He decided that I was making a mockery of the dogma - which I may have been, because so much of it was patent nonsense, especially for adolescents. Things such as class warfare; the dictatorship of the proletariat; the capitalist conspiracy; the glorious alliance of the workers and the peasants, and so forth. I was convinced by the observation of my parents and their friends that the fascist, anti-Semitic race hatred had simply given way to class-hatred, and comrade Marish succeeded in putting this into concrete form. He denounced me as a "class-enemy" and following a star-chamber type of "interview" for half an afternoon at UTM headquarters, at which not only my attitudes but my "class origins" were investigated - my father's occupation and home living standards - I was summarily expelled from the UTM. This seemingly unimportant development was bound to lead to the horrendous consequence that I would not have gained access to a University education, no matter how well I would complete

high school. Indeed, another boy at the same school, son of a timber-merchant, with whom I caught up in Melbourne many years later and who was also expelled from the UTM, had to "rehabilitate" himself with several years of manual labour in the countryside before being allowed to study Chemical Engineering at the Timisoara Polytechnic. He later went on to an outstanding career, first in Germany and later in Australia. Maybe you can't keep a good person down for long - and maybe I would have had a similar fate. But this episode just underscored the urgent need to get out from under the communist tyranny and convinced my parents to try to hasten our emigration, to join the other members of our extended family in Australia.

Memories of a Young Emigrant

A bit of family history first. Sometime in the 1920s, a young brother and sister in their late teens left Timisoara to seek their fortune in faraway Australia, presumably to escape harsh economic conditions that followed the Treaty of Trianon - the cataclysmic carve-up of the Austro-Hungarian Empire that followed their loss of the Great War. They were Louis and Nellie Spitzer, children of my maternal grandmother's sister and thus my mother's first cousins. After a few years of doing odd jobs and cleaning houses, they settled down and prospered. Louis married the daughter of a country draper and, as dowry, inherited a haberdashery in the country town of Benalla. Nellie also got married, to a scholarly and pious Hungarian Jew with whom she had a son and a daughter, born in the 1930s. Louis and his wife also had children - two daughters and a son - born in the 1930s and '40s. They persuaded their parents, my great-aunt Esther and her husband Charles, to come to Australia too, which they did, well before the Second World War. They settled in Shepparton and got into farming, fruit-growing and the fruit and vegetable canning industry. So these were the Spitzer family pioneers. Why they chose Australia, rather than North America, I have never found out.

Back In Timisoara, my mother's eldest sister, Ella, met her childhood sweetheart Geza Spitzer who, after returning from the First World War (in which several of his brothers were captured or killed), went to the University of Vienna to complete his studies in Construction Engineering, thus becoming the only member of the extended family with a tertiary education. He returned to Timisoara, married my aunt and settled down in a good commercial job with a German firm of importers. He carried the decorative title of "Ing." but never, in fact, practised the engineering profession. As fascism gathered strength in Germany and the storm-clouds of war gathered in the late 1930s, his German colleagues, possibly as an act of kindness, gave him advance warning: "Herr Spitzer, this is a German firm - there is no great future here under the circumstances". Fortunately, uncle Geza, whatever he felt about this apparent betrayal by colleagues of long standing, took heed of the warning and started considering his options. In conjunction with my father, who was a few years younger and who held him in great esteem, they decided to seek the help of the Australian Spitzers (who were actually more distantly related but had the same surname) to apply for Landing Permits and thus escape from Europe and emigrate to Australia.

They duly received the application forms, written in English, of course, and started to fill them in, with the aid of a German - English dictionary. What were their occupations - what were they intending to do in Australia? An easy question for my uncle, the graduate construction engineer, he filled in "Bauingenieur" - translation: Builder. What about my father? They figured out that they would go into the housing business together and my father would become a contractor. (He had completed his secondary education in a "Commercial School" but was only a businessman, after all, with no special technical skills). "OK, then - you'll be a contractor - in German an "Unternehmer": a man who undertakes to complete certain works". English translation, according to the dictionary: Undertaker. Back come the answers from Australia:

"Yes, we need builders - Spitzer - you're in - here is your Landing Permit". "No, we don't need undertakers, sorry Klein - no Landing Permit". This tragic error condemned us to being trapped in Europe for the duration of the Second World War and could, indeed, have had lethal consequences! A parenthetic note: In 2002 we went on a tour of Ireland, driving South from Dublin along the coast. On the outskirts of Cork we came across a sign above a shopfront that said: Patrick So-and-so and Sons Builders and Undertakers. So there, the original meaning of the term lives on and I have a photograph to prove it!

The Spitzers sailed from Europe in 1939, in the nick of time: The ship that brought them to Australia (after an enforced sojourn in Colombo) was torpedoed and sunk on its way back! They were met and helped by the Australian Spitzers, settled in Melbourne, my uncle ran a timber mill in Fairfield and they eventually prospered. Their son, my cousin Victor, who is 11 years older than I, worked at various jobs and studied at night, ended up enlisting in the Australia Armed Forces and spent several years in New Guinea as an antiaircraft gunner. We almost completely lost contact with them during the war. Except for a couple of Red Cross messages (which had to be in English) and which got minute analysis with the aid of the same old dictionary. I remember great puzzlement over the word "both" - in the sentence "we are both well in Melbourne". It was only after the war that the code was broken: They tried to tell us that their son was away from Melbourne but we would never have guessed that he was fighting in New Guinea!

By some miracle we all survived, except my mother's other older sister Yolán who, married to a Serb national, decided rather late during the war that it would be safer to move some 50 km to the East of Timisoara, to a town in Serbia. Another fatal mistake: Alas, we never heard from them after 1944 - they both perished in the Theresienstadt concentration camp. Fortunately, their daughter, my cousin Hedda, was doing an apprenticeship in dressmaking and it was decided to let her complete it in Timisoara. She stayed with my family and became like an older sister. (Our fairly large apartment became quite crowded when my grandparents moved in too, after their house was appropriated by the authorities as part of another anti-Semitic move sometime around 1943 or 44). Soon after VE day, in 1945, when we found out that Hedda's parents had perished in the holocaust, she was invited by the Spitzers to join them, so she travelled to Genoa and caught a ship to Australia, alone as a single girl of 20, with a bogus wedding ring as her only form of protection. She arrived safely, started a new life as a "New Australian", learned English, got married and lived in Adelaide with her family before being widowed and joining the rest of us in Melbourne again sometime in the 1990s.

Next came my grandparents: Aged in their late 70s and having lost their home and most of their possessions during the war, they came to Australia in 1948, to live with their other daughter, Ella and the Spitzer family who managed to obtain Landing Permits for them. They never learned to speak English, beyond a few mangled words, but came to enjoy life. Grandpa Joe Teichner, a gregarious old boy, knew that there was no point in speaking to people in Hungarian, but he would often try German and, when not understood, would say it again - only louder. As a former old brewery employee he came to appreciate Melbourne Bitter (pronounced "Bitter Ale"), found some other old codgers with whom he played cards regularly

and was even invited to join the old diggers in the Kew RSL club. Perhaps they didn't realise, or perhaps they didn't care, that he had fought "on the other side" in the Great War! (He had been an artilleryman on the Italian front, before the Austro-Hungarian empire lost Trieste and the other Mediterranean ports). The old boy also enjoyed shopping - and especially, haggling. My aunt Ella had an arrangement with the greengrocer, to let my grandfather beat them down in price, and she would later make up the difference. Ever a bon-vivant, he set fire to his oxygen tent when he insisted on lighting up a cigarette after suffering a heart attack at the age of 81. He died a little while later, but not before the whole family had been reunited, with our arrival in January, 1953.

That event came about quite indirectly and again as a series of fortuitous events. My cousin Vic travelled to Canberra - on an early DC3 airliner - and, flashing his Returned Serviceman badge, sorted out the "undertaker" debacle and persuaded the authorities to give us Landing Permits too. We could have, nay should have, emigrated together with my grandparents - or even before. However, following the post-war shortages and my father's enterprise in manufacturing substitute materials for industry, it was just too good an opportunity to miss not to build up a little capital before coming to Australia. Another bad mistake, as it turned out, because when the Iron Curtain came down in 1948, all the borders were closed and no emigration was permitted. A few brave souls managed to escape by means of clandestine border crossings, but everyone else, especially Jewish people who wanted to emigrate to Israel, was trapped in the "socialist paradise" in which housing shortages and other economic hardships were steadily getting worse. Then, unexpectedly, came an amazing piece of luck. My father, who came from Budapest originally, was a Hungarian subject and had retained his Hungarian citizenship ever since the 1920s, renewing his passport and Romanian resident's visa at five or ten-yearly intervals. In fact, all of us, including my mother and me were on the one passport - all of us claiming Hungarian citizenship. The logic behind this was that there may be, from time to time, advantages in being a foreign national whereby one could claim exemption from selected restrictive measures - and indeed I believe that there may have been such occasions during the war. However, sometime around 1951, this Hungarian passport was about to expire, as had been the case many times before, and the time came to apply to the Hungarian authorities for a new one. "Dear Sir, Since our current passport is about to expire please issue us with a new one..." Then a neuron must have misfired because in an act of sheer audacity he added the phrase: "...valid for travel to Australia". Preposterous, indeed, under the circumstances! In due course, the answer came from Budapest: "Dear Mr Klein, I am instructed to inform you that your request for a passport has been refused. Your obedient servant...." Armed with this document, my father went to the Romanian authorities, saying "look: the bloody Hungarians are refusing to renew my passport..." (Without, of course, explaining why they had refused). "Where do we go from here?" Without batting an eyelid, the Romanian bureaucrat informed him that, having lived for so many years in Romania he would be entitled to become a Romanian citizen, and to hell with the Hungarians.

- "But what if I don't wish to become a Romanian citizen?"

- "Well, then you become stateless", came the reply.

- "What does that mean?"

- "Exactly what it says - you are not protected by any country.

- "But can I go abroad on that basis?"

- "You can go to buggery, as far as anyone cares."

I am here translating the very much more vulgar Romanian expression that the functionary employed - and when the import of that sunk in, a few seconds later, they both burst into spontaneous laughter: My father, when realising the unbelievable stroke of luck - and the bureaucrat at the thought of having gotten away with the rudest possible insult addressed to an innocent client. Whereupon from the very back of a dusty filing cabinet he pulled out some very old applications forms, for travel documents for stateless persons, which dated back to the immediate post-war period when they were commonly used for processing refugees.

It was the winter of 1951 when, with a severely limited luggage allowance, which excluded any valuables beyond strictly personal possessions and no jewellery, we packed our clothes and with one suitcase each, made our way by the night train to Bucharest and then to Constanta, the Romanian port on the Black Sea. My mother was a nervous wreck, almost trembling all the way because my father, from whom I think I inherit my larrikin streak, had hidden some of her jewellery in the hollowed-out wooden heel of some tattered-looking summer sandals! I have a clear memory of boarding the ship - a small vessel called the "Transylvania" which plied between Constanta, Istambul and Haifa, taking 3 days. Even more vividly imprinted on my mind is this first occasion on which I ever saw the sea - having lived in a land-locked area all my life up until that time when I was aged 17. The sea was cold, grey and immense. There were very few passengers on board and we were all sea-sick and had retained practically no nourishment until we anchored in the Bosphorus, just offshore from Istambul, in brilliant sunshine and a calm sea. A wonderful, exotic sight, with all its minarets and domes, Istambul was our first taste of freedom after many years of living in a quasi-police-state, even though, being on a Romanian ship we were still in Romanian territory.

A short few days after this brief stop-over we arrived in the port of Haifa to be greeted by several friends and distant relatives who either got there a long time ago or, more recently by some nefarious means. Among them was an old school friend who a couple of years before, had gone on a skiing holiday with his parents, to Austria (when it was also still in the Russian zone). By suitably bribing a guide, the whole family skied down the "wrong" side of the mountain to escape to freedom in Italy. (People-smuggling is definitely not a new trade!). They threw oranges at us from the shore as we were lined up along the railings of the ship. Most of the fruit missed its target and ending up in the drink. What a waste, we thought, not having seen an orange for years and years! We disembarked, marvelling at the wonderful mild weather, at all the inscriptions in Hebrew, now not just a biblical but a secular language, and the overwhelming realisation that everyone was Jewish - including the policemen!

Israel was intended to be just a short stop-over on our way to Australia, so we went to stay in a hotel in down-town Haifa which was actually situated half-way up Mount Carmel. With the port at sea level and some elegant suburbs right at the top of the mountain, the city itself was scattered along the hillside - somewhat like Naples or San Francisco - a beautifully situated city on a wide, sheltered bay. An embarrassing incident is burned into my memory, as such things are destined to be. The day after our arrival, my father noticed that he had left some minor items on board and I was delegated to go and pick them by taking a local bus down to the ship that was still in port. It was his hefty walking stick - an essential item for all central-European gentlemen - and his very fancy gentleman's umbrella, that had a telescopic sheath making it look like just another walking stick. There they were where he left them, in the luggage rack in the cabin that we had occupied, and I was instructed to give a small gratuity to the steward who helped me retrieve them. Then I caught the bus back to the mid-town hotel, with the two walking sticks in my hand. I was quite mortified when an elderly gentleman stood up to give his seat to the poor crippled boy. It took a bit of explaining in English/German/Hebrew that I was only carrying the sticks and was not actually in need of using them!

We marvelled at the sights, sounds and smells of the sub-tropical city, with its bustling commerce and hordes of people – all Jews! – from all sorts of exotic places, like Yemen, Morocco, Baghdad - whence hundreds of thousands of them were expelled after the formation of Israel and its war of independence in 1948. There were also sizeable numbers of Romanians, Hungarians and others who got there earlier and many, many German, Polish and Russian Holocaust survivors, as well an older, local population of early settlers - born in Israel even before it became an independent state. All very interesting experiences for the eyes of tourists, which we thought we were at the time.

However, there was a bit of a snag, a mere formality, we thought: our Landing Permits for Australia, issued around 1947, had expired. At the earliest opportunity, my father caught a bus to Jerusalem to visit the Australian Consulate in order to apply for a renewal or an extension. We proceeded to wait for the wheels of bureaucracy to turn – at a rate even more sluggish than in the Eastern block, because they could not be greased by bribery. Several weeks later, it transpired that because of a change of government, the immigration programme initiated in Prime Minister Chifley's time was halted, pending a review. Meanwhile I had a wonderful time in Haifa as an exuberant 17-year old, speaking all sorts of languages, mostly all at once, with the polyglot population of recent immigrants, mostly refugees from all over Europe. I enjoyed going daily to the local movies to see American and English films which had been banned under the communist regime in Romania, all the while explaining that I was there purely to practice my English! (Having learned proper English from a good teacher back in Europe, I managed to acquire a bit of an American twang from all those movies, but mercifully I got rid of it and reverted to proper English soon after arriving in Australia). I particularly remember the John Wayne movies, with subtitles in Hebrew, surtitles in yiddish and side-titles

(yes there were such things – running vertically on both sides!) in Hungarian and French. I also spent a lot of time riding the buses, to the top of Mount Carmel and to all the outlying suburbs. Once I even hitched a ride on a small boat, ending up on the far side of the bay, whence I had a devil of a time getting back into town.

After spending a fruitless few weeks in Haifa, waiting for good news from the Australian Consulate, it became clear that staying in a hotel for much longer was not a viable proposition, so my parents decided to move to somewhere more affordable. We ended up in a single room in a holiday house in the sea-side resort of Nathanya, part-way down the Mediterranean coast of Israel, in the off-season when rents were very reasonable. My father got a job as a manual labourer in a factory, feeding a machine for grinding up pieces of cork, the granular product ending up in floor tiles. I was at a loose end - it was too cold for the beach at that time - so I got a part-time job as a night-porter and afternoon tea-server at a local hotel, giving my parents some welcome privacy - something that hadn't occurred to me at the time, I must confess. One of the friends who left Timisoara several years earlier and was well settled in a Kibbutz, suggested that I might like to join him - even if temporarily - since there were many other young people there and lots of work opportunities. So it was that I fetched up at Kibbutz Givat Chaim which is situated at the narrowest part of Israel where it is only about 13 km wide and from where, on a good day one can see the sea (from the vantage point of the top of the water tower) as well as (at night) the lights of the West Bank city of Tulkarm.

I was to share a small bedroom with Fouad, an Egyptian boy of about my age, and was to report with him for work at 6am, in the kitchen - the usual place where newcomers start. I worked at setting and clearing tables, scraping left-overs off dishes and operating the big industrial dishwasher, as well as preparing porridge for breakfast every day in a large industrial-size, steam-heated vat. I hated every minute of it! To this day I suffer a marked aversion to dishwashing and make sure that every kitchen that we occupy is equipped with a dishwasher. I spent most of my free time in the company of other young people - a welcome relief for someone who should have still been at school. I visited my parents in Nathanya almost every weekend only to hear that, in spite of the strenuous efforts of our Australian relatives, there seemed to be no progress on the immigration front - we seemed to be stranded and in limbo.

After doing 6 weeks of servitude in the kitchen, grumbling all the time, the powers that were in the Kibbutz relented and assigned me to be an apprentice to Mr Yusuf, a tall, trim athletic-looking electrician, originally from Egypt, who spoke mostly Hebrew, with a little English and fluent cursing in Arabic - the latter on the many occasions that called for a response to the innate perversity of inanimate objects. There was a large amount of construction work going on at the time - building bungalows for new arrivals in the kibbutz and its outskirts, and the main activity was house-wiring. The houses were made from cement breeze-blocks and the electrical wires were pulled through conduits, buried in channels chiselled in the cement blocks. So there

was an enormous amount of chiselling to be done - mainly by the apprentice - which was OK most of the time because the blocks were quite soft and easily worked with a hammer and chisel. Some of the time, however, the concrete lintels had to have grooves cut in them and that was much harder. That's where I acquired Mr Yusuf's Arab invective which I can still reproduce fluently today. An implied promise behind all this was that when the channels were ready and the conduits inserted, he would teach me about the wiring itself - how to connect to lamps, switches, power-points and so forth - real intellectual stuff he reckoned. Well, he did indeed show me how, but there wasn't all that much to learn. As part of my childhood scientific activities, simple electric circuits with batteries and torch-globes and bells and buzzers were quite familiar to me - and house wiring was just an extension of those simple notions - with a little more attention to insulation, since higher voltages were involved, but even that was not totally unfamiliar to me since a few of my earlier escapades had taught me about electric shocks, without many more hazards than some of the more adventurous chemistry experiments. Reflecting on what I learned there, (apart from Arabic curses) I can only recollect one thing, namely the principles of connecting two switches to the one light - a common enough installation in most houses.

The way it works is this: The two switches are connected by two wires and the act of switching transfers the contact from one wire to the other. The current from the incoming wire in one switch is thus transferred to one of the two outgoing wires, which reach the second switch. If the second switch is in the same position as the first, its outgoing wire can carry the current to the lamp but if it is in the opposite position then the circuit is interrupted and the lamp switched off. It can be switched on again if either of the two switches has its position changed.

I was immensely proud of myself when I was able to figure out, all by myself, how this problem is generalised to several switches, for example to switch a lamp on and off in a staircase from any one of the floors of a multi-storey building. No, it doesn't need a number of connecting wires equal to the number of floors! Two wires suffice, making the connection between each of the switches down the staircase - let's call them the "left" and the "right" wires. Each of the switches is capable of transferring the current from the left to the right connecting wire, or vice-versa. Thus, if all the switches are in the same position, say to the left, the current goes through all the "left" wires all the way down, switching the light on. If any one of the switches has its position changed the circuit is broken and the light goes out, but any one other switch, on any other floor, can send the current back down the "left" wire and turn the light on again. Whether the light is on or off depends simply on whether an even or an odd number of switches are switched. (Don't worry if this doesn't make sense - it really needs a simple diagram – but it is just an example of what in physics is called a "parity operation" - switching between even and odd, or between left and right).

After six weeks of this, it was summertime and the beaches of Natanya were beckoning. Besides, there didn't seem to be much more to learn from Mr Yusuf and my parents assured me that things were moving along and we will be on our way shortly. So I bid a fond farewell to the Kibbutz - but not before trying my hand at a few odd jobs, such as trench digging - a doddle in the light, sandy soil, fruit picking in the orange and grapefruit orchards (after a short time the grapefruit tasted much better – it had more character than Jaffa oranges). I also did a week's night-watch guard duty when it was Mr Yussuf's turn to do his stint of this chore, shared by all adults in the kibbutz and he "volunteered" me to be part of his squad. Due to the proximity of the border, there was constant vigilance, especially at night, though it seemed that larceny more than terrorism was to be guarded against. I remember enjoying the quiet solitude and the starry night as well as the mid-shift fried eggs and fried potatoes that were part of the deal. Furthermore, the old .303 rifle that we carried gave the job a special air of excitement.

All this was quickly forgotten once I was back in Nathanya, enjoying the new experience of swimming in the sea - something I had never done before, having been brought up on freshwater swimming in the river or in the public swimming pool. I found new friends on the beach too and I resumed my job as night porter in the hotel - I actually took turns with my father who, somewhat amusingly, "inherited" the job from after I left for the kibbutz - it was far more salubrious employment than the cork factory! Still it was only for the occasional spell and not enough to keep me in the pocket-money that I needed to continue my explorations of the American film industry. There was a huge backlog of films that I had missed in the last few years of purely soviet fare, mostly propaganda, and I revelled in going to the outdoor, summer movie, almost every night.

When all this got a bit monotonous, my mother had the bright idea that I should seek a job in the electrical repair shop on the High Street of Nathanya. So, one fine morning I bowled up to and met Mr Reznik – an old Russian immigrant who ran the shop. I told him that I had almost completed my apprenticeship as an electrician in Kibbutz Givat Chaim, that I was competent at house wiring and that I could even repair simple appliances. He hired me on the spot and for several days I was sent out to help his foreman a rude, ugly, cross-eyed Moroccan Jew, whose name I mercifully forgot. He bullied me and gave me the worst jobs to do – such as chiselling channels in hard concrete, rather than soft cement blocks – and laughed at my funny pronunciation of the Arabic curses when I missed the chisel and hit my knuckle with the hammer. After a week or so of this, I begged Mr Reznik to let me work in the shop, to which he agreed. It turned out to be an excellent arrangement once learned to trust me because it allowed him to go out to do trickier on-site repairs and installations. I looked after the shop and skillfully repaired things like toasters and irons – not by replacing parts but, whenever possible, by twisting the ends of the burnt-out elements together – a much more economical procedure. Alas, nowadays the whole object is discarded rather than repaired – a deplorable state of affairs! I also had a fair bit of spare time during which I avidly read all the books that I could find

– mainly in English – learning many useful things about electrical things, such as Ohm's law, simple calculations, a little about alternating current circuits and so forth.

I had an avid interest in how things work – a trait which characterised my whole adult life and eventually led me into physics – but with a detour via electrical engineering as will become apparent later. What I remember most clearly is learning a little about electric motors, which fascinated me. Simple motors, running on batteries were simple enough to understand – after all I had played with bicycle dynamos and toy motors when I was a kid. AC motors were an altogether different sort of thing – except for small ones like in drills or vacuum cleaners, which were very similar to the DC motors. Mr Reznik, to his great credit, did his best to explain the basics of AC motors to me – such as the synchronous motors used in large pumps and the induction motors that run most industrial machinery. He even gave me some textbooks to read but which were, at the time a little too advanced for me. Some of this material didn't click until the third year of an electrical engineering course, quite a few years later, but I did learn quite a lot, and quite quickly, during the three or four months that I spent with Mr Reznick, bless him.

After about five or six months in Nathanya, it appeared that things were really moving and my parents decided that it was time to move back to Haifa – this time not to a hotel but to a small furnished apartment on top of Mount Carmel, in an area which was very much of a remote outer area, or satellite village at the time but which has turned into quite a fashionable suburb in more recent times. There we were, once again waiting for the long overdue Landing Permits. It seemed that the Menzies Government finally decided to restart the immigration program and that we simply had to wait our turn. I can't exactly remember what my parents did to keep themselves occupied but as for me I had the drill down pat: I went to the high-street electrical shop, introduced myself as an almost fully qualified electrician, with experience in Nathanya as well as in Kibbutz Givat Chaim, capable of all kinds of repairs and able to look after the shop, all on my own. I even had a reference from Mr Reznik, which was suitably vague about period of employment, because we left on very good terms. He was quite sorry to see me go but I explained, I had to follow my parents who were going to live in Haifa.

The owner of the shop, a young chap who had some training in America where his brother lived, was fluent in (American) English and had been trained in the repair of refrigerators. He hired me on the spot, put me in charge of all electrical repairs and even promised to teach me about refrigerator repair. This he never, in fact did – for two reasons: Refrigerators are (or at least in those days were) remarkably reliable objects, so was really very little call for repairs. The second reason was more important by far. After a few days of letting me loose in the shop, he kept disappearing for longer and longer times. It became obvious, even to a naïve young boy, that the attractive, blonde young lady who sometimes accompanied him on return to the shop in the afternoons was responsible for his being unavoidably detained a lot of the time. She was, in fact, the bored housewife married to some American consular official and I was the innocent party who made it possible for their torrid relationship to flourish, by giving him the free time to pursue it. I learned to just mind the shop – and my own business. I repaired the usual lamps, toasters and irons, broadened my interests in reading books about

radio – the American Amateur Radio League's bible in particular, from which I learned an enormous amount because it was written mainly for amateurs that is at just the right level for me.

I also made the occasional "house call" for electrical repairs. One in particular sticks in my memory: I was called, or rather sent, to a large, luxurious apartment in the hills to review some problem with a time switch. The owner, a pious Hungarian Jew wearing a wide-brimmed black hat and a ritual, fringed waistcoat let me in and opened the doors of a large hall cupboard, behind which was situated a collection of the largest number of time-switches that anyone has ever seen. They all needed resetting and reprogramming- and the main reason that it was I who was sent to do the job was that I could understand his instructions in Hungarian. It is a fact that for strict orthodox Jews almost any action to do with turning things on or off is deemed to be work – and hence forbidden on a Sabbath. (I believe that they actually remove the light globe from inside refrigerators lest the act of opening the door should constitute "work" by actuating the light switch!). Thus, cooking, turning on lights and so forth are not possible on the Shabbat – unless performed automatically by a machine or at least an automatic mechanism such as a time clock. (The alternative, in the past, was to employ a "Shabbat goy (gentile)" to do the work for you). Hence the large number of time switches, all connected to different circuits, all labelled in Hungarian, but otherwise quite straight-forward to anyone who has studied anything beyond the Bible and the Talmud – sources which are rather deficient in mechanical and electrical lore. I marvelled, as I still do, at the concept that the manual flicking of a switch is deemed to be "work" and thus proscribed on the Shabbat, whereas the action of great wheels of the turbines and alternators that produce the electricity are not - and that the subtle Lord of the Israelites is so naïve as to be fooled by the automatic action of time switches. But I said nothing, fixed the problem by resetting the whole bank of dials, to the owner's complete satisfaction. So much so, that he asked me if I could fix radios as well. This needed some quick thinking on my part because our shop did not, in fact, deal with radios. However, having studied the ARRL Handbook in my spare time, I was ready for a bit of "private enterprise" and said that I could give it a try. Whereupon he pointed me in the direction of a monstrously large mantel radio which, he said, had ceased to function. I lugged it all the way home - which was at least a kilometre away - and, much to my mother's consternation plonked it on the kitchen table. As expected, the radio was largely empty space inside, except for the large loudspeaker that justified its size, I suppose, and a chassis equipped with six or seven glass tubes - the thermionic valves that, in those pre-transistor days, was what made electronics work. All these tubes worked by the so-called thermionic emission of electrons from a cathode, indirectly heated by a filament, not unlike the one in a light globe. And, just like incandescent light globes, they burned out from time to time. One could tell if they were burned out because they stopped glowing or, if the glass was opaque, one could feel that they were cold. Indeed, locating the cold valve was easy and a bus-ride to downtown Haifa served to procure a replacement. The old monster then sprang into life and worked again like a charm, filling the house with music and, in the evenings, all the languages of European radio stations. Lugging the radio back to its owner a couple of

days later earned me the equivalent of a week's salary. My mother, bless her, thought I was a genius!

All in all, I did a fair job as an electrician - except for one minor debacle caused by my colour-blindness. On one occasion I confused a murky red and a murky green wire and gave my boss the satisfaction of discovering and correcting my mistake with no great harm done, except to my ego. I felt then as I still do, totally competent as an electrician - except that knew only the principles and was totally ignorant of such things as wiring regulations, and other such conventional wisdom, without which one could not pass the relevant exams, of course. Many years later, equipped with a First Class Honours degree in Electrical Engineering I had the opportunity to study the wiring regulations and get an "A GRADE" Electrician's Licence by simply sitting for the appropriate exam. I refused to do that - not wishing to lose my amateur status. All these years, my re-wiring of houses, installation of extra power points and repairing of a complete range of electrical appliances - in the days when one still repaired them - was all done strictly illegally!