

Mr and Mrs Oughton

Mr Ross Haslam, Chair of the Council of Governors, Council Members
Parents and the broader Scotch Community
Staff and most importantly Students

Welcome!

My name is Andrew Freeman and I can assure you that when I graduated from this school in 1980 the last place I expected to be in December 2011 was standing here.

Never have a fixed, firm and unwavering view of how things will turn out; you are likely to be wrong.

It is only a question of how wrong!

Thank you for coming along today. While some of you will view this as just another assembly, the Year 12's will see it for what it is; their final farewell, as students, to this school. It won't be long before you accept that your parents were right, as unlikely as that sounds; these were the best years of your life, so far.

Also please take note; in around the year 2042 one of you is likely to be standing here. So get ready!

In preparing for this speech I have read a number of past Old Scholars speeches. Let me say I am humbled to be included in the same company as previous speakers and I hope I will leave you with a message that will resonate into your future.

My time at Scotch was not filled with academic brilliance nor was I an outstanding sportsman.

I did have a lot of fun and made life long friends!

The teachers I most clearly recall were my science teachers; Ken Webb for chemistry, Doc Felgate for physics and Mrs Caldicott for geography. Let me assure you I did not stand-out in those subjects but my curiosity for science was certainly sparked.

Following school I went to Adelaide Uni and completed a Bachelor of Science with Honours in Geology. I was fortunate to secure work during the Uni holidays with Santos, the oil and gas company and when I finished Uni I started with Santos full time.

My career with Santos has been split into roughly two halves. I started working on the geology of the Cooper Basin in the far north of South Australia, interpreting the geology and recommended drilling locations to test for the presence of commercial hydrocarbons.
The second half of my career has been in the commercial side of the business across Australian and SE Asia; negotiating gas contracts, keeping the

customers happy, and because of my geological background, providing a unique interface role between the technical groups and the commercial groups.

In my current role I am the commercial interface between our \$16 billion Gladstone LNG project in Queensland and our exploration and production operations in the Cooper Basin.

But enough about me, because I want to talk about you!

I would like to speak to you on a topic that may, at face value, bore some of you to tears. As an insurance policy I have prepared a series of pretty pictures for you to watch.

But beware; there is a purpose behind these pictures. If you appreciate what you are seeing then you will listen to what I am saying. You will soon understand that you can't have the pretty pictures without connecting with my topic.

So, with apologies to JF Kennedy, lets get into it,

“Science;

Ask not what it can do for you

But what you can do for it”.

But let me explain. Our society appears to have reached a strange state where ignorance and denial win out against facts, evidence and rationality.

In short science is under threat.

The threat is real and it is evident in daily conversations, on blogs, across Facebook, in Parliament, coffee shops and work places, Tweeted and re-Tweeted and on the front page of papers ever day. It arises from multiple causes. Declining enrolments in science based subjects in schools and universities, politicisation of science issues but most disturbingly; public apathy and public ignorance.

This threat is against a backdrop of a society that will, over the next 40 years, create more knowledge than humans have created over all of recorded history.

This is a society that is governed by politicians that, in some cases, pride themselves on their lack of scientific understanding, and in the majority of cases have no scientific background. In the US Congress today only 2% of the 535 members have a professional scientific background, but 40% are lawyers.

This is not encouraging for a society so reliant on science. Not everyone can be a scientist and nor should they. But everyone can think like a scientist. It isn't hard.

This is where you come in.

We have a choice.

We can choose to let ignorance of science and all it represents fail us and fail our expectations, or we can choose to get engaged and have science work for us.

Please note my emphasis on choice.

Don't kid yourself that you can't participate in this battle, don't kid yourself that it is someone else's problem; you are on the front line, right now.

Your future is being debated, created, and legislated right now.

About now you are probably wondering what I am concerned by. We have got smart men and women who are working the big problems, for example;

- The increasing scarcity of drinking water
- Figuring out how we will generate sufficient electricity to meet the rapidly increasing energy demands in a carbon constrained world
- How we are going to feed a world wide population of 8 billion humans
- Balancing the need to protect and enhance our environment while dealing with the reality that is humanity
- Discovering cures for preventable diseases and cancers
- Preparing for the possibility of accelerated climate change

We have a democracy and we all get a say in how things work out. If we don't like the way things are going then we can change governments every 3 years and try the other guys.

Sure, we aren't certain how much impact we actually have but it will all work out in the end. Right?

Possibly; but I'm not too comforted by these odds.

My science background has taught me one really important lesson, and I see it everywhere. Nothing is certain. Anyone looking for certainty will often blame science when they don't get certainty.

But science does not deliver certainty, but it can take us from 'possible' to 'beyond reasonable doubt'.

Science has never claimed to deliver certainty but society is demanding certainty. This is the core challenge; how can society support and nurture a field of study that fails to give them what they crave? How can I stand here and ask you to get engaged when I have just told you that science can't deliver what society wants?

Let me tell you about story about two frogs.

Take the first frog. Place him in a large saucepan of cold water and gently bring it to the boil. The frog will not notice the subtle change in temperature and eventually get cooked. His environment has changed and he had no idea it was occurring.

Take a second frog and drop him into hot water and he will do all he can to get out.

This not an analogy for the climate change debate; this is an analogy for a society disconnected from science. We are the first frog; the changes that are occurring are occurring without our engagement. We are becoming victims of our own disengagement from the world around us. All this sounds very downbeat but it doesn't need to be.

So what do we do? The answer is very simple.

Use what this school has taught you!

One of the core objectives of Scotch is the desire to produce well-rounded individuals.

'Well rounded' suggests that Scotchies are capable of excelling across a broad range of tasks; academic, sporting and community and meeting and beating the challenges we confront. Scotchies are resilient and embrace change, rather than fear it.

'Individuals' don't tend to follow the pack; we are not sheep. We have a healthy scepticism for what we are told. But we don't allow that scepticism to slip into cynicism. This is the lazy way to drop out of the debate.

So how do we engage and form a view that takes account of our beliefs, biases, values, experiences and expectations for the future?

How do we move the debate on from a public dialogue that has become of one warring opinions and policy paralysis?

Let me put to you a way of thinking about a problem that might help disentangle what you are confronted with every day. An approach that might help construct an agreement that promotes discussion rather than dissent.

First – collect your thoughts

Examine what you think about a topic. Don't get bogged down on why you believe something, just get a clear view on what you believe. Gather together a range of points of view from others. Again don't ask why they hold a particular point of view, just accept for the moment, that there is a range of views across a broad spectrum.

Try and get a feel for the uncertainty that is inherent in these views. How informed are the opinions?

How 'wrong' could your view be? How much real information, rather than opinion, do you have to form a view?

Check that you are all talking about the same problem. Is it possible that your view is driven by using different language and experiences to describe the same problem?

Be clear what you think the problem is before you commit to a view.

Second – compare the thoughts

Ask yourselves what is driving the different views. Is it based on someone having more information, different information, better information, a

professional bias or as is sometimes the case a 'hidden agenda'. Consider what other factors in the community might be driving peoples views. Do they have a past experience that has locked them in to a way of thinking or a particular point of view?

Third – test your thoughts

Revisit your initial thoughts. Ask questions. Look critically at what has been put forward as 'fact'. It may be but it may also be 'opinion' dressed up as 'fact'.

If you are honest with yourself then it is highly likely that your views have changed as you have explored the topic. That's OK.

In fact that is a fantastic outcome.

In the words of John Maynard Keynes: When the facts change, I change my mind. What do you do, sir?

Think about that for a second. There is nothing wrong with changing your mind in light of new information, of new facts. None of us are that good that we can't learn from others knowledge and experience and from what is going on around us.

Fourth – Express your view

Only now do you open your mouth! Put forward your view and get ready to defend it. This sounds aggressive but it shouldn't be. Remember we are engaging in a debate not a war. It shouldn't be personal; no individual or group has a monopoly over ideas, no individual or group has any inherent right to be heard to the detriment of others.

But science is a contest of ideas. Ideas survive only as long as it takes someone to disprove them. This is the root cause of much of the scepticism visible in society today when science is discussed; that is the lack of certainty. Ironically it is also the greatest strength of science as it allows for constant refinement as new information comes to light.

Now I have just described what is traditionally called the 'scientific method'. I'm sure some of you recognised that but how many of you have thought about using a simplified version to help you navigate through your day?

Life will march on; but you have a choice about how you engage with it. I believe that often the loudest voices of complaint come from those who are least engaged and have made the least effort to discover for themselves what is actually going on. They are the ones who have the most to lose because, they are the first frog. They are disengaged and destined to become victims.

So get engaged, dig out the facts and ask questions. Do not allow our society and our public debate to be based on fear and ignorance and do not let it succumb to the vocal minority who want their opinions to triumph.

Be bold, be courageous,
and most crucially
be curious!

Lets put science and scientific debate back in its rightful place in the centre of a vibrant, rational and engaged society.

Thank you

Andrew Freeman ('80)