# Chapter 1: ……………..

## I

The air had a harsh chill the day Xi Wangmu presented herself to me. She squinted her eyes under the morning sun, hospitably raised her hands and composed a warm welcoming smile. A smile broken only by the voids left behind by once upright teeth, now lost through years of malnutrition. I knew that I needed to meet her the moment I gazed upon her old frail body. Her faded navy tunic, mended multiple times with pale blue patches, was well worn and torn around the hip. The light cotton trousers extending from the bottom of her outerwear were three inches short, exposing a pair of thick grey woolen socks. On her feet she wore a mud-stained slipper, scarcely capable of providing comfort from the brutality of a cool autumn morning.

The exposed skin of Wangmu’s face, neck and hands was covered in pronounced wrinkles, the depth of which narrating the story of a difficult life. One consisting of manual labor and hard slogs. Of days worked in the terraced fields bordering Yingxiu Township and nights spent raising a family of four children. Her elderliness also evident by the fine strands of white-grey hair, fighting their way loose from the black scarf wrapped tightly around her head. The scarf’s presence, a deliberate effort to protect herself from the cold mountain breeze.

Next to Wangmu lay her residence, a refuge shelter built from scavenged logs, tarpaulin and a variety of colorful canvases. The fast flowing waters of the Yuzixi River rushed behind her and was all that separated her shanty house from the steep landslide scarred slopes of the Siguniang Mountains. The bubbling sounds of a boiling pot of water propagated from inside her house and the sweet aroma of Chinese green tea filled the cool air.

I called for my guide who was inspecting the ruin behind me. Xun Guo treaded carefully through the rubble distributed between us and joined me on the river’s edge. I explained that I wanted to talk to Xi Wangmu and he begun speaking to her in Sichuanese Mandarin, a language spoken by roughly 120 million residents of Wenchuan County, China. Wangmu spoke of the horror that had befallen her town four months earlier. She explained how the ground trembled, the mountains roared and the buildings fell. I glanced behind me where less than one in five multi-storey buildings remain standing. The piles of rubble rose above my head and extended in all directions as far as I could see. The only route to where we stood, a bulldozer-cleared road barely wide enough for two vehicles.

Wangmu explained how the ground adjacent the river turned to liquid under heavy shaking; how the sheer slopes on all sides of the valley failed to contain landmass; and how boulders as large as double-decker buses rolled down the steep slopes, annihilating everything in their path. She spoke of the horror immediately following the earthquake and how survivors, desperately searching for loved ones, became acutely aware of their isolation upon realization that ubiquitous landslides had enclosed the valley within which she lived. The residents of Yingxiu were left to fend for themselves in their greatest time of need.

Downstream, the path of the Yuzixi River had been dammed by one of thousands of massive landslides. The steep walls of the valley offered no place for the river to meander and the water began to rise. Within hours, the rapidly flowing waters engulfed the low-lying ruins of Yingxiu township, forcing survivors to flee to higher ground. Those who could fought bravely against the odds treating the injured with whatever they could find until, some 24+ hours later, the army arrived in large numbers with supplies and much needed medical capabilities.

After describing the horrors of that day in early May, I noticed Wangmu’s face turn to an expression of grief. She now reported the ill fate of her own family of four children, their spouses and three grandchildren, all counted among the ninety thousand lost during the earthquake and ensuing flood.

It was unfathomable to me, that after what she had been through, Wangmu could compose a smile. That she could greet me, a foreigner unable to provide any hope of comfort or support, with such warmth and happiness. I knew immediately that there was something special about Xi Wangmu, that her resilience and desire to survive was incredible and that her ability to remain positive was a special trait, unique only to those who had experienced and survived a severe trauma. Several months would pass however, before the importance of this meeting would truly dawn upon me.

## II

In the beginning of that year’s Northern Hemisphere summer, the residents of Yingxiu found themselves deep-seated within the kill zone of the Great Sichuan Earthquake, the 12 May 2008 magnitude 7.9 catastrophic disaster. In its aftermath, more than 69,000 people were confirmed dead, 370,000 injured, 18,392 missing and more than 5 million homeless. Over 5 million buildings collapsed and 21 million were damaged causing an estimated direct financial loss of $86 billion US dollars.

Everywhere I looked I saw the telltale signs of a massive earthquake. The extensive building damage, the landslide scared slopes and the 2m vertical offset, or fault scarp, in the road to the left of where we stood. Scientists who visited the area earlier reported finding vertical offsets exceeding 6m in some areas, a phenomenon only created by the world’s largest earthquakes.

I had travelled to the region with an international consortium of seismologists, engineers and architects; joining a local government organised field trip of the earthquake-affected areas. The purpose of the exercise to demonstrate progress of cleanup efforts and educate those of us not directly impinged, about the scale of devastation and ruin. After years spent modeling the impact of potential earthquakes on communities around the world; this field trip offered my first opportunity to observe the devastation first hand. I knew that it would be difficult, but nothing could have prepared me for the scale of destruction I saw. On the one hand, the scientist in me wanted to learn from the physical signs of the earthquake and the failure of the built environment to survive its violent shaking. My own humanity however, made it difficult to shift my thoughts from those killed and the 18,000 still missing, presumably buried under my feat as I navigated piles of rubble. I found it necessary to continually stop and reflect on what had happened to these people, my fellow associates of world community.

Visiting the earthquake-impacted areas of Wenchuan County was confounding and meeting its survivors humbling. The visit shaped the way I think about survival, life and adversity. It will no doubt stay with me for the remainder of my life.

## III

Two days before leaving for China I rang my doctors surgery. A poor traveller at the best of times, I knew that I needed to restock my supply of sleeping tablets before boarding the plane. “Dr Morvai is not available tomorrow” informed the receptionist, “you can see Dr Wong if you like”. “She’ll do” I replied.

The following day I entered the room where Dr Wong practiced, meeting her for the first time. Her petite fit figure and glowing fresh skin, evidence of her own good health. In complete contrast to my own observation, she took one quick look at me, squeezed out a quick hello and insisted that I jump on the scales. She promptly recorded my height and sat down at her computer. “92 kg, 171cm …. I am sorry to say this but you are technically obese” she said with a bluntness that was no doubt unintended. “When was your last general medical examination” she continued whilst already scanning my medical records on her computer. “I can’t see one here. We better do something about that I think.”. She scribbled onto a pathology request form. “The nature of your physique makes you susceptible to cholesterol, as well as a range of other medical issues. Please see to these tests as soon as possible” she stated while passing me the form. “Now what else can I do for you”.

“I’m travelling for work tomorrow and need some sleeping tablets to ensure I get some rest on the plane” I replied. “You should see from my medical records that Dr Morvai has prescribed them before” and I pointed to her computer where my medical history remained open. “Yes I can see them” she said and reached for her booklet of empty scripts. She began madly writing once again and flicked me the script. “Good luck with your trip … don’t forget those tests” she commanded and I was quickly on my way.

I entered my car, a bright blue sporty looking but simple Mazda and adjusted the rear-view mirror so I could see my face. “As if doctor” I said quietly to myself with all the nonchalance of a 31 year old male certain of his own immortality. I recognised that I was well rounded, and with less physical activity over the last couple of years my belly had become more pronounced. “But obese” I thought “nah!”. I folded the pathology form and upon filing it hastily in the glove box began driving to get my script filled by the pharmacist.

## IV

In late October I returned from China, flying to Canberra, Australia’s largest inland-, entirely planned-city and the seat of its Federal Government. By this stage I had been working in the public service for more than seven years. Employed by Geoscience Australia, the national agency for all things Earth Science, since 2001 I had already grown to love Canberra and greatly enjoyed working as a practicing seismologist modeling earthquakes to serve and advise a range of national and international user groups. I didn’t return to my Geoscience Australia office however. A few years earlier I had been posted to the Australian National University where I was undertaking a research project, of interest to both agency and university alike. I returned therefore, to the university where my project was conducted under the umbrella of a Ph.D. and was now well developed. My research on earthquake location in poor recording situations had largely been completed, my thoughts and conclusion materialized and more than half my dissertation written. I was expecting to submit my thesis within three months and was looking forward to returning to Geoscience Australia where my immediate future lay. My health had a different plan for me however, one that would not be realised for several more weeks.

A month or so passed. It was Thursday afternoon and I was madly working on the final chapters of my thesis. My mobile began to ring. “Hello” I greeted. “ Hi David, it’s Arul here, how are you?” replied my brother in-law from Singapore. How pleasant, a chance to chat with Arul my initial reaction. Then, acknowledging the unprecedented nature of a workday call from Singapore “is everything alright?” I asked. “I’ve been trying to get ahold of Kavitha”, my lovely and strong natured wife of six years, “do you know where she is?” he inquired. “She’s probably in a meeting Arul, is there anything I can help you with?”. “Something’s happened,” he said. “Dad’s had a heart attack! We’re at the hospital now and he’s about to go into surgery. They are going to put in some stents to open the blocked arteries”. We continued the discussion for a short while, the conversation concluding when I was satisfied that I understood all important details. I began to track down Kavitha.

That night we booked tickets for Kavitha and Rathiga, our two-year-old active and gregarious daughter. We decided that I would stay in Canberra to tend to our circus of domesticated animals, two cats and two dogs, and keep the momentum in my thesis writing. We planned a Friday morning departure and three-week visit for the girls. Meanwhile, my father in-laws operation finished and he was moved to the recovery ward. My own throat was beginning to tingle and I was aware that I was falling ill.

The following day my beautiful girls left and I hit the sack. Recuperating in bed for the better part of a week, it was clear that I had fallen to a nasty virus. My father in-law, Raju and I, albeit from a far less serious illness, both recovered quickly. He returned to his home in Singapore and I began to feel human once again. As my mind cleared of congestion I began to recognise the impossibility of this situation. “How is it that Raju, a regular exerciser and healthy man in his early sixties, is having blockages in his arteries” I thought to myself. That is when it dawned upon me. “We are not immortal are we! I must do something about those test.”

The following morning I was at the local pathology center as they opened their doors for Saturday trading. A quick prick later, the blood collected and I was sitting at the local café. “Why didn’t I just do that straight away?” I began reflecting, “never mind, it is done now”. I settled into a serve of eggs benedict and my usual morning startup, a double-strength espresso and began thinking about my thesis. “Where was I before I fell ill… that’s right… if I start there I will be back on track in no time.” I soaked up the last dribble of runny yoke with the remaining thickly sliced toast and headed into the university to resume my scientific writing. I finished late that Saturday evening and returned early again on Sunday for another long day.

## V

It was 8:55am Monday 1st December and I had already been at university for two hours when my mobile rang again. “Hi David, it is Doctor Wong here. Your test results have arrived and I need to see you immediately. Can you get here as soon as possible.” “Sure! I’m on my way now” I replied, walking past the printer to grab a draft of Chapter 5 on my way to the car. My mind was racing at a million miles an hour “Geez, it must be important. Immediately! She did say immediately didn’t she! What could it be? Glandular Fever?” and I thought of my recent bout of virus and congested bed time. “No, you don’t say immediately for Glandular Fever. Diabetes! Oh Shit! I have type 2 diabetes. Yeah you would say immediately for that wouldn’t you… Damn! I am going to have to change my diet... But! I like my diet… And insulin, I’ll be needing that too!”. Then before I knew it I was parking my car with absolutely no recollection of haven driven the 10-minute journey to the GP’s practice.

For the first time in my life I didn’t have to wait for the doctor. I was ushered to Dr Wong’s room as quickly as I announced my presence. “So what is it?” I barked as soon as the door swung open. “Please sit down David,” replied Dr Wong. “I am sorry to tell you this but the test results show that you have Leukemia.” I glanced at the print hanging on the wall behind her with a puzzled expression. I recognised the painting but couldn’t recall the artist. “Phew” I thought to myself “that means I don’t have Diabetes” and in a complete state of ignorance I turned to Dr Wong. “Okay! But how is my cholesterol level. Will I need to change my diet?” I asked. “You don’t need to worry about you cholesterol now. This is extremely serious David! I have contacted Canberra Hospital and they are expecting you. You need to report to the Emergency Room within the next couple of hours”. “But I feel fine” I said “are you sure?”. “They will repeat the tests when you get there. I suggest you pack a small bag. You may need to stay overnight” she replied and I got up to leave. “There’s no need to pay for this one David, just get to the hospital as soon as you can” her final words as I left the office.

I was at home and on the phone to Singapore by 10am. With daylight savings the time difference is three hours so the time in Singapore, 7am. Saroja, my mother in-law answered the phone. We exchanged pleasantries, I sought information on Raju’s recovery and she asked how I was going. "Can I speak to Kavitha please?” I requested. “She is sleeping” the reply. “Can you please wake her? I need to speak with her”. A few moments later and a faint “Hello” echoed down the phone line. “Hi babe, it’s me”. “David, how are you?” she asked more clearly as she began to wake. “Is everything okay” she continued. “No, I have just seen the doctor”. “What, what is it!” came her question with a great sense of urgency. “They think I have Leukemia. I have been asked to report to the hospital as soon as possible”.

I passed the little information that I had to Kavitha and we agreed to wait until I had seen the specialists before arranging her return. I made two more phone calls. One to my parents in Adelaide and a second to my sister Amanda, who lives three suburbs to the East of me in Western Belconnen. Amanda agreed to join me. I called for a cab; collected Amanda on the way and one ridiculously enormous fare later arrived at the Emergency Room of Canberra’s largest hospital.

After a small wait I was seen by the triage nurse and shown to a bed in the treatment area. A few moments later, two doctors arrived, Emma a Hematology Registrar who did most of the talking and an accompanying intern on short-term rotation. Emma took a detailed medical history, gave a brief introduction to Leukemia and extracted a blood sample for re-testing. She explained that the new tests would determine the exact nature of my Leukemia, the detailed knowledge of which would influence the treatment plan and determine the potential of its success.

I was admitted to the cancer ward with minimal fuss. Amanda left for home and I called Kavitha for the second time that day. This time we agreed that she should cut her trip short and return to Canberra as soon as possible. I then settled into the first of many featureless hospital meals and switched on the television, freely available only in the cancer ward.

## VI

I slept restlessly and woke early Tuesday morning. It didn’t take long to discover that a requirement for all hospital patients is patience. I waited, waited and then waited some more. Later that morning I met Deidre, the cancer care coordinator, a nurse who would be integrated into my medical team and with whom I would develop one of many new friendships. Deidre’s first responsibility when a patient arrives is education.

In India, a guru is recognised as someone who eliminates the darkness of ignorance by passing knowledge (light) and educating the pupil. Deidre was to become my guru. It was clear to me that there was much darkness to eliminate as I recalled my impropriety asked question about cholesterol. I had had no personal experience with Leukaemia and all I really knew was that it was more common in children and typically lead to hair loss somewhere along the trajectory of treatment. I had little idea what it was, where it came from or how it was treated. Fortunately, Deidre started at the very beginning.

Bone marrow is the soft, spongy tissue found inside the majority of bones. In the kitchen it is the ingredient responsible for flavoring the highest quality meaty soups and can be a delicacy in its own right. In the body however, its role is somewhat more fundamental to our survival. Bone marrow is responsible for producing the blood cells which, when suspended in liquid known as plasma, fill our blood vessels and circulate throughout our bodies.

Blood cells can be categorised into three groups; red blood cells, white blood cells and platelets. Red blood cells collect oxygen from our lungs and transport it, via our arteries, to body tissue. White blood cells, a fundamental component of the body’s immune system, defend the body against infectious disease and foreign material. Platelets are responsible for clotting and hence necessary to stop bleeding. They also deliver proteins and hormones that stimulate cell division and assist wound healing.

Leukaemia is a cancer of the blood or bone marrow. It leads to the generation of immature white blood cells that are unable to function properly. In developed cases these malignant white cells, also known as blasts, swamp the blood reducing the number of healthy functioning cells. As a result the carrier becomes susceptible to infection, excessive bleeding and lack of energy due to poor oxygen transport. Intense bone pain may also be experienced as the bone marrow becomes overcrowded with immature cells.

There are four primary forms of Leukemia, broadly classified by the type of white cells involved and how quickly the disease develops. Acute leukaemias develop quickly and can make the sufferer ill within weeks. In contrast, chronic leukaemias get worse more slowly and may not require treatment for years. Myeloid leukaemias impact white blood cells known as myelocytes, whereas lymphoblastic leukaemias affect lymphocytes, another form of white blood cell. The four categories therefore become; acute lymphoblastic leukaemia (ALL), acute myeloid leukaemia (AML), chronic lymphoblastic leukaemia (CLL) and chronic myeloid leukaemia (CML).

‘We won’t know exactly how to treat your Leukaemia until the type is confirmed’ stated Deidre. ‘However, we can be pretty certain that it will involve chemotherapy’ she continued. ‘Let’s talk about chemo now.’

Chemotherapy involves administrating combinations of cytotoxic drugs that attack and kill rapidly dividing cells such as the malignant blasts in my body. Unfortunately however, there are no chemotherapy regimes that target only ominous cells. That is, chemo drugs assassinate both healthy and unhealthy cells alike and consequently lead to a raft of side effects, some of which can be lethal in their own right. Common side effects include ulceration of the digestive tract, hair loss and reduced blood counts. All three of the primary blood types are affected leading to poor oxygen delivery and exhaustion (red blood cells), immunosuppression and increased risk of fatal infection (white blood cells) and excessive bleeding/bruising (platelets).

Deidre rapped up her lesson and I was left alone to reflect upon what lay ahead.

## VII

Later that afternoon Emma returned. ‘The blood test has confirmed your Leukaemia David. It looks like you have AML. We would like to take a biopsy of your bone marrow though. This will be more accurate than the blood tests and will help us confirm how developed your disease is’. ‘Emma… are you sure?” I replied. ‘I don’t feel sick at all’ I continued. ‘We’ve caught it early, David. Acute diseases like this propagate very quickly. Left untreated… You would be very sick and possibly die within weeks.’ ‘What if I had done the tests in October when I first saw the doctor?’ I asked. ‘It is possible that we would not have seen the disease at all a few months ago. I would say that you are lucky. Lucky that you undertook the test when you did! Now, let’s get on with this biopsy shall we?” suggested Emma.

This would be my first of countless bone marrow biopsies. The procedure involves extracting a sample of bone marrow from the hipbone which is subsequently sent to the lab for testing. Following Emma’s directions, I lay on my side and crunched my legs in a foetal position. She picked and marked the entry site. Then, a sharp prick as the needle punctured the skin to inject local anesthetic and numb the area. Next, a sharp PAIN as Emma twisted her hand, the needle piercing the hard casing of bone and entering the bone cavity that the marrow calls home. She attached a syringe and sucked out the aspirate or liquid marrow. Then she swapped to a trephine needle, a larger needle with cylindrical blade, and rotated it to extract a solid marrow sample.

The biopsy was conducted in my room. It does not require a trip to theatre and hence general anesthetic is not used. Some sedation is provided and on a good day the patient will remain responsive during the procedure but will not remember it afterwards. This day, in early December was not one of those days. I clearly recall the pain as the needle entered and twisted within the bone. The pain occurs because local anesthetic is unable to penetrate the bone, and is hence useless during the final stages of the procedure. The bone aches for a few days after each biopsy.

## VIII

The following morning Kavitha and Rathiga landed in Canberra. They caught a taxi straight to the hospital where we reunited for the first time since my diagnosis. It was a relief to have my girls with me once again. I filled Kavitha in on the latest details while Rathiga coloured quietly in the corner.

Later that day Emma returned again. This time Dr Michael Pidcock, the lead consultant on my case and head of the Haematology Department, joined her. ‘The bone marrow aspirate suggests that you have ALL and not AML’ he said. ‘The difference is probably not significant for you; it just changes the chemo protocol that we use. We need to wait another day or so however, to get the results from the solid marrow sample’ continued Pidcock.

‘We have booked the theatre for tomorrow to insert a Hickman’s Line’ Emma pitched in. ‘A Hickman’s line’ I asked. ‘It’s a special type of intravenous catheter that is inserted in your chest above the nipple. It will allow us to take regular blood tests without poking you and will be the means by which we administer your chemo. Unlike a catheter in the wrist which must be changed every 48 hours or so, the Hickman’s line can remain in place for extended periods. If it doesn’t get infected we will continue to use it for the duration of your treatment.’

This was the first time Kavitha had met any of the doctors and it was my first exposure to Pidcock. We interrogated the doctors on a range of topics. They responded courteously to each question and waited patiently for further digging.

‘What are my chances?’, the latest gradation in our long inquisition. ‘Good! We are aiming for a long disease-free life here.’ replied Emma. ‘We hope to start the chemo on Friday. Try not to worry, we think you’ll do ok’ they concluded before leaving my room.

That night I thought of Xi Wangmu. I recalled the warmth of her grin and her positive outlook. ‘If she can cope with her torment, then I can deal with this’ I said quietly to myself. My thoughts drifted however, to the man I knew as my father. Falling to a long illness when I was only four, I knew that Peter’s last days were unpleasant. Dying at the meagre age of 33, only 2 years older than me, I held very few memories of him. Contemplating his premature death abducted my concentration to the fragility of life and my own mortality. ‘Will my daughter remember me?’ My brain was once again racing at a million miles an hour. ‘The inspiration of Wangmu… the slow painful passing of Peter … what would become of me?’ Eventually Wangmu won this one, the first of countless battles over my psyche. ‘It will, WILL be okay!’ I thought as a tried to settle for another sleepless night.

## IX

Now chemo confirmed Deidre returned to explain the protocol. HyperCVAD

Mum arrives – Kavitha sleeps over

Ph­+ve and what it means

Hickmans procedure

Chemo starts - Can I drink coffee

## X

## XII

## XIII

## XIV