

Telling Lies For God

by

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The Chairman of the meeting was Dr. John Silver.

Our planet is an isolated rock just minding its own business in the solar system, and it really is a remarkable solar system because if the Sun were not 4,500 million years old and if we didn't live in a solar system that was a fairly small solar system, things would be different. Very early on in the history of our planet we were grazed by an extra terrestrial visitor which sliced off a bit of the planet and we now call that the Moon. For the first 800 million years of our planet we were bombarded incessantly by massive meteorites and comets and eventually something really unusual happened - it rained, and it rained for the first time on planet Earth, 3,800 million years ago.

It was a Tuesday and we had water running over the surface leaving us silts and muds and sands, and what is even more incredible is that it probably rained on Mars before it rained on Earth. It's quite possible that we were seeded from Mars because as soon as we see running water on the surface of the planet, we find carbon compounds in those sediments which can only form from life - they are of biological origin. 3,800 million years ago we had running water, and at the same time, we had life. We had running water on Mars and certainly by 3,500 million years ago, we had organised colonies of life. This very primitive life, this very primitive bacterial life, stromatolites, we still see on Earth. We find them in the Coorong, we find them in lakes in central Europe and we find them in Shark Bay in Western Australia. Life was very well established on Earth.

By 2,600 million years ago, we had the first hints that things were changing; our atmosphere had no oxygen in it, all of the sediments on the surface of the Earth were very oxygen poor and all of the bacteria that lived on life then did not need oxygen. We see fossil soils 26 hundred million years ago that started to suck a little bit of oxygen out of the air, and we see the rocks started to rust a little bit and suck a bit of oxygen out of the air. By 22 hundred million years ago, we had an excess of oxygen and that started to dissolve in seawater. All of a sudden the oceans rusted and we formed all the massive iron ore deposits which we mine today in Western Australia, Brazil and elsewhere. The extra oxygen started to get pumped into the atmosphere. This oxygen was excreta - excreta from bacteria - we still breathe it. This oxygen started to accumulate in the atmosphere and this was the greatest period of genocide that our planet has ever enjoyed. This bacterial-produced oxygen wiped out a very large amount of life on Earth and we still find the remnants of that life in bogs and swamps and in the guts of your intestine. This was the first period where the oceans,

the atmosphere and the rocks and life were all working in tandem and they have ever since.

22 hundred million years ago we got the first glimmers of oxygen, and by 800 million years ago our planet was a little bit different from now - we had one giant continent which was at the Equator. We started to freeze and eventually 750 million years ago, the planet was a snowball. We had ice at the Equator extending right to the Poles. The big question of course is: "How did it happen?" And the even bigger question is: "How did we get out of this icehouse?" But this was one of the many icehouses and greenhouses that planet Earth has enjoyed, and in fact for 80 per cent of time the planet has been in greenhouse. We are currently bouncing out of an icehouse and we don't quite know whether we're going back into one or back into a greenhouse, and this is quite a normal feature. The first big one was 750 million years ago and bacteria retreated into ecologies and hung in there for a long period of time. We still find those bacteria underneath the ice in Greenland and underneath the ice in Antarctica. Once the ice melted 570 million years ago we had a massive explosion of life. Suddenly we got multi-cellular animals, suddenly there was enormous competition to fill all these ecologies. Life grew skeletons; internal and external skeletons. This explosion of life was right across the planet and all of the major groups of life we see today appeared at that period of time.

Then 470 million years ago we had a mass extinction. We wiped out most of life on Earth and immediately after that all the new ecologies were filled with life which suddenly evolved and filled the new spaces. 430 million years ago plants first appeared on the continents and as soon as we saw those we saw amphibians and terrestrial reptiles. Not being content with that there was a massive meteorite that was heading towards Earth. It hit Sweden, caused massive tidal waves, pushed huge amounts of dust into the atmosphere, and again, we had another mass extinction - 380 million years ago and the planet bounced back again.

The same thing happened again 245 million years ago. Here 96 per cent of all life on Earth became extinct. We don't quite know why. It might have been volcanos in Siberia, it might have been an impact that hit Western Australia, it might have been a swarm of impacts that hit Brazil and Western Australia, it might have been a disease that crossed species. What we do know is the planet was very cold; that we had permafrost, that 96 per cent of life was wiped out, and within a million years the planet was populated again and that was 245 million years ago. Then it happened again 214 million years ago when the planet got

hit by a swarm of meteorites and asteroids, and again, we wiped out about 80 per cent of life on Earth. It happened again 145 million years ago. The planet went through a swarm of comets and meteorites and again we had a mass extinction of life. 90 million years ago we had a huge amount of volcanicity in the Java area and in the area south of Alaska. We had a massive greenhouse and a minor mass extinction. Then again 65 million years ago there was this meteorite heading for Texas - it only just missed unfortunately and it hit Mexico - massive meteorite impact, great tidal waves across North America, huge amounts of sulphuric gases into the atmosphere, massive volcanicity, and the mass extinction of the dinosaurs. Every time we've had a mass extinction, we've had some unusual smoking gun coincidences. Every time we've been hit by a big meteorite, we've had the continents fragment, we've had huge amounts of volcanic activity and we've had mass extinctions.

55 million years ago we got peppered again and there was a minor mass extinction. In the period 28 to 35 million years ago, we were again hit by meteorites. The Timor Sea is pockmarked with meteorite impact craters. We had one hit the border of Libya and Egypt and melt so much of the sandy rocks there that glass formed and that glass was used as a cosmic gem in Tutenkhamon's jewellery. Again we kept getting hit by meteorites. Only 770 thousand years ago a meteorite hit Cambodia - hit it so hard that it splashed molten rock into the atmosphere which did a couple of laps and then sprayed down all over Australia and south east Asia. These are the tektites we find in outback Australia.

In the last 40 million years or 50 million years we've had some remarkable events: we finally got rid of India - pushed India off into the Indian Ocean and India moved northwards until it collided with Asia. Up came the Himalayas, exposing all this new rock which had to be chemically weathered and it pulled carbon dioxide out of the atmosphere. That started the climate change that we're currently in. We had the Bering Strait open up about 18 million years ago and that allowed us to have a circumpolar current. We had North and South America joined together - that stopped the Pacific and the Atlantic Ocean connecting. We opened up the north polar areas in the Aleutian Islands and allowed a circumpolar current in the northern hemisphere. All of those events, together with a bit of a wobble of the planet, led to Antarctic ice accumulating at a very rapid rate and then about 5 million years ago, north polar ice accumulated. This drove the change

in primates. Primates suddenly became biped when there was a huge climate change, and with the next little climate change primates had a massive cerebral growth. The next climate change primates started to migrate, the next climate change primates started to invent tools, and so we can tie in the evolution of humans with climate change.

This is a story that is tied to evidence. This is a story that uses experiment and uses calculation and uses deductive and inductive thinking processes. This is a story in my area of geology where we have to use nuclear physics to date rocks, the same nuclear physics that we use for a nuclear power station or for a nuclear bomb. This is the same chemistry that we use for normal processes in metallurgy; it's the same biology we use in modern biology or medicine. Yet that story, which I think is a wonderful, big canvassed picture of our planet, I am told is absolutely and totally wrong. It's absolutely and totally wrong because in the seventeenth century Archbishop Usher did a calculation based on the numerology of the Bible and calculated that the planet was a mere few thousand years old. That calculation was based on the best scientific text of the day which was the Bible. Like all good scientific calculations, you do them again, and it was done independently by Dr. John Lightfoot who was the Vice Chancellor at Cambridge University. That was the time when Vice Chancellors could actually do things rather than fighting the bureaucratic biro brigade, and Lightfoot recalculated Usher's figure, and he got exactly the same figure; that the planet was created on the 21st of October 4004 BC. Lightfoot said that it was at nine o'clock in the morning. If you do the calculations using a Julian calendar, that was actually a Sunday. I argue that that is a very good calculation because it was done using the information of the day, it was done independently by two different people but unfortunately it ended up as a marginal note in the King James edition of the Bible and it has never been removed.

I think 350 years on we know a little bit more and I think we can more accurately say that the planet is billions of years old. Evidence from physics, from mathematics, from cosmology, from astronomy, from chemistry, from biology, from geology, is giving us this figure and the figure is 4,550 million years, plus or minus 50 million years. However, our creationists cling to this date, the 4004 BC date. Another date they cling to is the date of a great flood; a global flood when all mountain ranges were covered with water when there were 40 days and 40 nights of rain. Again, there is some geological evidence that there has been a great flood.

18,000 years ago we were in the zenith of the last glacial event, the ice sheets started to melt 14,700 years ago. As a result Scandinavia is rising and as a counter-balance north Germany and Holland are sinking - a wonderful case for the international court, there's a lot of scientific evidence for it but I don't know how far you'd get. 14,700 years ago we had a very rapid melting of the ice, we had a freeze from about 11,000 to 12,000 years ago, and then maximum melting about 6,000 years ago. That's when two-thirds of the west Antarctic ice sheet melted, that's when we had a much warmer and wetter climate than now, and since then we've had minor climate perturbations. For example, we had a little icehouse a few centuries ago, we had a little greenhouse between 900 and 1100 AD, but most of the post-glacial melting took place in the last 10 thousand years. Sea level has risen 120 metres - we know that, we can measure it. In Bass Strait, we can find Aboriginal fire places 80 metres below sea level - they're still there, there's been no uplift of the land, the water has gone up. This must have been a profoundly frightening effect for people living 8 or 10 thousand years ago, to have a 120 metre sea level rise. People farming on the Continental Shelf, people farming in deltas or in valleys and suddenly - and we're talking about in a generation - we would have had tens of metres of sea level rise. I have no doubt that this is preserved in culture.

Furthermore, there is even stronger evidence from the Black Sea where the sediments on the floor of the Black Sea are old soils where we can see grain that was cropped, and covering that is a turbulent layer of marine sediment - that has been dated at 7,400 years ago. We think that the North Anatolian Fault which just recently moved a number of times had closed off the Bosphorus and the Black Sea was an isolated, low-level basin, with two slightly saline lakes. It was the bread basket of Europe, it was the heart of culture, it was the heart of metallurgy and with movement on the North Anatolian Fault the Bosphorus was breached, the Mediterranean was more than 100 metres higher than the floor of the Black Sea, this water poured into the Black Sea, and people took off. Those left on isolated islands drowned, those who headed for the hills had to do it quickly, water would have been moving a couple of hundred metres a day, pushing people out of the Black Sea. Now that is extremely well recorded in geology and I suspect it's the origin of the Gilgamesh myth which is the myth before the Noah myth. So there's some very good geological evidence that there has been a great flood. However, we cannot say that the planet is 6,000 years old and that there was a great flood 4,000 years ago.

I see my position in society as creating new knowledge, as inspiring young people, and professing my discipline in public. In the state of Queensland we had various laws passed whereby children could be taught that the planet was a mere few thousand years old - oh, but by the way, some scientists think it's billions of years old, and all life was wiped out in a great flood except that which was preserved on Noah's Ark - oh, but by the way, some scientists think that there's evolution and the planet is a very old planet. That could be taught in Queensland schools on an equal time basis with what I think is dynamic science. I took exception to that. Our story is tied to evidence and it's constantly changing. I took exception to the fact that within the creationist movement was a gentleman who had an Honours Degree in geology and a PHD in geology. His PHD was on radioactive age dating and in the scientific literature he was publishing about rocks that were thousands of millions of years old and talking about processes which took place over hundreds of millions of years and at the same time, using the same evidence to his creationist audience, he was telling the audience that the planet was only 6,000 years old, that all of these scientists were wrong, and that there was a great flood. That, to me, is scientific fraud.

There was another gentleman who had done an Honours thesis in geology and had dated rocks – very, very accurately dated them at 224 million years old and published that in the scientific literature and at the same time he was telling school children and creationist audiences that the scientists cannot date rocks, that the planet is only a few thousand years old and don't trust these evil scientists because it's all wrong. I took exception to that. So my initial approach was to publish what I consider the scientific fraud in the professional society magazines read by geologists. The response was rather quick. I immediately got a defamation threat, and I've had enough of them to wallpaper a room, so the normal thing is I look for the spelling and English errors and send it back to the solicitor concerned correcting their English, and leave it that that, and normally there's no response, and there wasn't with this. I was getting very concerned about the growth of various fundamentalist groups who had that wonderful cocktail of the two areas in society which are not understood, and that is science and theology. Virtually no-one in a lay audience can understand science, and virtually no-one can understand theology. Put the two together and it's magnificent.

I was also reminded of a 1984 High Court case between a branch of the scientologists and the Tax Department which lost the case and

that allowed religious fundamentalist groups to come into Australia to set themselves up as a religion and to live tax free. Then, in a pluralist society it allowed them to combine their unusual religion with science, call it science, and argue that they wanted equal time and equal access to children in state schools. This country has got people from all different religions and all different ethnic groups and to have one form of Protestant fundamentalism taught to our children as science I think was an absolute turpitude. So I continued to argue in public that the science promulgated by the creationists was misleading, it was wrong, and in many cases it was fraudulent. An opportunity arose in 1972 with a gentleman who was conducting a lecture tour of Australia claiming that he had found Noah's Ark. This was terribly bad luck for him because I happened to work in Turkey and am about to go back to that part of the world for another field season. I do know the geology of that part of the world very well. The second thing he was claiming was that he had done geological work in the area and that there was geological evidence to prove that this was Noah's Ark - that he had actually found Noah's Ark. The third thing was that he gave himself the title of "doctor." I am in the business of degrees and nothing behind his name suggested to me that it was a doctorate. So I went to a public meeting and tried to ask a question. I told the organisers that I happened, for my sins, to be the Professor of Geology at the University of Melbourne, I happened to work in Turkey, this is a public meeting and I wanted to ask a question. They refused. They threw me out of the meeting - the first time I have ever been physically ejected from a meeting. That, I think, gave me quite a window into the people I was dealing with. Over the last few years of dealing with them I have had 18 litigation threats, I've had two death threats, and one has had to adjust life accordingly. We are dealing with some fairly unusual people, so I thought, let's do a search on them and have a look. They had had a company called the "Noah's Ark Research Foundation." They were raising money through this organisation. Anyone that went to the lectures bought brochures, bought their films, bought their videos - paid money to the Noah's Ark Research Foundation. So I did a search. There was no such organisation. Then I received a message so I thought, that's the way to do it, so I registered my own company called "The Noah's Ark Research Foundation", notified them that they were using my business name and they were to cease and desist. Well, it didn't make me any friends. I did a search on their qualifications and here was a doctorate, the initials were "DCE." Now I've never heard of

a "DCE." But there's a wonderful book put out by a gentleman from Berkeley called "The Degree Mills of the World" and I did a search through the Degree Mills of the World and I found that "DCE" is a Doctorate of Christian Education and they come in various badgings. You can get the \$23 variety, or you can get the \$1,000 variety. You can buy one from a motel in Florida, you can buy one from the Bob Jones III University in Florida, or you can buy one from the University of Walla Walla in California, but you can only get these degrees from California or from Florida. These degrees vary enormously and I thought, well, it would be lovely to have a DCE. So I bought my neighbour's dog a Doctorate of Christian Education. This cost \$23 and it's a wonderful testament - very colourful, bits of ribbon hanging off it and I've got a lovely photograph of this brain-dead, slobbering cattle dog with his degree. It was very clear that the audience who paid to listen to this gentleman say that he had found Noah's Ark were being misled by the qualifications. The corporate umbrella for which they were donating money for future archaeological work, didn't exist.

I happened to let these views be known on a program with Neil Mitchell on 3AW and I also let a few journalists know from The Australian and the Sydney Morning Herald and there were a couple of weeks of newspaper articles questioning this whole exercise of having a lecture tour of Australia and raising money. I received eight defamation actions. These were not threats, these were real and there are two approaches you can take: you can defend them or you can attack and I decided that my best defence was going to be attack so I then passed on most of the information that I had acquired about various universities which had given out these degrees, the particular degrees from where this chap had got his doctorate. I passed them onto my friends in the media and we had a photographer go to the Freedom University in Orlando Florida. There is a marvellous photograph taken of the University which presented my friend with his doctorate. Here was a lonely letterbox outside a fundamentalist Baptist church - that was the University. But the letterbox had a lean to it and this lean, commensurate with it being in Florida, was to the right, and this was the University that gave the doctorate degree. We were also able to do a paper chase on some of the money and it was found that the money that was collected to do an archaeological dig then went to various pockets through various trusts, so I was quite comfortable with defamation actions being served against me.

Then a most remarkable thing happened: the American Embassy in Sydney had a phone call from a gentleman wanting to trace me. Now because I've had too many death threats, it's very, very hard to find me. You will not find me in phone books, you will not find me on electoral rolls - I live a very anonymous life. This gentleman had tried to trace me but he couldn't find me. He had tried to contact the journalist who wrote the article about this Noah's Ark lecture series, and the journalist would give him no information. In his frustration, he rang the American Embassy and said, "Look, I want to find this fellow Plimer. I have published a book on Noah's Ark, I have done 20 years of field work on that site - all of my work has been stolen and this is the work that is appearing in the lecture tour in Australia." It just so happened that the gentleman that he rang in the American Embassy was the President of the Australian Sceptics - a very good friend of mine - so he was able to take the phone number and I rang back - one has to always be very careful, and later on a trip to the United States I called in and met this chap, David Fassold. He was a little bit unusual, he had been previously a religious fundamentalist, but he certainly had done an enormous amount of work in that area of Turkey. He had shot a lot of original footage, collected a lot of material, and all of this had been stolen and he was very angry.

We then eventually decided that maybe we should go for a joint defence of my defamation whereby we linked forces. He is involved in a copyright action and I'm involved in a misleading and deceptive conduct while engaged in trade and commerce action, which is s.52 of the Trades Practices Act. We served action on the other party, and that was in 1992. It didn't get to court until 1997. There were some fairly unfortunate things that happened on the way. For example, my first set of lawyers not only happened to lose files and not only happened to want the same information four or five times but seemed to be terribly inefficient to me. I am in the business of training people and training people to be professionals, I didn't think I was getting professional service so I sued them. It took me five years but I won. That company is one of the largest legal firms in Australia. I then shifted all of the files to another lawyer who just happened to forget to go to court on three consecutive occasions. We had the action thrown out of court with \$330,000 worth of costs awarded against me. I suggested to him that maybe he should get this back into court otherwise a minor mass extinction would take place, which he did. We got it back into court at an enormous cost and I then sued him for those costs. I got some of it

back but not all of it but it was very much a matter of principle; I expect the people I train to be as professional as those in other disciplines. We then were in an interesting situation where we got the matter back into court, in front of the Federal Court, and we had an impossible timetable. We had to do about two months' work in ten days before Justice Gummow would allow us to be back on the air.

Fassold came out from the States and I had to get myself a new lawyer and get them trained up to understanding quite a complex case. One of my insiders in the creationist movement said, "Look, I have a very good lawyer, why don't you use them" and I said to her "Well, what's their name?" And she said "It's Blessington, Judd, Freeman and Lazarus." Well, the Lazarus appealed to me and we went to them with the files and in 10 days we got it all back on the air. We had four or five lawyers for 10 days plus a QC who I had known for 30 years who got it back on the air in 1994. That was a very costly exercise. Through 1995 we ground through the legal system which I find absolutely amazing. We can piece together various pieces of evidence dealing with the history of our planet and put it together in a fairly short period of time dealing with incredibly complex processes, yet matters in the courts seem to view evidence differently, and seem to take geological time.

Before we the trial in 1997, we were locked away in the Blue Mountains preparing the case, and my QC got a letter asking him to become a Judge. He had to drop the case 10 days before we went to trial. We had 20.5 metres of documents which we had prepared, I had had a QC working on it for three years. We thought we were in a very, very strong position to deal with copyright because there was very good evidence that all of the information the creationists were using had been stolen. We had very good evidence, we thought, that the creationists were misleading and deceptive, that they hadn't actually been to Mount Ararat. I had gone there with David Fassold, we had shot a "4 Corners" program, we were guarded by the Turks during the day and the PKK at night; it's a marvellous place of the world to go to. We were very comfortable that the scientific evidence that the creationists claimed was either concocted or it was stolen, but certainly they were not qualified to talk to a lay audience about matters of Earth science.

In terms of the trade and commerce, we had documents to show that some hundreds of thousands of dollars had moved through the books of the creationists and had just disappeared *ex nihilo*. So we thought we had a fairly strong case but 10 days before the trial we had to train up a new barrister and when we went to trial, not only was the barrister

unprepared, but he was ill, and it was not a very pleasant situation to see a barrister completely floundering, unaware of the subject, without his finger on the subject at all, trying to cope with what was a fairly large case.

However, there were two agendas: the first agenda was to try to argue in public, legally, that our dear friends the creationists who were putting themselves up as men of God and were putting themselves up giving an alternative view of the planet, have stolen the work of others, and who are knowingly misleading and deceptive and who are making a quid out of it. Well, we got up on the copyright case. We were able to show that they had stolen the published work of others and they had claimed it was theirs. We didn't think that was the sort of behaviour that people in the community should undertake if they're claiming to be Christian and trying to give an alternative view of the world. Of the misleading and deceptive conduct, we argued there were 16 areas of misleading and deceptive conduct, we didn't get up on all of them but we got up on a lot of them. And we were quite happy with that, that we were able to show, as many people in the United States, in the UK and in this country had been claiming for decades, that the scientific arguments and the work that the creationists claimed they had undertaken, was just not true. We were arguing that these people are really damaging Christianity, they are damaging science by claiming that they have done certain work which was totally a concoction. We did not win the third part of the case and that was that I wanted to show that these people were running a scam

It was also a media feast. There were metres of newspaper cuttings that appeared on my desk. Worldwide it had what you need for a good story: it had an angle and it had a controversy. It was a David and Goliath fight and it was just at the time when there was no football, no cricket, Parliament wasn't sitting, there hadn't been an assassination, the American President was behaving himself, everything was perfect for a good international story. And that, for me, was the most heartening part of the exercise, that I wanted to show in public that these people are damaging the epistemological basis to knowledge. As my witnesses, I had a number of scientists who had come from the States and they were not able to testify. I also had a number of men of the cloth who were not able to testify. Probably my most lethal witness was a gentleman who had a PHD in Partial Physics, a Masters in Theology, and a PHD in Theology, and we were wanting to argue that not only was their science misleading and deceptive, their theology was also misleading and deceptive.

The aim of this exercise was to profess my discipline in public. I took exception to people arguing that there was a valid alternative scientific view. That valid view they argue is the planet's a few thousand years old, that there was a great flood, that the process of evolution doesn't occur. I wanted to show in public that there's a unity between religion and science, be it Catholicism, be it Judaism, be it any other religion - there is a unity, because science is telling us about the world outside us, whereas religion is telling us about what it is to be human. That is changing all the time. That is very healthy. I think it is extremely healthy that now we can look at humans and say, well, 90 per cent of our body cells are bacterial, 10 per cent of our body weight is bacteria. What is it when we say that we are human? What are we really talking about? And I think that provides great challenges to theology and as science is moving, theology is also moving. I wanted to make sure that various fundamentalist groups who re-badged themselves as scientists and then wanted to get at every child in our school system, I wanted to make sure that they were discredited.

Most legal people would argue that it was a rather stupid thing to do. Well, it was, the costs were horrendous. However, there were two agendas: one was that we are now living at a period in history where information is advancing at a frightening rate. There are many people who are wanting to cling onto a life raft and if security can be given to them with the authority of science, and with the authority of their Bible and given to them by someone with a title, then those people are comforted. The last thing I wanted to do was to take the comfort away from those people. What I wanted to show was that the leaders of these various movements were fraudulent - that they stole the work of others, and they were really running a wonderful financial scam. What I wanted to show was that, in a world that is changing very quickly, we all can't cope with this change, but there are ways of coping with this change where you might not be defrauded and you might not be misled.

The problem is that as soon as you start to make comments about religion in society, you get an enormous amount of mail. The best letter which I received was "Dear Sir, drop dead." Most letters from our fundamentalist friends are full of the random use of uppercase, appalling spelling and generally one paragraph in a 13-page letter, and you can pick them straight away. But it was very heartening that in this 7 year period of litigation I must have received about two centimetres of hate mail and more than three metres of supportive mail. It is very clear

that in this country there is a large amount of uncertainty and people are dealing with that uncertainty by shifting away from the areas which have got a history and have got evidence underpinning them. We see people going to alternative medicine and there is absolutely no evidence to support any of these areas of alternative medicine, yet you medical practitioners are losing people in their droves. We are getting people taking much more credence with, say, homoeopathy, and you can show from chemistry homoeopathy just doesn't work, it's impossible, it's not true. It would be wonderful if we could put a bottle of Grange Hermitage into 200 litres of water and sell it legally as Grange Hermitage, but you can't. Nevertheless, that's what is happening in medicine. I see the same in my field of science, I see the same in genetic engineering where there's an enormous amount of uncertainty, with people completely frightened and uncertain about science, I see it with the greenhouse arguments. The greenhouse arguments are much closer to my discipline and unfortunately I have to say they are an absolute load of codswallop. This planet has been in a greenhouse for all of its history, climate is constantly changing, sea levels are going up and down, they've been up and down thousands of times, we've had extinctions left, right and centre - extinctions are still going on, and it is quite normal. What is not normal is to conserve life, is to conserve sea level and to keep everything static, and this is the problem I decided that I was dealing with with the creationists. They wanted the world of 350 years ago, a world when science and religion knew their place, when there was authority with science, when there was authority with religion, and everything was static and everyone knew their place. Unfortunately the world is not like that.

So my action was taken as a professor; to profess my discipline in public, to make sure that school children were not getting fed information which is demonstrably incorrect, to make sure that our schools were not the playground for various fundamentalist cults to recruit children into their cult, and to make sure that our education system was underpinned by some degree of rigour. The costs were horrendous but I suspect that the gains are also marvellous.

QUESTION: JUSTICE TADGELL. I am Clive Tadgell, Judge of Appeals. What was the relief which was being sought in the Federal Court pursuant to s.52? Were you seeking a declaration, and if so what, in general, were its terms, or were you seeking damages, and finally, what is the state of the action at the moment?

PROFESSOR PLIMER. To the first part of the question: the relief that was sought is that they stop doing it, and the Federal Court did not rule that they should stop undertaking the actions of selling videos, running lectures, and making money from it. We sought no damages although there were damages sought in copyright. David Fassold had previously had two cases of his works being stolen from him in the United States and he had a US \$40,000 and US \$47,000 damages award in the United States, and in Australia it was US \$2,500. The situation has evolved a little bit since then. David Fassold who died of a brain tumour recently - just after the court case, was not able to be involved in the appeal process. I appealed in the Federal Court and that was unanimous. We then went to the High Court and said, well we now have four judges with four different definitions of what the words "trade and commerce" mean, could you please tell us what "trade and commerce" means? We didn't get past first base on that. The defamation actions against me in the Supreme Court of Victoria were settled about four months ago. The matters are still progressing in that certain matters of the settlement are still being discussed and disputed, and hopefully we'll all have a good Christmas.

QUESTION: MR MARSHALL. Robert Marshall, I am a Melbourne surgeon. Have you any comment to make about the current situation in Kansas where according to the Time news magazine, the creationists seem to be in the ascendancy and apparently, if one can believe what one reads, it is now illegal to teach the theory of evolution in Kansas schools despite your efforts.

PROFESSOR PLIMER. I'm tilting at windmills, but there's a long history. The history goes back to the Scopes trial where it was illegal to teach evolution. John Scopes, a school teacher, was in effect the bunny and although the case was lost and then later reversed on appeal, that led to a change in the tactics of the creationist movements. And there are two things that are happening: in the United States, the textbook market is basically controlled out of Texas and the laws in Texas are that if you object to certain parts of a textbook you can have it expunged, if you agree, it makes no difference. There is a group of fundamentalists in Texas who are objecting to various parts being in biology and geology textbooks. Those textbooks cover all of the United States and they had been very successful in holding back modern science, especially life sciences in the United States. On the other front the creationist movements have been trying to argue for equal time and

they have been unsuccessful in the United States because of the First Amendment of the Constitution. There was a very famous case in 1973 where it was argued that this was the view of a narrow fundamentalist group and that that should not be taught as science in the schools. Since then the arguments have got a little bit more esoteric and the argument goes thus: this is a marvellous planet we live in, everything is very complicated, we can't hope to understand it therefore there must have been a Creator. That argument has been run in the courts and has failed. The next argument is one of intelligent design: that if you have an intelligent or a complex machine, it must have been designed by an intelligent being.

More recently in Kansas there has been a ruling whereby evolution is regarded as just a theory and that denigrates the nomenclature of the use of the word "theory" in science. Therefore that theory is not of great value and it can be taught on an equal time basis with other theories about the origin of life or about time. That, I think, denigrates what science is about. A theory in science is just a neat way of explaining the evidence. The laws of physics don't work in some parts of the universe. A law is not superior to a scientific theory. So hypothesise, theories and laws in science are basically used as synonyms and that is playing a game that most of the legislators are not aware that a scientific theory is the way in which we explain all sorts of information. For example, gravity - there is no way that you could argue that if I let go of these keys that they are going to fall down. Statistically we think they will but you can't prove it to me. And that's the basis of science - science actually is a statistical way of looking at natural phenomena and the tragedy of the Kansas ruling is that it allows children to view science as dogmatic; as either yes or not, this or that.

Science is dynamic. In my science I undertake work very much like a detective. I go to the scene of the crime billions of years later and from the clues I put together what happened. If I go back again I might find new clues, if I have new techniques I find new clues and so my theory of what happened changes. It doesn't mean I was wrong, it just means that my theory is more refined. That is what science is, so the Kansas decision, I think, denigrates the value of science, it again pits science against religion, and I argue very passionately that religion and science are very much one and the same.

QUESTION: MS STAVROPOULOU. In your book "Telling Lies for God" you make mention of God and the Devil on numerous occasions and you say that you see one of your duties as not only to

defend science but also to defend faith. Can you tell us a little about your spiritual beliefs and how you see God and the Devil?

PROFESSOR PLIMER. “Telling Lies for God”, as the title suggests, is a fairly provocative book. It was meant to be provocative and my arguments in that book were to show that the nature of science is that of criticism and that of argument, and we can handle ourselves. However, the nature of religion is that when there is attack from different directions by using science, it is very, very hard for religion to defend itself. My arguments were, in effect, that if one wants to ignore all of the science and take a literal view of the first 13 chapters of Genesis, then that really is quite evil because that is against all of theological scholarship and all of scientific knowledge. In effect, I was trying to be very provocative and to suggest that the creationists were agents of the Devil. It succeeded, I had an enormous amount of criticism about that, but that was to jolt people, to say, these people are ignoring all of church history, all of theological scholarship, all of science and to come up with a very narrow view which is a literal interpretation of the Old Testament.

In terms of spirituality, I would have to say that since I started to write, debate, discuss and argue about creationism, it has been a great spiritual awakening in my life. I now have people as close friends who I never would have had as friends; Archbishops from two of the major churches; I have a number of people who are in the Protestant and Catholic Churches who I am regularly in contact with; I am now a patron of Lifeline because of one of the books I noted to them, and I am very much aware of spirituality in our society. I argue that one of the reasons that people are attracted to some of the odd ball religions, or attracted to this blend of religion and science, is that I think we almost live in a spiritual vacuum, and we’ve had a denigration of the mainstream churches for such a long period of time to the extent that two or three years ago our Premier was able to make some disparaging comments about the Archbishop. If he had done that 50 years ago, he would have been thrown out - you couldn’t do it. So I am arguing that there is a very proper place for spirituality in society, that there is a great need for spirituality where people are not exploited. However, for me, I don’t need a belief in the supernatural for me to live a day to day life, I don’t need a belief in the supernatural to pay my bills, but I am very happy for someone to have a belief in the supernatural .

MS STAVROPOULOU. You admit that religion, and I quote, “Religion is untestable and clearly is out of the realm of science” and

yet you do try to use science in parts of your book to try and explain certain phenomena. For example, the writing by God of the Ten Commandments in Hebrew and I quote, "The science of the Bible. Some biblical miracle such as the tablets of stone described in Exodus can be explained by elementary science, the quartz intergrowth in felspar look like hieroglyphic writing, graphic textures are typical of pegmatite rock which is abundant on Mount Sinai." Can you explain this apparent contradiction between what you profess and what you practice and tell us a bit more about these miraculous minerals?

PROFESSOR PLIMER. Scientific ideas are testable. If I put up my hand and say, "I think this process takes place", that is public, it is international, and that can be tested and I am exposed to criticism. If I stand up and I say "I believe in the tooth fairy", that is untestable, scientifically and legally, and therefore the matter of faith is untestable by the methodology of science. However, the creationists say "I believe the world is six thousand years old and that science proves it." Now I can test that scientifically but I can't test the faith.

The second part of your question: the Bible is a marvellous book of natural science. If you look at the Bible with a view of a modern scientist, you can see that those who wrote the Scriptures were trying to explain eclipses, trying to explain the passing of comets, trying to explain meteorite impacts, trying to explain where you get this marvellous growth of two minerals together - a very common feature, but they wouldn't have seen it except for one place in the ancient world. Trying to explain sea level rises, trying to explain tsunamis, trying to explain the burning bush which is a species living in the Middle East, trying to explain pillars of salt. Now from the evidence that we have in the Bible it is very easy to come up with an alternative explanation saying, well, that description of a miracle may or may not be a description of a natural phenomenon. I am quite happy to have people say it's a miracle, but I'm not happy to say that that is a dogmatic fact, that a shower through the sky or the parting of the waters, was a miracle. I am quite happy to say that it's a sea level dropping just before its tsunamis, which is quite a well-known phenomenon.

So my view is that of a liberal theological view of the Bible. One can quote Galileo, that the Bible tells us the way to go to Heaven, not the way the heavens go.

QUESTION: DR COURT. John Court, I am a paediatric physician. I am interested in the whole field of evidence based medicine and the fact that when knowledge and belief are in conflict, belief seems to be

a very much more powerful force in the way humans behave. Do you think that the people who one is in conflict with really believe what they are saying or do they actually not believe it but are using it and deliberately deceiving us? It seems very clear from surveys of teachers in high schools in the States that a high proportion of science teachers do believe what they are teaching.

PROFESSOR PLIMER. Yes, that's a question that's troubled me for years. I think with some of the leaders of the creationist movement, they have ended up deluded. The processes that led to that delusion, fascinate me. Why does the leader of the Australian Creationist Movement give up a thriving medical practice in Adelaide to run a rather second-hand religious fundamentalist pressure group? Why does he delve into things like physics and chemistry and geology? He passionately believes it. I don't think he would argue that in any way he is committing fraud, scientific fraud. So I think the leaders are very much deluded at the end of the road. How they got there, I don't know, but I speculate. Many of the leaders have had an absolute crisis in their life and that's when they were born again. The crisis might be driving into a truck and surviving a horrendous motor vehicle accident, death in the family, a combination of three or four things like loss of a job, death in the family, and surviving a major accident, and I suspect that is why many of the people who have suddenly been born again and been able to compartmentalise their mind - when you're talking on one subject they're perfectly logical and rational, and on another subject it's quite irrational. I find that quite a fascinating phenomenon.

Now most of us would have had an opportunity in our life to be born again, had some crisis with the death of a child or an accident. On 5 December 1983 I was one of six who survived a jet aeroplane that ran out of fuel and crashed. Now I've had my chance - I didn't take it. I've had my chance to be born again, and I find it quite fascinating what the stimulus is for people to go down this path. In terms of teachers who believe these ideas, I suspect again it goes to the point you made that it's much easier for people to accept the irrational than to accept the rational. The rational is quite boring, it really is. It's much easier for people who are somewhat insecure, to have an irrational explanation for a random process or something that appears random, rather than a rational understanding of it. I don't think this is new to this age we live in, I think it's quite normal, and I think it changes based on the amount of security that the populous has. I think there's a substrate in our populous of millennium madness, and I suspect that a lot of the

unusual anti-scientific and quasi-scientific groups around and many of the unusual explanations have got that substrate that's pulling very hard at them. But I think it would be a fascinating study for someone to look at why people drift into fundamentalism and why their brains become compartmentalised. The closest study I've read is by a theologian from Chicago, Marty Martin, who is a very eminent theologian who has been looking at fundamentalism, but I think it probably needs a psychiatrist to join him, to try to understand this. I don't really understand it, it's something that worries me a lot.

QUESTION: DR McBAIN. You spoke about probability and you spoke about your inability to get a final court to tell you what one thing meant or to give some judgment for or against your overall position. Did it ever occur to you that with all these things going wrong that there was an increasing improbability that this was all random, and did it every occur to you that there was some invisible hand that was trying to stop this harm that you were rationally trying to visit upon us?

PROFESSOR PLIMER. Last night I was underground with a priest in Broken Hill, he had just come into the diocese and I was showing him some of the underground features at Broken Hill, and here was a drill hole that was leaking bits of water but it leaked sporadically and every now and then the crystals of calcium carbonate grew, and you could see these tears out of the rock, and he stopped and looked at it and said, "It's a miracle, it's the hand of God. If you don't follow this omen you're finished forever."

QUESTION: MR ROBBINS. Tom Robbins, Surgeon. I don't know what spirituality is, could you define it for me please?

PROFESSOR PLIMER. I guess it is a rationalisation saying that there is a force beyond what we know, a supernatural force, that has some bearing or influence on my life or the life of others. Now, I think some people need to have a belief in something supernatural which I would call spirituality. I don't believe the arguments that the fundamentalists put up and I heard one quite recently when I was up in Brisbane debating a couple of weeks ago where they argued that the genocide of the Second World War, the First World War and this century, is a result of humans abandoning the Bible and believing in evolution. One immediately quotes the genocide from the Old Testament and the answer was, well, that was God's will. So spirituality, I think, is where people are looking for something beyond the rational to explain phenomena which occur in their life.

Now as a scientist I'm quite happy to say, look, I don't understand

what happened and I'm quite happy to leave it like that but I do acknowledge that some people need to have something beyond the boredom of rationality.

QUESTION: I am a medical practitioner. You have gone through quite a lot over these past few years through the courts and having all these death threats against you. You question the tactics of the creationist movement and say that it undermines their religion or brings disrepute upon their religion and is a shame to the name of God and yet you too in your book, as you related, have used some tactics. Have you ever questioned over these years some of your tactics? For example, litigation and personal ridicule of some of your opponents, however wrong they may be. Has it possibly undermined your standing as a scientist, and worse still, science in general in the eyes of the world? You say it's worth it but is it really worth it?

PROFESSOR PLIMER. I first start with a quote from Thomas Jefferson regarding education and he was arguing that in an education system we need eternal vigilance. The second thing is that my first introduction to creationism was when I wrote a geological evaluation of creationist ideas in my professional journal. The first stone was cast by the creationists who served me with litigation.

