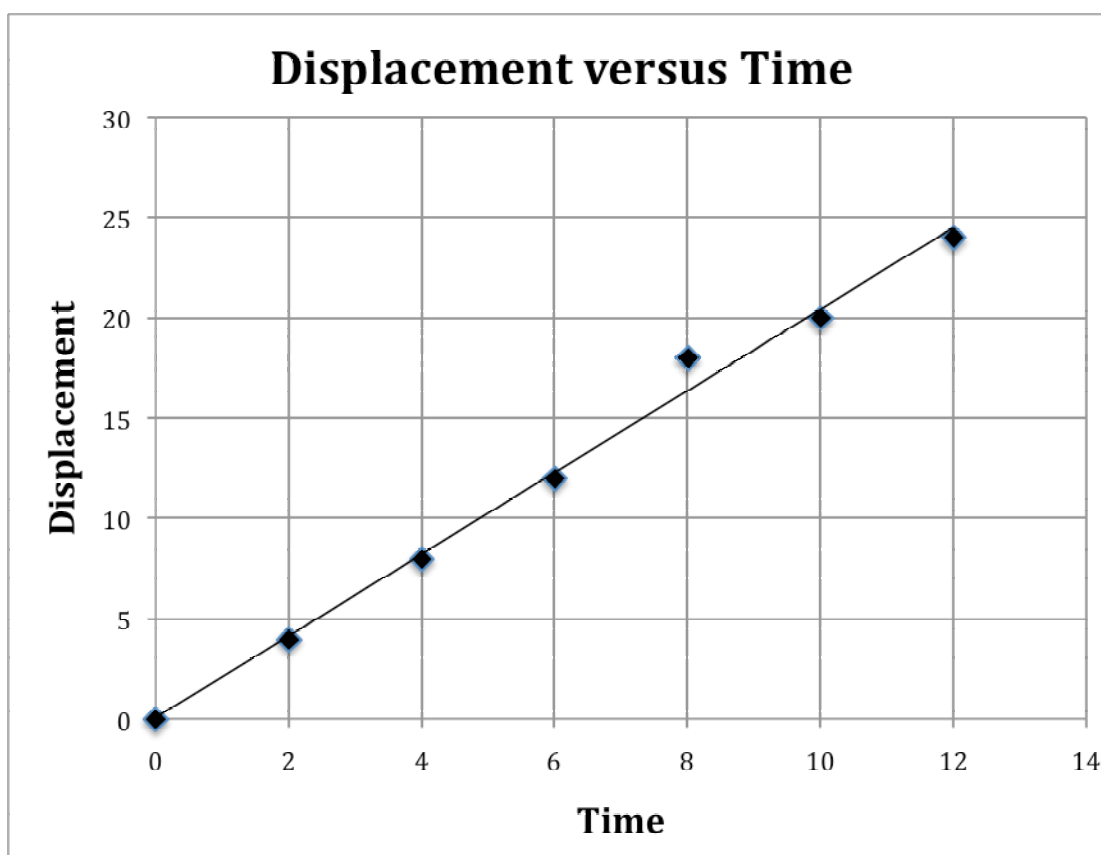


Figuratively Speaking.

Frank Alley.

Some Real Scientific Ideas.

Consider the following graph:



This graph represents measurements taken during a number of events, an object moving in a straight line whilst not accelerating.. It attempts to confirm Newton’s first law of motion and is what is done in school Physics laboratories everywhere. You will note that one point is off the trend line and is put down as experimental error because it is clearly out of place. The error may be the result of incorrect measurement or some other factor, such as the ‘lie of the land’. The experiment would be repeated of course so that confirmation of the law or process can be achieved.

There are some people who will concentrate on that point off the line and use it to declare that Newton’s first law of motion is not correct. Rubbish of course, but that is what the creationists (now *Intelligent Design (ID)* adherents) insist on in declaring that Darwinian evolution is incorrect and that erudite biologists are wrong. Much the same is happening with climate

change denialists. Like the ID adherents, the climate change denialists refuse to look at the trend line and search for an exception to the rule. However, there has been a change of late where many climate change denialists have come to accept what is happening in the light of what is being observed TODAY. They have now changed tack and are saying that whilst they agree that global warming is occurring, the activity of humans has nothing to do with it. You know, the exception proves the rule or such tripe. These people desperately look for the very few exceptions to the rule in an effort to disprove the rule.

One of the great successes of Science is not only its ability to explain observed phenomena, but to be able predict the motion of objects from the tiniest such as electrons or even quarks, to the largest such as stars and galaxies. Complex systems movements can be predicted using such tools as Statistical Mechanics. Enrico Fermi developed a whole new mathematical approach to explain the motion of electrons in a metal (called Fermi Gas) and we use that knowledge in modern technologies. If the laws of nature applied themselves randomly, then it would be impossible for a shooter to know where his bullet would end up. If the strength of gravity varied momentarily, if the laws of conservation of linear and rotational momentum did the same, then the bullet might even hit the shooter. If the laws of light varied then we would not be able to see any shapes, but just a grey blur. The denialists accept as a given, every law in nature except the very few that affect their perceived comfort or dogma.

Man could never have walked on the Moon. Through relatively simple mathematics it can be shown that the Moon has no atmosphere, without actually going there. And that can be revealed by use of Maxwellian distributions and the concept of escape velocity. I can with relatively simple mathematics prove that there are no electrons inside a neutron, even though a free neutron will decay after about 15 minutes into an proton and an electron. This has of course been verified experimentally. Neutrons bound in a nucleus, through gauge symmetries change into protons and vice versa in instants of time via the transfer of mesons. They do not get the chance to decay.

OK, I've had my spray.

Well intentioned, but bad Science.

There exists what we call Para-Science, that which seems not to follow our normal scientific understandings. Unfortunately such experiments that show unexplained phenomena usually cannot be repeated successfully. Here is an example:

Lyall Watson in his book 'Supernature' describes an experiment by a group of biologists. These scientists were investigating the response of plants to externally applied stimuli. They set up a number of plants attached to electronic measuring devices and recorded the 'behaviour' of the plants with no stimuli applied as a control. Then after a number of events, one of the workers grabbed a plant and tore it to bits. Astonishingly, the other plants showed responses to this 'murder'. Later, after lunch perhaps, the scientists came into the lab one at a time and lo and behold, the surviving plants identified the 'murderer' with electronic responses. Sadly, this experiment has not been successfully repeated. 'Supernature' is a good read. Much the same occurred with the much heralding of the discovery of 'cold fusion'.

Listening to ABC radio years ago, I heard a guy being interviewed about the effectiveness of taking Vitamin C. He kept saying 'believe me, I know, I'm a scientist', which immediately made

me suspicious (why did he need to reassure the listeners constantly?). He found that over the past 10 years sales of Vitamin C had increased and that over the same period the incidence of patients presenting with kidney stones in hospitals had increased. Therefore, taking Vitamin C causes kidney stones! Well, let's try another correlation: over the same period the sales of Japanese cars had increased and the rate of motor accidents on our roads had increased, both verifiable. Therefore, Japanese cars cause accidents! It is of course rubbish science because the 'scientist' has taken only one variable that might have an effect on the incidence of kidney stones in the population, whilst ignoring other factors such as lifestyle and dietary factors. Using correlation techniques, especially since the advent of fast computers and extensive databases, is the easiest way to do science because plenty of data is available and the researcher does not have to do the hard stuff like looking at actual mechanisms involved in the subject under question.

Tricksters and fraudsters.

If you read my column in the last issue you will have wondered perhaps why so many people are suspicious of scientists. For one thing, Science has produced some grim results, especially in weaponry including chemicals, biological agents and of course nuclear weapons.

Biological

It has been suggested that the first known case of biological warfare occurred in Australia in the late 18th century where use of disease was used for the ethnic cleansing of the local aborigines. I find it hard to believe, but it has been suggested by those who know more of the history of those times than I do.

The Japanese certainly did use biological weapons during WWII and the Australian journalist Wilfred Burchett, reporting from the North Korean side, claimed that the Americans used bacteriological weapons during the Korean war.



Chemical

Fritz Haber won the Nobel Prize for his development of what is known as the Haber Synthetic Process for the production of ammonia gas, a vital component for the manufacture of fertilizers and explosives. He was a soldier on the western front during WWI and helped in developing poisonous gases and even assisted in the use of the gases against the British and French lines. His wife, Clara Immerwahl, a strong opponent of the use of chemical warfare even committed suicide with her husband's service pistol.

Apparently he wasn't too concerned about that as he left for the front the following day to continue with his gas warfare efforts.



Nuclear.

The book 'Hitler's Gift' outlines the number of Jewish scientists who left Germany and eventually found work in the production of the first nuclear weapons. J. Robert Oppenheimer, the brilliant Berkeley physicist, was appointed director of the Los Alamos project where the first bomb was made. During the McCarthy un-American activities purges, Oppenheimer was reviled by conservatives and one of them was Edward Teller who is known as the father of the hydrogen bomb. Teller actually gave evidence against his former boss, Oppenheimer during the Joe McCarthy hearings. **Below L-R**, Oppenheimer and Teller.



Oppenheimer's name was later cleared many years after McCarthy was discredited.

During the rise of the Nazis in Germany many German scientists spoke out against what they called 'Jewish Science', the most conspicuous of these Jewish scientists being Einstein. What was obnoxious about 'Jewish Science' other than being practised by Jews is beyond me. But I do know that many second rate non-Jewish scientists were able to displace from higher academic and research positions, the incumbent Jewish scientists. The most vociferous of these Nazi scientists were Philip Lenard and Johannes Stark, both Nobel Laureates:



Genetics

During the period of slavery in America and the West Indies there was an attempt to show that people of white skin were of higher intelligence than those with black skin. One method used was to measure the brain volume of skulls of white and blacks. Dried beans were poured into the cavities and the number of beans needed to fill the brain box counted. The result was that more beans were needed to fill the brain box of whites than those of blacks, except that they did not inform the public that smaller beans were used for white skulls! Perhaps this is one of the first cases of fraudulent science.

During the Great Depression in America there was an attempt to show that the poor and unemployed were genetically disposed to the afflictions of poverty and unemployment. A similar, if half-hearted, attempt at this was made in Australia during the 90's by conservatives. It was a great idea because as with the Americans you could go about blaming the victims.

The British psychologist (Sir) Cyril Burt, a pioneer in IQ testing (1946) was able to show that when fitting scores onto the distribution (bell) curve, the IQ's of the working classes were well below those of the upper classes. This amazing revelation got him a knighthood. This I find

somewhat amusing because there was a saying in the upper classes from the 19th century, ‘if you have a son who is rather dull, put him into the church or buy him a commission in the army’. We know where this led during WWI. Two German generals talking to each other ‘the Englishmen fight like lions’, In reply the other general said ‘yes but we know they are led by donkeys’. Anyway, the upshot of Burt’s work was that he was exposed as a fraud having manipulated the IQ tests in favour of the ruling classes.

A follower of Burt’s was Hans Eysenck who showed that the Irish on average had IQ’s a full 15 points lower than the average for the English (maybe he was using Burt’s results). Now there is some evidence in favour of Eysenck’s conclusions because I am of almost 100% Irish descent and I believe that man’s activities over the past 100 years has contributed to global warning; Eysenck might have been right! **Below L-R: Burt, Eysenck.**



I can refer to my own experience as a teacher over 40 years. I taught in a variety of high schools, both state and private (independent). The state schools were mostly in the Western Suburbs of Sydney and had a very varied population, almost all from the working class. In one private school, the students were from the nouveau riche, hard-working tradesmen, builders and the occasional professional, but not particularly clever academically. My last private school was in the Eastern Suburbs of Sydney, very selective via wealth and the average IQ of the students, I would suggest to be higher than that in the Western Suburbs schools. In my years as a teacher I have taught three geniuses, all of them from the working classes, none from the wealthier classes. In fact, in one class I taught at a Blacktown school, three of the students were to win Sydney University medals as the top of their faculties. In that wealthy Eastern Suburbs private school where I had the pleasure of teaching the daughters of such celebrities as Mike Willesee, Sam Neal and Jimmy Barnes’, no student in the history of the school had ever won a university medal. For what its worth, that was my experience.

My own school, Newcastle Boys High was a selective school and just recently I attended a 50 year anniversary of the 1959ers. Newcastle as you would know was an essentially working class city then. These old boys are sending me their life stories for publication and I am stunned, but really not so surprised at how distinguished so many of them are. One, an Air Commodore, flew Caribous in Viet Nam, another a RAAF test pilot who became the first F111 squadron CO. One judge, a number of university professors, one at MIT in the US. Many, many doctorates and in the past, a Victoria Cross winner. A member of the International Olympic Committee. A number of test cricketers and Australian representatives in many other sports, including rugby league.

Human Genome Project

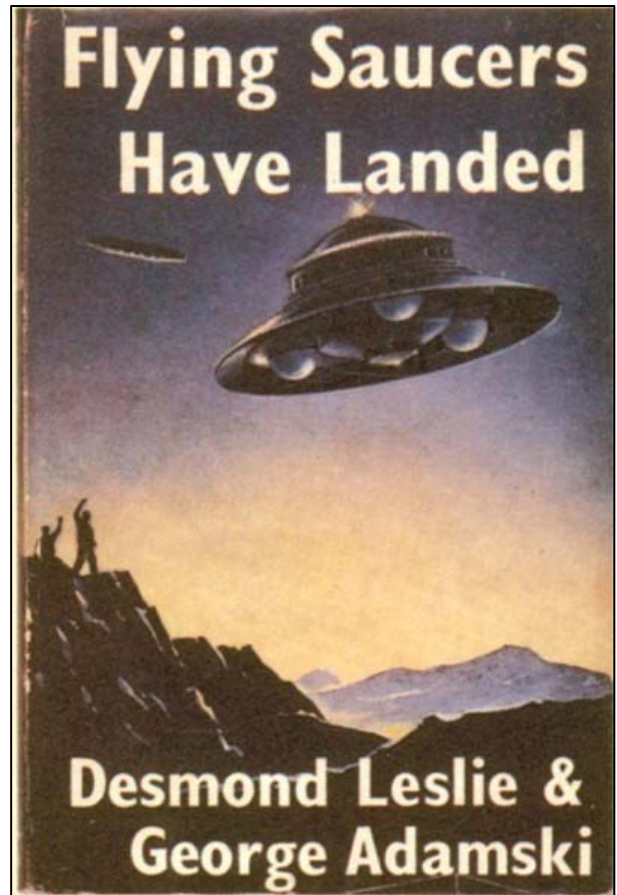
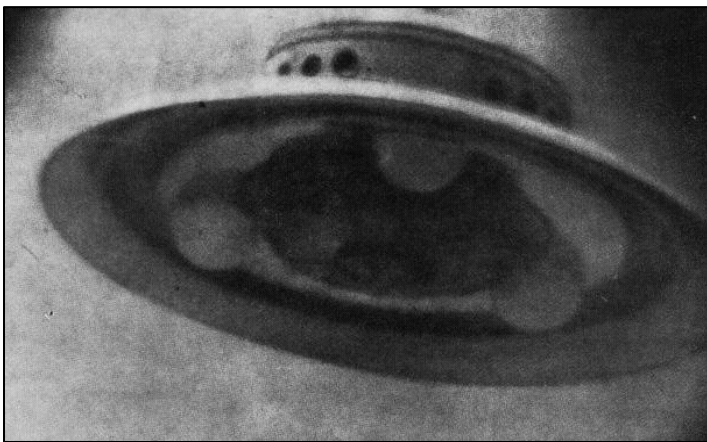
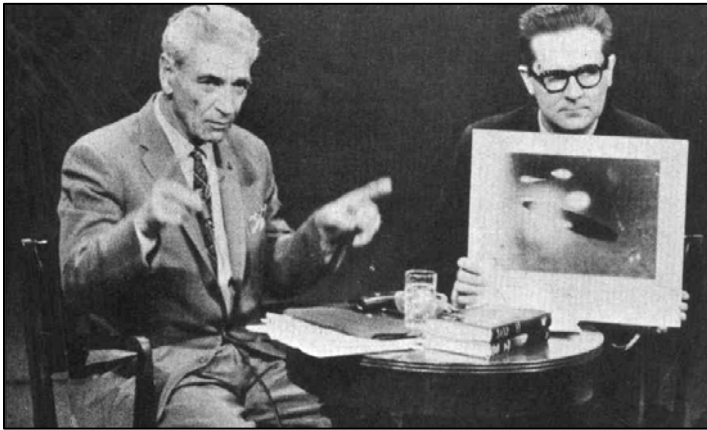
Currently there is a world-wide project underway to map the human genome, that is to identify and characterise in function, all human genes. A former colleague of mine is involved in this project and sent a copy of a paper he had written. Upon reading it I was a little disturbed as there seemed to be an element of elitism, just a step from white-supremacy. If the function of every gene is known and if some genes have an effect on certain human traits, then there might be a temptation to use this information to classify individuals who might be afflicted by such traits as deafness, poor eyesight, tendency to loose morals etc... Under some regimes such as the Nazis or other totalitarian governments, such 'lesser individuals' might be done away with before or after birth. Beethoven, Mozart, Helen Keller, FDR might not have been born or would have been put down.

Maybe the tendency to homosexuality could be identified; well that's the end of Tchaikovsky and so many more extremely talented individuals. Lets take this further; say as a parent to be you can dial up the genetic characteristics of your child. Well that's going to buggery rugby league and many pursuits, because most parents will want a blue-eyed, blonde girl who is delightful at ballet, super intelligent, drop-dead gorgeous and very lonely because there won't be enough blokes around for her to get her jollies. This is the 'Brave New World'.

With the drive now to patent genes as discovered by large corporations one can only imagine what knowledge could lead to. Jeez, I might have been put down for having Irish blood in me. What would they have done with James Joyce? (Please, tongue in cheek OK?)

The Book Frauds

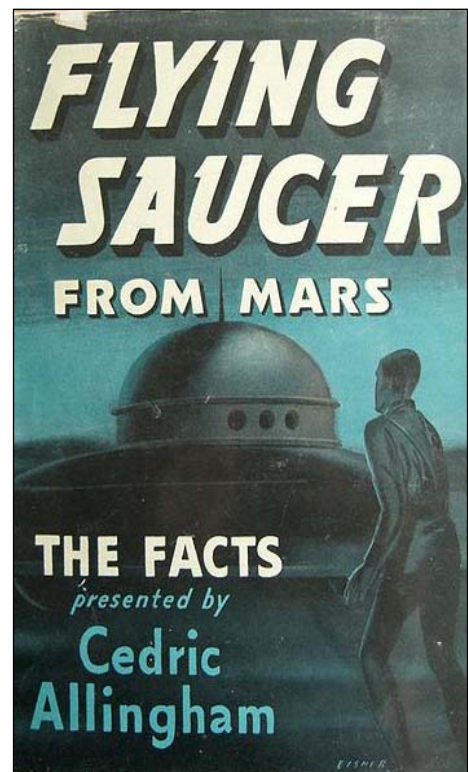
When I was a teenager in the 50's I read a book called 'Flying Saucers Have Landed' by George Adamski who claimed to have seen a flying saucer land in the desert (he had gone out looking for one) and met the pilot who he established, via telepathy, to have come from Venus. He had a camera but handed over the film to the ET. But he was able to produce photos later when the saucer had flown over his observatory.



Adamski became a cult figure, giving lectures around the world. He was finally exposed by members of the Adamski societies who identified the saucer shown above as a farm chicken waterer.

Not to be outdone, Cedric Allingham in the UK also managed to find a flying saucer, but this time the occupant could not communicate via telepathy, but could recognise Allingham's drawings of the solar system and pointed to the orbit of Mars.

His book was called 'Flying Saucer from Mars'.



Flying saucer over Shanghai, a picture (at right) I took about 10 years ago. No, I'm not going to rush into print for fear that a bunch of Irishmen will take it seriously, or at least that's what Eysenck might have said.



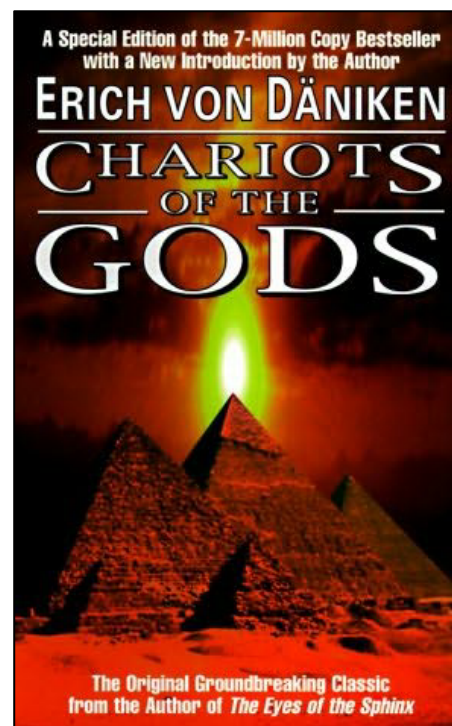
Perhaps the most spectacular of these fraudsters is Erich von Daniken.

His book of the 70's was a world-wide best seller, but he too was exposed as a fraud. His method was to rely on the common man's distrust of scientists, intellectuals and academics in general. If there was some phenomena that could not be explained in the simplest terms that could be understood by the less educated, then the phenomena was the result of the actions of extra-terrestrials.

For example, von Daniken claims that no one knows how the Easter Island statues were erected. Rubbish! There is old film of the locals erecting a statue. This trickster relied on people's ignorance. One of his artefacts supposedly created by ET's were smallish rocks with carvings showing ancient brain surgery. Staff of New



Scientists decided to check out some of the claims in the book and went to the area where these rocks were supposedly found. The staff members were told to go into the village where locals were making such rock carvings and 'aging' the rocks.



The story of Flight 19 lost as a result of the Bermuda Triangle was initially written by a journalist who made up the idea, confessed to the NS. Staff. The event was actually explained in a navy enquiry and was the result of pilot error in navigation. Not the mystical Bermuda Triangle.

The latest of these frauds is the work of the British ex-submariner Gavin Menzies in his book '1421: The Year China Discovered the World'. <http://www.1421.tv/>

At least Menzies based his book on verifiable facts in that such voyages did happen, but he goes too far in all sorts of claims. For example, James Cook had a copy of a map made by the Chinese which showed him the east coast of Australia. Other earlier explorers apparently had copies of Chinese maps sourced from Europe where copies of the originals had been made. It is a fascinating read and much of it is plausible, but it seems that any wreck of old wood that cannot be explained is the result of the Chinese voyages. There are even claims that Chinese mariners were wrecked on the southern shores of Australia, started walking north to go home, but finished up settling in Oz and cross bred with the Aborigines.

Menzies was interviewed on the ABC and had to admit that some of his claims were erroneous. Needless to say, Eurocentric historians and others were offended by the idea that Asians might have been ahead of the Europeans...and they were. In the 15th Century, the King of France had a few books where the Chinese emperor had thousands.

Due to all kinds of pressures on my life and time, this will have to be my last regular offering. I have really enjoyed contributing to the RAM, a worthy journal and hope to write some articles, but unfortunately not on a regular basis. I hope to continue to read the RAM with my usual interest and wish now to offer my congratulations to Trevor and all those involved.