

Surely You're Crying, Mr Feynman

By Tony Thomas, Quadrant Online, 23 June 2017

Back in 1974, the US physicist and polymath warned graduating students of 'cargo cult science' and the careerist urge to confirm the flawed orthodoxy of earlier and inaccurate results. Climate "science" was then in its infancy but the trajectory of its corruption has confirmed all his worst fears

The trouble with mainstream climate scientists is that they're third-rate scientists, and the reason they're third-rate is that they're dishonest. My authority for this statement is physicist Richard Feynman (pictured), who has been dead for 29 years but was ranked by his peers as one of the [ten greatest physicists](#) of all time. Feynman set out the parameters for honest science in general, and I've never yet seen a mainstream climate scientist live up to Feynman's honesty test.

In 2015 I was transiting through Los Angeles airport and killing time in a bookshop. I bought Feynman's paperback [Surely You're Joking, Mr Feynman!](#) because it seemed unusual for physicists to take pride in being funny.

In the book's first essay he tells how, as a small kid, he earned pocket-money repairing people's radios. A customer would tell him about a fault, and that would be enough to diagnose the problem without even turning on the set.

The book's final essay – in between there's wonderful entertainment – is called "Cargo Cult Science". It's the commencement address he gave to freshers at Caltech in 1974. The original cargo cults, as you probably know, involved post-war tribesmen in PNG building mock airstrips and control towers in the hope that this would attract US cargo planes to again deliver their cargoes of desirable goods. "They follow all the apparent precepts and forms of scientific investigation, but they're missing something essential, because the planes don't land," Feynman told the students. He went on to talk about what is missing in bad science – honesty.

"It's a kind of scientific integrity, a principle of scientific thought that corresponds to a kind of utter honesty—a kind of leaning over backwards. For example, if you're doing an experiment, you should report everything that you think might make it invalid—not only what you think is right about it: other causes that could possibly explain your results; and things you thought of that you've eliminated by some other experiment, and how they worked—to make sure the other fellow can tell they have been eliminated.

"Details that could throw doubt on your interpretation must be given, if you know them. You must do the best you can—if you know anything at all wrong, or possibly wrong—to explain it. If you make a theory, for example, and advertise it, or put it out, then you must also put down all the facts that disagree with it, as well as those that agree with it. There is also a more subtle problem. When you have put a lot of ideas together to make an elaborate theory, you want to make sure, when explaining what it fits, that those things it fits are not just the things that gave you the idea for the theory; but that the finished theory makes something else come out right, in addition.

"In summary, the idea is to try to give all of the information to help others to judge the value of your contribution; not just the information that leads to judgment in one particular direction or another.

“We’ve learned from experience that the truth will out. Other experimenters will repeat your experiment and find out whether you were wrong or right. [Climate science is intrinsically not experimental but its modelling can now be checked against reality]. Nature’s phenomena will agree or they’ll disagree with your theory. And, although you may gain some temporary fame and excitement, you will not gain a good reputation as a scientist if you haven’t tried to be very careful in this kind of work. And it’s this type of integrity, this kind of care not to fool yourself, that is missing to a large extent in much of the research in Cargo Cult Science.

“The first principle is that you must not fool yourself—and you are the easiest person to fool. So you have to be very careful about that. After you’ve not fooled yourself, it’s easy not to fool other scientists. You just have to be honest in a conventional way after that.

“I would like to add something that’s not essential to the science, but something I kind of believe, which is that you should not fool the layman when you’re talking as a scientist...I’m talking about a specific, extra type of integrity that is not lying, but bending over backwards to show how you’re maybe wrong, that you ought to do when acting as a scientist. And this is our responsibility as scientists, certainly to other scientists, and I think to laymen.

“For example, I was a little surprised when I was talking to a friend who was going to go on the radio. He does work on cosmology and astronomy, and he wondered how he would explain what the applications of this work were. ‘Well,’ I said, ‘there aren’t any.’ He said, ‘Yes, but then we won’t get support for more research of this kind.’ I think that’s kind of dishonest. If you’re representing yourself as a scientist, then you should explain to the layman what you’re doing—and if they don’t want to support you under those circumstances, then that’s their decision.

“One example of the principle is this: If you’ve made up your mind to test a theory, or you want to explain some idea, you should always decide to publish it whichever way it comes out. If we only publish results of a certain kind, we can make the argument look good. We must publish both kinds of result.

“I say that’s also important in giving certain types of government advice. Supposing a senator asked you for advice about whether drilling a hole should be done in his state; and you decide it would be better in some other state. If you don’t publish such a result, it seems to me you’re not giving scientific advice. You’re being used. If your answer happens to come out in the direction the government or the politicians like, they can use it as an argument in their favor; if it comes out the other way, they don’t publish it at all. That’s not giving scientific advice.

“So I wish to you the good luck to be somewhere where you are free to maintain the kind of integrity I have described, and where you do not feel forced by a need to maintain your position in the organization, or financial support, or so on, to lose your integrity. May you have that freedom. [The following para is in the original but not in the book] May I also give you one last bit of advice: Never say that you’ll give a talk unless you know clearly what you’re going to talk about and more or less what you’re going to say.”

What is fascinating about his common-sense tenets of scientific honesty is that today they are forgotten, ignored, corrupted and trampled upon by supposed scientists in all fields playing ‘publish or perish’ and ‘get that grant’. The climate scientists are particularly bad because the stakes in grants, influence and reputation are now so high. When the Climate Council’s CEO Amanda McKenzie talks about “carbon pollution”, why don’t the scientists on her board

(Flannery, Hughes, Steffen, Bambrick) correct her and say carbon dioxide (not “carbon”) is a plant food essential to life on earth, not “pollution”? That’s what Feynman surely would want.

There must now be tens of thousands of peer reviewed mainstream studies relying on the output of temperature computer-modelling for the Intergovernmental Panel on Climate Change. Since the 5th IPCC report of 2013, each such study, on Feynman’s honesty test, should include in the preamble that the 5th report noted [\[1\]](#) that 111 of 114 such model runs over-estimated actual temperatures from 1998-2012 — and they’re still over-estimating for 2012-2016, as demonstrated by John Christy’s satellite graphs provide in Congressional testimony last March.

A minor negative example: a month ago ABC radio, print and TV was running hot with “coastal koala extinction” stories. Koalas are good talent and we all love these cute little beasties. We learn that, according to the most [conservative climate modelling](#), seas will rise lots and lots between now and 2067 and 2117, and this will kill the gum trees that many koala populations feed on – putting them on “a steady downward run to extinction”.

The tale emanates from research done at the Port Macquarie City Council. It doesn’t seem to have made the published science literature but there is an account of it at a national koala conference at Port Macquarie last month. This account makes no mention of the damning 111/114 fail rate of the main IPCC climate models, and thus it violates Feynman’s integrity test.[\[2\]](#)

Another great Feynman-test fail is all this science-y stuff about hottest year ever. Surface based records (that have been ruthlessly adjusted by lowering the early-year temperature data) may show recent hottest years, but the [38-year satellite records](#) don’t – at best the 2016 peak was [within the margin of error](#) relative to 2015. How can any honest scientist (on Feynman’s definition) fail to mention the awkward satellite data when assessing hottest years? There was even the case in 2015 where NASA put out a press release saying that [2014 was the hottest year](#) since 1880. But within days it had to own up that because of data margins of error, there was *only a 38% chance* that its ‘hottest year’ tale was valid. Would Feynman say that NASA has scientific integrity? No, I don’t think so.[\[3\]](#)

In my reading on climate over the past decade, I’ve never seen Feynman’s prescription about honest science referred to in mainstream climate literature. It’s easy to imagine why.

Tony Thomas’s book of essays, [That’s Debatable](#) – 60 years in print is available [here](#)

[\[1\]](#) Chapter 9, text box 9.2, page 769. And why was this crucial information not included in the all-important Summary for Policy-Makers?

[\[2\]](#) Another Feynman-style koala check not mentioned would be the nearest tide gauges, to see how much these seas have risen to date. [Port Macquarie gauges](#) only go back 30 years and show a 7.8cm rise, i.e. if extrapolated, about one foot per century. [Fort Denison](#) in Sydney Harbor shows a mere 6.5cm per century rise based on 128 years of data.

[\[3\]](#) On checking, I find he’d [already written off NASA management](#) as scientific frauds. “NASA managers claimed that there was a 1 in 100,000 chance of a catastrophic

failure aboard the [Challenger] shuttle, but Feynman discovered that NASA's own engineers estimated the chance of a catastrophe at closer to 1 in 200. He concluded that NASA management's estimate of the reliability of the space shuttle was unrealistic, and he was particularly angered that NASA used it to recruit [Christa McAuliffe](#) [lost in the explosion] into the Teacher-in-Space program. He warned in his appendix to the commission's report (which was included only after he threatened not to sign the report), "For a successful technology, reality must take precedence over public relations, for nature cannot be fooled."