

Graduation Night 2006

Hadi Slayman's Speech

Up until a few days ago I wasn't sure what I would talk about tonight. I've only been in the workforce for a short time, and so I don't have any entertaining work stories to share with you, or any wise piece of advice to give to the graduates. At the moment I'm still stumbling my way through the new and very cruel world of office politics. So I'll discuss what I do know, and that is, what led me to my current career as a geologist. I'll begin by describing the thought process I used in my final year of high school, when I was deciding what I would study the following year at university and how I would spend my working adult years.

I was terrified of public speaking, so this ruled out a career as a lawyer or brutal dictator. I found the sight of blood unpleasant, which ruled out a career as a doctor, nurse or vampire. I was disgraceful with numbers, so could never become an accountant or engineer. What really interested me were the arts: history, painting, philosophy, none of which I learnt at school. The common theme of all the professions provided by the arts is that people don't pay you. So how important is making decent cash when choosing your profession? That's up to you and your determination to do what you love. You can either stick with it, work hard and refuse to put money ahead of doing what you enjoy, or, you can chase the dollar. So I threw on my running shoes and began the chase. First step was to decide which school subject I hated least. That was easy. It was the sciences, namely chemistry and physics. Luckily these were also the subjects in which I did relatively well. And so I aimed to enter university as first year Bachelor of Science, which is what I eventually did.

My first year in university wasn't challenging. The first half was spent trying to remember everything I forgot during the end of year holiday. The second half was spent trying to remember everything I forgot during the *mid* year holiday. By the end of first year, I knew I had to narrow down the number of subjects I was taking and come closer to my final career path. At that stage I was studying physics, chemistry, molecular biology and geology. I decided to drop physics (as lectures were strongly focused on maths) and biology (as lectures were strongly focused at 8 in the morning). That left me with chemistry and geology. By the end of the second year I had to decide in what I would major. This time chemistry was the victim. Spending 6 hours of a sunny day in a dark lab trying to extract 2 grams of caffeine from coffee I found pointless, and it always left me thinking "why don't we just ask for a decaf"? And so the simple process of elimination, which I had used since high school, led me to a career as a geologist.

My 3rd and final year of the course included a camping trip to the Flinders Ranges. The objective of this trip was to produce a map of the local area incorporating rock types, rock structures and a geological history timeline. Using a compass and an old aerial photograph for direction, we trudged up and down hills and across paddocks plagued with locusts and hung over geology students, all armed with hammers ready for rock smashing. And because there were no facilities on the camp, it was always a fun game seeing who could produce the worst smell after not washing for 8 days.

At the end of my three-year degree, I knew I had to do one extra year of honours to meet the minimum requirements for a career as a petroleum geologist. Petroleum geology is a branch of geology that interested me the most. It involves using geological and geophysical methods to help find oil and gas deposits. A common misconception regarding oil deposits is that they look like vast underground lakes occurring in giant caves within the rock. The truth is no such lakes exist. The oil and gas exist *within the rock itself*, or rather, within the tiny pore spaces of the rock. If no oil or gas is present, which is usually the case, these pore spaces are filled with nothing but worthless water. So since oil and gas exist *within* rocks, why not use a geologist to help find those rocks. And so I applied and was accepted to do Honours at a place called The National Centre for Petroleum Geology and Geophysics. What appealed to me about the place was the guaranteed industry sponsored thesis it offered. And so I was selected to work with the oil company Santos on a project they thought useful to their oil exploration efforts, they threw a bit of research money my way and off I went. Six months later and I presented my findings to some Santos management and my thesis supervisors. In the end my research didn't revolutionise the way society dealt with its depleting oil reserves, but it did allow me to pass Honours, which is more important I think.

At the completion of my Honours I for the first time wasn't sure what I would be doing the next year. I flirted with the idea of a PhD but decided against it. I was done with structured courses and degrees; my life was no longer to be scheduled around lectures, tutorials and pub-crawls. This was quite daunting, but luckily I found work with a company called Geoservices. The job was as a geologist on an oilrig, located in the desert near the SA/QLD border. The routine was to work 12-hour shifts for two weeks straight. They then would fly me back home for two weeks holiday. This appealed to me, as I liked the idea of leaving the mundane office environment and seeing the production of oil in its purest form. My job as the geologist was to collect samples of the hot mud spewing from the hole they were drilling, isolate any bits of rock, wash them and then, under a microscope, describe the type of rock they were drilling. I was also in charge of monitoring the pressure levels down the hole. This was to ensure there were no pressure blowouts. In the movies a pressure blow out on an oilrig is portrayed as a time for celebration, with men shrieking with joy as they're showered with black oil. However in reality, a highly pressurised column of hot oil erupting from the well would only result in men shrieking with pain from their 3rd degree burns.

I rather enjoyed the first few months on the rig. The actual workload was variable. If the rig was drilling through a soft rock, the drill might plough through the earth at 60 metres an hour. Collecting and describing rock samples every 3 metres meant I was very busy. If the drill hit a hard rock, which is what I secretly hoped for, drilling slowed to sometimes less than 3 metres an hour. In those times my only challenge was deciding which magazine I would read next. Slow drilling was ideal for me, but was an oil company's nightmare. These companies were hiring the rig and its crew for about \$50,000 a day, and so understandably it was a 24-hour operation. And considering the hole would have to be 2 to 3 kilometres deep to reach the oil, slow drilling meant an expensive bill for a well that *may not even* find oil. It's always an exciting time when the hole has finally been drilled, and everyone stands around it waiting impatiently for the first fluids to reach the surface. And if you listen carefully you can almost hear the boss's heart break when nothing but hot salty water gushes

from the well. But that's the oil business, it offers generous rewards but like always, at a high risk.

The men I worked with on this rig were as tough as they come. And they demanded to be looked after. There was a 24-hour kitchen dedicated to making whatever took their fancy. I introduced this idea to my mother when I came home but she didn't like it. There was a DVD room continuously playing movies that, let's just say, reminded the men of their loved ones back home. My office was a small cabin placed about 30 metres from the drill floor. Here I worked alone, usually from midnight to midday. Toughest part of this was knowing whether to dress for the freezing desert night at the beginning of my shift, or the stinking hot day at the end of it. And the bright orange overalls we were forced wear created a nice Gauntanamo Bay atmosphere. After six months of working in these conditions I realised one night that the most interesting and heated conversations I was having were with myself, and so for the sake of my sanity I moved on.

I did the one thing that is universally discouraged; I left my job without having found another. But I wasn't too worried. I had jumped from studying straight into the work force, and I needed a break. So a week after I left the company, I was in Lebanon doing not much at all. This was rather fun for the first week or two, but by week 7 I realised my break should come to an end. My daily routine had become boring and pointless, and so after 2 months I decided there was simply no future in unemployment. And as if the big guy upstairs was listening, the next week a company that had interviewed me a year beforehand rang from Australia, offering a position. So I shaved my 6-day growth, quickly said my goodbyes and flew back home.

The company was called Schlumberger, an oil services company operating in about 100 countries with over 50,000 employees. The difference between an oil company, such as Santos or Shell, and a services company like Schlumberger is that Schlumberger don't actually do the drilling and exploration, their success doesn't depend on whether they find oil. Rather, they provide technical solutions to problems facing the oil companies. I was to be involved in the software side of things. Many geologists in oil companies use advanced software packages to analyse and model their data. Modelling involves creating a 3 dimensional image of the oil reservoir. This model is firstly used to estimate how many barrels of oil they're dealing with. It can then be used to simulate how the reservoir will react, in terms of pressure changes, once we start extracting the oil. Oil usually needs a bit of help coming to the surface. And when we provide help, its worth knowing that even with a good reservoir, we can only extract *at best* around 40% of the oil that's down there. The other 60% cannot be economically removed from the rock using current technology. So with a global oil shortage on everyone's lips, many companies have given up looking for gigantic oil fields, and are now concentrating their efforts on producing more oil from their existing fields. So the model can be used to try out different extraction techniques, in order to determine which technique gives the best oil production. The oil companies buy this modelling software from Schlumberger, and so my job is to train the client geologists on how to use the software correctly, resulting in increased oil production for the oil company and hopefully more software licenses being bought from us.

Although it is a typical office job, with a 9 to 5 routine, there are some unique aspects to it. Teaching 4-day courses to experienced geologists usually twice my age has stretched my technical knowledge to the limit. Becoming familiar with the software required extensive training, and so in the first year with the company I was sent to training courses in Malaysia and Norway. Schlumberger employees from around the world attended these courses, and so it was common to have as many nationalities on the course as people. The travelling continued in the second year, where I attended courses in Mexico, India, New Zealand and Egypt. And there was so much interstate travelling that I considered taking out a gigantic loan and personally financing the new airport.

I've been with the company for about 2 and half years now, which puts me at roughly the same level as the cleaner. But I still consider this the beginning of my career, so a lot can happen between now and retirement. For one thing I know my job security is closely tied to the price of oil. If a company can't sell oil for a good price, it won't look for it, and so there'd be no need for software or even the geologists that use the software. The *long-term* price of oil is governed by supply and demand. Recently this demand has come from China, which is now second only to the US in its thirst for oil. But it's the geopolitical shocks that cause those gorgeous but short-term leaps in oil price you people like to complain about. The mess in Iraq, militia attacks on Nigerian pipelines, together with the strong Chinese demand has caused the price of oil to soar from a low of US\$15 a barrel in the late nineties, to its current value of \$65 a barrel. And it may rise even higher. We may all have to pay the price if current tensions with Iran develop, since Iran is the world's second biggest oil producer. So it's a bad time to be a peace activist, but a good time to be in the oil industry. It seems every second person I meet has a rig drilling for oil somewhere. But the good times may not last forever. Things seem fairly safe for me at the moment, but all it takes is a crash in the oil price, or just some good ol' fashion bad luck, and the next time we meet, maybe in the line at CentreLink. Or I may have to move permanently overseas. Australia definitely isn't the place to be if you're in the oil game. The country can produce about 500,000 barrels of oil per day. This may seem a lot, until you compare it with a country like Saudi Arabia, which produces nearly 10 million.

But regardless of where I end up or how well this industry treats me, what I've gained since graduating 3 years ago is self-confidence and knowledge of my own strengths and weaknesses. What I've lost since graduating is not only my hair, but also the feeling of anxiety I felt when thinking of an uncertain career. That's not to say my career is now more certain, but I now know uncertainty and chance opportunity are unavoidable elements in the building of any career. So I'd like to finish by saying congratulations to the graduates and good luck.