

# Crisis in Science

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## Executive Summary

The public are being deprived of important information necessary for them to make decisions, including decisions that could affect their survival, because of information unwittingly withheld by the media.

The problem arises out of the fact that in several important controversial areas the majority of scientific experts hold a belief that is contrary to the latest scientific evidence.

Because those in the media have concluded that the majority of medical or scientific experts must be correct, they have decided not to air viewpoints that conflict with those of the consensus of experts. This avoids the criticism by those with vested interests that people might be given wrong information that might put them at risk.

The controversial health areas include cancer, cardiovascular disease, HIV/AIDS, genetics and global warming.

In all of these areas most of the media withhold important scientific information from the public because they have been convinced by experts that it is in the public interest to do so. With the global warming issue only some media report both sides of the debate.

In most of these areas there is strong evidence from those who specialise in evidence-based medicine, epidemiology, statistics and assessment of risk that the consensus of experts is incorrect. In fact an analysis of the scientific literature has shown that only about 11% of medical interventions have been shown to be effective in a randomised controlled clinical trial and it is believed that the same applies to other areas of science.

For this reason the media are unwittingly potentially contributing to harm in these areas.

None of the media, with the single exception above, at present provide a balanced presentation of views in these six areas. The media should therefore uphold the principles of journalism that state that reports should provide as wide a range of viewpoints as possible and avoid presenting only one point of view in controversial areas.

## Context

On 22 August 1997 the Cancer Information & Support Society (CISS) lodged a complaint with the Australian Press Council citing several instances of bias in the printed media. Two particular areas were the unjustified claims being made for the benefits of chemotherapy and that mammography screening was saving thousands of lives each year. Since that time there has been little if any change in the way the media handle these issues. This is despite the fact that in both these issues the subsequent medical science has supported that Society's claims.

For example in 2004 a paper by Australian researchers led by Graeme Morgan<sup>1</sup> found that chemotherapy added only about 2.1% to percentage 5-year survival in Australia despite its widespread use and continued claims for its efficacy. This confirmed the Society's claim that unjustified claims were being made for the benefits of chemotherapy.

In 2001 researchers at the Nordic Cochrane Group<sup>2</sup> – that specialises in evidence based medicine – concluded that mammography screening does not produce significant benefits. This confirmed the Society's 1996 claim that unjustified claims were being made for mammography screening.

Since that time the situation has deteriorated further and the same problem of bias exists in many other areas of medicine and other areas of science. This article gives some examples of bias from five areas. It gives only a small sample from each area with a view to establishing the facts that

1. The scientific community is failing to uphold the principles of the scientific method; and
2. The media are making a significant unwitting contribution to the misrepresentation of scientific findings to the Australian community.

## Historical Background

In the sixteenth century there was a significant challenge to a major scientific paradigm

In 1543 Nicolaus Copernicus questioned Ptolemy's model of the earth as the centre of the universe. This was the current consensus among physicists. He suggested instead that the earth orbited around the sun. When Galileo Galilei defended Copernicus' *heliocentrism* hypothesis nearly 80 years later he was tried by the Inquisition and found "vehemently suspect of heresy", forced to recant, and spent the rest of his life under house arrest. His views were later accepted.

The paradigm shift that ultimately resulted from this questioning of the accepted science showed that the consensus of a majority of experts had been invalid. The consensus based on the then current hypothesis held by those with a vested interests had served to slow down the development of science.

Although it took 100 years for the consensus of physicists to accept Copernicus' new paradigm - that the earth orbits around the sun - at least the scientific method was healthy enough for physicists to accept that anomalies in data that conflict with those predicted by the hypothesis or paradigm warranted a review of the validity of the paradigm.

In the twenty-first century with much more sophisticated technology and rapid communications, it should not be beyond the realms of science to be able to deal with such questioning of paradigms. Unfortunately vested interests now have more influence in preventing such questioning.

There is a widespread ignorance of what the scientific method requires before a paradigm can be accepted. This lack of understanding and use of the scientific method, especially by those with vested interests, needs to be exposed by the media rather than supported. Because journalists are not competent to question scientific "experts" this can only be achieved by the media ensuring that minority views among scientists are presented.

### (a) Medical science

Medicine affords a special insight into what could be argued is a gradual deterioration in the integrity of science. For example, medical science holds that correlation statistics are useful for identifying and developing hypotheses for treatment. They cannot demonstrate cause and effect so before a new treatment becomes accepted for widespread use, the hypothesis on which it is based needs to be tested and validated by means of a properly designed and run randomised controlled trial (RCT). This has not been done for the main areas of disease responsible for the major deaths in the western world, such as cancer and heart disease, nor for the treatment of AIDS or conditions claimed to be caused by genetic abnormalities. The normal explanation for relying on correlation statistics is that it would be too expensive to rely on the results of RCTs.

#### 1. Cancer

The primary treatment of cancer, surgery, has never been subjected to testing in a single randomised controlled trial<sup>3</sup>. The current cancer paradigm is that cancer starts locally and later sometimes spreads. It seemed plausible to change from the old paradigm in the mid-nineteenth century, when it became possible to observe the growth of cancer cells under a microscope, that removing a tumour, especially removing it as early as possible before it had a chance to spread, must result in increased survival. So such a trial was not considered necessary.

The old paradigm for the previous thousands of years had assumed that cancer was a systemic disease; therefore removal of local tumours would not affect the course of the disease. So it is not surprising that analysis of all studies evaluating cancer survival based on the new paradigm has failed to identify any evidence that surgery affects the course of the disease in terms of increased survival or reduced mortality<sup>4</sup>. In addition, analysis of RCTs evaluating the benefits of early detection of cancer has also failed to identify any benefits in terms of reduction in deaths from all causes after screening for breast<sup>4,5</sup>, bowel<sup>6</sup>, lung<sup>6</sup>, prostate<sup>7</sup> or ovarian<sup>8</sup> cancers.

Those who question the paradigm argue that cancer is a systemic disease (as had been thought earlier) due mainly to emotional trauma, chronic stress, poor nutrition and a weakened immune system; and tumours are only elements or symptoms of the disease<sup>9,10</sup>. This explains the lack of benefit from surgical intervention except in a few immediately life-threatening situations where the

tumour is threatening a vital organ.

Recent research into the role of chronic stress in the shortening of telomeres<sup>11</sup> and reducing survival supports the alternative paradigm by showing that the mechanisms appear to involve circulating hormones and protein peptides, a breakdown in signalling between cells and a weakened immune system<sup>11</sup>.

Cancer treatment based on this alternative paradigm is found to be much more beneficial than that based on the current paradigm<sup>12,13</sup>. However all of this evidence is being ignored by medical researchers and therefore by the media.

This suggests that the current cancer paradigm must be invalid. Yet all of this evidence questioning the cancer paradigm is ignored and the argument persists that the tumour is the problem and that one still has to “get it all and get it early”. There is also continued pressure to extend the number of types of cancer where screening should be introduced.

Cancer research and treatment is now a \$500 billion a year industry, apparently based on an invalid paradigm.

*The role of the media in withholding information questioning the cancer paradigm.*

When attempts were made by CISS to provide an alternative viewpoint in the media it was rapidly stopped.

For example in 2002 TV station NBN in Newcastle recorded several 5 minute interviews of a CISS spokesperson for their Sunrise program. The first three went to air providing the latest evidence-based information about cancer treatments and cancer screening. After the fourth was recorded the Producer notified CISS that there would be no more interviews being broadcast because medical authorities had persuaded the station to stop this series of interviews. It was felt that, since the station had recently been involved in a mammography screening promotion campaign, it would not look good to be seen to be questioning the benefits of such screening.

In 2006 CISS and its sister organisation in Perth, the Cancer Support Association of WA (CSA), ran a series of full page paid advertisements in the West Australian to provide this information. The first few advertisements on the lack of benefits from chemotherapy, environmental causes of cancer, the lack of benefits from breast cancer screening and treatment and the lack of benefits from prostate cancer screening and treatment were published. Subsequent advertisements were rejected by the newspaper following pressure from medical authorities in Western Australia. This was despite the fact that all four advertisements were factual and based on the latest information from the results of randomised controlled trials, particularly those that had been recently reviewed by the Nordic Cochrane Group.

Over the past 25 years there have been literally thousands of articles in the media promoting the values of cancer screening and treatment. Fewer than 2% of letters to editors questioning claims of cancer authorities have published.

The media have, ostensibly in the public interest, have systematically withheld any information that questions the consensus of experts. In this way it could be argued that Australia’s media have unwittingly continued to deprive the Australian people of critical information in one of the most important area of their life – cancer.

## **2. Cardiovascular disease**

The currently accepted heart disease paradigm states that there are two main factors that cause heart disease: an incorrect diet that contains too much saturated fats; and elevated levels of cholesterol, probably due to the same incorrect diet high in saturated fats.

Prevention of heart disease is therefore based on lowering the serum cholesterol level, for example by substituting low-fat foods into the diet to replace saturated fats. Another risk factor is claimed to be obesity. Prevention of obesity is similarly based on using the same low-fat diet.

Once heart disease is diagnosed, treatment is based on the use of statins to lower the serum cholesterol and avoiding saturated fats.

Attempts to lower heart disease risk using a low-fat diet have been accompanied by a concurrent gradual increase in obesity in western countries that have adopted such a diet<sup>18-22</sup>.

Similarly, some poorly run RCTs have evaluated the benefits of statins in lowering cholesterol but there is little evidence that this is accompanied by a significant increased survival or reduced mortality<sup>18-20</sup>.

Those on the other side of the debate argue that heart disease is a systemic condition caused by similar factors to cancer and needs to be treated with improved nutrition, exercise and stress management. They argue that statins are only of proven use in acute heart conditions and should not be used where there have not been any RCTs showing their benefits. In fact they argue that current treatment causes more harm than good, especially as a result of overtreatment<sup>23</sup>.

#### *The role of the media in withholding information questioning the heart disease paradigm*

At a critical time (1980) in the debate about diet and heart disease in the United States between the Food and Nutrition Board of the National Academy of Sciences on the one hand and many other vested interest groups on the other, the *New York Times* found that “at least 18 other health organizations and the Federal Government supported a reduction in fat and cholesterol” with only the Academy and the American Medical Association on the other side. Its editorial concluded that a prudent person should therefore eat less fat and cholesterol<sup>24</sup>. This intervention by the media helped entrench this unproven hypothesis.

The low-fat diet has become increasingly accepted as a method of preventing heart disease and obesity over the ensuing 34 years, and statins have become the main medical intervention to lower cholesterol. Although there has been increasing questioning the validity of this paradigm, behind the scenes there have been strong pressures by the medical profession to prevent dissemination of any information suggesting the current treatment for heart disease is both harmful and ineffective in most cases.

This pressure to prevent the publicising of adverse findings rarely becomes exposed because there is little debate about the paradigm itself. One exception was when the ABC in Australia allowed a TV ‘Catalyst’ program to go to air in 2013 that questioned the heart disease paradigm<sup>26-27</sup>. This resulted in the ABC being forced to apologise for its oversight and remove the program from its website. An investigation was subsequently carried out by the ABC’s Audience and Consumer Affairs Department and issued on the ‘Catalyst’ website on 30 July 2014<sup>28</sup>.

There was little debate in the printed media about the fact that the program was based on the latest scientific evidence. Most comment simply pointed out that the program had questioned the views of experts, so was irresponsible.

In criticising this presentation the investigation took the side of the National Heart Foundation (NHF) and incorrectly claimed that ‘statins have wider benefits’ when used for secondary prevention and rejected the facts as published to the contrary by experts in the field such as H. Gilbert Welch<sup>23</sup>. Dr Welch is one of a group of medical researchers and doctors who had just recently helped to organise a second International Overdiagnosis Conference in an attempt at reducing the harm from overdiagnosis and subsequent over treatment with drugs such as statins.

So with cardiovascular disease, as with cancer, it appears the experts might have got it wrong. Those in the media need to be aware of the hazards of taking sides in such debates by presenting only one viewpoint: that of the “experts”. Just as it appears that the *New York Times* backed the wrong side in this debate in 1980 by supporting the “experts” who had what it thought had the “good” science<sup>24</sup>, it is now being forced to step back and reassess its stand<sup>19</sup> after having made a significant contribution to damage to the health of millions of Americans over the past 34 years.

### **3. HIV/AIDS**

In AIDS research the debate is again polarised between those suggesting it is a transmissible condition caused by the transmission and growth of the HIV virus and those suggesting that the HIV retrovirus is a relatively harmless scapegoat. The latter group’s argument is that AIDS is a systemic condition caused by the breakdown of the body’s immune system, probably due to use of intravenous drugs and sexual stimulants<sup>29-30</sup>. They also argue that to prove that the HIV virus causes AIDS requires that this hypothesis satisfies four requirements referred to as Koch’s

Postulates, which it does not do. They also argue that when people die from AIDS it is usually difficult to find the HIV virus; doctors have to rely on the presence of the HIV antibody. In other conditions allegedly caused by a virus, it is easy to find the virus in the affected organ (eg tuberculosis or Legionnaires' disease in the lung). Also in other diseases, the presence of antibody and no antigen is taken to mean the antibody has destroyed the virus<sup>29-30</sup>.

There have not been any properly run RCTs evaluating the benefits of anti-retrovirus drugs such as AZT. In fact the cause and treatment for AIDS was announced by press release before the completion or publication of a single peer-reviewed RCT. Subsequent review of the RCT found it to be badly flawed in allowing different treatments in the two arms of the trial producing results wrongly favouring the treatment. This shortcoming in RCTs is widespread in all of the above medical areas where it is possible to do RCTs.

Partly because of the lack of properly run RCTs, brilliant scientists take sides in the debate, with researchers such as Candace Pert (discoverer of receptors on the brain for endorphins) ridiculing researchers such as Peter Duesberg (discoverer of retroviruses such as HIV) as a bunch of "nuts"<sup>31</sup>. Duesberg has been denied any future funding because of his questioning of the current unproven paradigm of what AIDS is<sup>29</sup>.

#### *The role of the media in withholding information questioning the HIV-AIDS paradigm*

Most organs of the mass media rely for their news on retaining good contacts with experts in the various fields. Medicine is no exception. What happens when a reporter wants to write a story about a different point of view, or suppression of a new discovery? A good example comes from this HIV/AIDS controversy. In his book "Inventing the AIDS Virus" Professor Peter Duesberg explains how media suppression happens<sup>29</sup>:

"Aside from inviting docile journalists to meetings and conferences and funding AIDS activist groups, the CDC [Center for Disease Control in Atlanta] and NIH [National Institutes of Health] have one other powerful tool for maintaining media cooperation. Elinor Burkett, a courageous Miami Herald reporter who wrote a major article covering the HIV-AIDS debate, explained it best as a question of "access":

'If you have an AIDS beat, you're a beat reporter, your job is everyday to go out there, fill your newspaper with what's new about AIDS. You write a story that questions the truth of the central AIDS hypothesis and what happened to me will happen to you. Nobody's going to talk to you. Now if nobody will talk to you, if nobody at the CDC will ever return your phone call, you lose your competitive edge as an AIDS reporter. So it always keeps you in the mainstream, because you need those guys to be your buddies...'

'When you call the CDC on the phone, and I called them certainly on a regular basis when I was writing that piece, they say things to you like "You will be responsible for people in Miami stopping using condoms, if you write that article." Do I want people in Miami to stop using condoms? Of course not!... There's all kinds of blackmail, and I don't mean overt blackmail. It's emotional blackmail of that sort, and it's the fact that exactly what I knew was going to happen, happened, which is, I can't get a phone call returned by any of them.'

Anthony Fauci, Director of National Institute of Allergy and Infectious Diseases, stated the point more bluntly in 1989, declaring in an editorial that Duesberg's ideas were nonsense and complaining that his views were receiving too much publicity.

"Journalists who make too many mistakes, or who are sloppy", he warned, "are going to find that their access to scientists may diminish".

And in a 1993 letter to the journal Nature, two of the most powerful virologists in Italy bared their teeth:

Your subtitle ends: "He should stop". Or, we submit, "should he be stopped?" For example, should he somehow be prevented from appearing on television to misinform individuals who are at risk from the disease? One approach would be to refuse television confrontations with Duesberg, as Tony Fauci and one of us managed to do at the opening day of the VIIth International Conference on AIDS in Florence. One can't spread misinformation without an audience.

This is similar to the attitudes of closed-minded scientists in other areas of science when their ideas are questioned.

In Australia there is no media outlet that airs views such as those of Peter Duesberg, despite the fact that evidence supporting the current HIV/AIDS paradigm is very weak.

## 4. Genetics

This area of medicine shares with the above three areas the same problem that hypotheses have been developed from correlation statistics without confirmation in a single RCT.

For example the hypothesis developed by geneticists is that human genes play a major role in the causation of diseases such as cancer, heart disease, etc. Based on this hypothesis they argued that the human chromosomes must contain about 130,000 genes, with some of them causing disease when wrongly expressed. Such abnormally expressed genes therefore become risk factors for the various diseases. So it becomes important to identify which individuals have these abnormal genes so early treatment can be provided, preferably before the disease becomes apparent.

After this hypothesis was developed it became important in identifying risk factors for disease to confirm the hypothesis and identify the link between the abnormal genes and the various diseases. This led to the two Genome Projects. Each set out to identify how many genes there are in the human genome.

When the results came in several years later it was found by both research projects that there were only between 25,000 and 27,000 different human genes compared to the 130,000 predicted by the hypothesis. This meant that the human body and its diseases were controlled by mechanisms not dissimilar to that of the fruit fly or the earth worm, both of which have a similar number of genes in their genome.

The normal scientific method would have led to this hypothesis being rejected or changed significantly. However by this time a whole new industry had developed based on this unproven hypothesis.

The rest is history. We now have medical researchers claiming that a significant number of women with breast cancer have certain abnormal breast cancer genes that they claim **cause** breast cancer, whereas the correlation could equally mean that *after* a woman gets breast cancer, the genes become abnormal. Based on these unreliable correlation statistics women *claimed* to be of high risk of breast cancer are being told they have a higher than normal risk of getting breast and that their risk of getting breast cancer and dying from it would be reduced by up to 90% if they underwent a prophylactic bilateral mastectomy, ie removal of both breasts, and also removal of their ovaries, as preventive measures.

It would be unethical to hold an RCT to prove or disprove the validity of such a claim. Despite this fact increasing numbers of women are undergoing this unproven disfiguring operation.

A group of researchers such as Bruce Lipton<sup>32-33</sup> has claimed that very few diseases are caused by abnormal genes. Those that appear to be are cystic fibrosis and Huntington's disease. In these two diseases those with genetic mutations are very likely (nearly 100% risk) to have the disease. Yet most diseases, such as breast cancer have much lower risk of penetrance, ie the chance that the genetic mutation/abnormality or *genotype* will lead to the disease, ie the person will have the *phenotype*. For women with both BRCA1 and BRCA2 gene mutations the penetrance is estimated to range from 30% to 70%.

Because the benefits of surgical treatment for breast cancer are unproven, all that results from the genetic testing is a large amount of overdiagnosis and overtreatment – much harm and no proven benefit<sup>23</sup>.

An increasing number of researchers are finding support for the alternative cancer paradigm. For example as mentioned above, research led by Australian researcher Elizabeth Blackburn suggests that some types of cancer and heart disease might be systemic diseases caused by chronic stress possibly acting through shortening of the telomeres and weakening the immune system<sup>11</sup>. This would suggest treatments based on the alternative paradigm should be used for which the evidence is growing, including RCTs evaluating psychotherapy and immune boosting treatments<sup>9-10,12-13</sup>.

*The role of the media in withholding information questioning the genetic nature of cancer and other diseases.*

Over the past few years many article have been published in the media lending support to this unproven hypothesis thereby directly contributing to the fear and an increase in the number of women seeking this experimental operation. One notable example of this was Angelina Jolie who

was portrayed as a brave woman for opting for this operation. In articles in *The Australian*<sup>34</sup> and the *Sydney Morning Herald*<sup>35</sup> she repeated what she had been told by her medical specialists: She said "she wanted to write this to tell other women that the decision to have a mastectomy was not easy," she wrote. "But it is one I am very happy that I made. My chances of developing breast cancer have dropped from 87 percent to under 5 percent. I can tell my children that they don't need to fear they will lose me to breast cancer". This was described in various articles as her having reduced her risk of getting breast cancer by up to 90%.

From the above facts<sup>23</sup>, it would appear that what she was told was quite incorrect, but the media published it with no dissenting viewpoints.

So again the media have unwittingly contributed to this overdiagnosis and overtreatment and reinforced the unfounded fear.

From the above four areas it would appear that the evidence in support of the current paradigms is either very weak or totally lacking. In fact an analysis of the scientific literature has shown that only about 11% of medical interventions have been shown to be effective in a randomised controlled clinical trial<sup>37</sup> and it is believed that the same applies to other areas of science<sup>38</sup>. The figure for cancer is claimed to be closer to 3%<sup>9</sup>.

It is claimed that the reason such a small percentage of published papers have scientific rigour is because in only about 1% of them are the conclusions consistent with the observed data<sup>38</sup>.

### **(b) Non-medical science**

It is argued above that in all the above four areas of health the consensus of experts is probably wrong as a result of introducing or changing an existing paradigm without solid scientific evidence.

It might also be argued that invalid paradigms have been introduced and accepted in other areas of science. This should not be surprising if such a small percentage of published papers have scientific rigour<sup>38</sup>. The efficacy of the peer-review system has also been questioned: eg "If peer review were a new medicine it would never get a licence... We had great difficulty in finding any real hard evidence of the system's effectiveness, which is disappointing, as peer review is the cornerstone of editorial policies worldwide"<sup>39</sup>.

## **5. Global Warming**

In the Global Warming debate the consensus opinion is based on the hypothesis that man-made CO<sub>2</sub> is the major cause of global warming. A minority of climate scientists questions this view and suggest that the lack of global warming over the past 18 years, despite the continued increase in CO<sub>2</sub>, is inconsistent with this hypothesis and claims that none of the 73 climate models predicted this relatively long pause in warming. It is clear that effects of other factors such as particular types of solar radiation must have been underestimated; other factors such as climate sensitivity must have been overestimated<sup>47</sup>, etc.

Every year new evidence appears that conflicts with the predictions of the global warming hypothesis. For example in September 2014 it was reported that "Antarctic sea ice has expanded to its greatest coverage since records began in 1978, continuing to confound climate scientists..." when the opposite was predicted<sup>48</sup>. Those supporting the anthropogenic (man-made) CO<sub>2</sub>/Global Warming hypothesis provide new explanations as to why their hypothesis continues to fail to predict the actual observed events. Australian climate scientists in fact are predicting that the lack of global warming over the past 18 years is only temporary and the warming will resume soon. They offer no evidence for this new prediction other than that the 73 climate models have predicted it. They do not explain why the predictions should suddenly start to be accurate.

As with medical scientists in the mammography screening debate, cardiovascular disease debate and the HIV/AIDS debate above, Australian climate scientists who support the consensus ridicule their opponents and attribute questionable motives to those who question the validity of their hypothesis or paradigm.

One of the first rules of the scientific method is that when the observed data does not fit the predictions of a hypothesis, the hypothesis needs to be changed or amended.

One alternative hypothesis is that one of the major causes of the global warming over the past 150

years is the variations in solar activity – ie the periodic fluctuations in sunspot activity over this period. This is claimed to have a direct bearing on the amount of radiation reaching the earth, including cosmic radiation that affects the formation of particles and water vapour in the upper atmosphere that in turn affects the amount of heat trapped above the earth – the greenhouse effect. According to this hypothesis the current pause is consistent with the recent change in solar activity and could well be followed by an equivalent cooling over the next few decades.

This and other hypotheses are ruled out by the majority of climate experts on the grounds that there is not enough known about these effects and continue to stand by their current hypothesis by overestimating the effect of CO<sub>2</sub> and underestimating the effects of other such factors.

In anticipating their present difficulties this group of climate scientists no longer use the term “global warming”. Instead they now use the term “climate change”, a concept that is harder to prove or disprove. The implication is that global warming causes climate change. This is possibly true, but if cooling sets in over the next few decades one might expect the earth’s climate to normalise. On the other hand some climate scientists argue that there is little evidence for “climate change” as the claimed increase in severe events and their intensity is not statistically significant. The issue is further confused by the increasing use of the word “carbon” to mean both carbon pollution particles in the air, a real product of human activity, and carbon dioxide gas.

As with most controversial areas it is likely that there is some truth on both sides and the past global warming is possibly due to several factors that worked together to cause some global warming. In this sense the current pause could simply reflect a balance between one or more warming factors and other cooling factors of a similar magnitude.

The problem is not with the ambiguity of the science but with the majority of climate scientists both under-estimating the uncertainty of the effects of the individual contributing factors and not understanding how to calculate the risk of the combination of these contributing factors. To any statistician, combining the risk of two correlation factors claimed to occur at the same time (eg human activity being the major cause of an observed increase in CO<sub>2</sub> level; and this increase in CO<sub>2</sub> being the main cause of global warming) cannot possibly have a confidence level over 95% - as claimed by the Intergovernmental Panel on Climate Change (IPCC) unless each of these effects is known to be true with a confidence level in excess of 95%. Some statisticians claim that this is impossible for statistics based simply on correlation factors – ie factors that have not themselves been proven to have a 100% direct cause and effect link.

As outlined in items 1-4 of section (a) above it is difficult enough to demonstrate proof of cause and effect with randomised controlled trials in medicine which requires the variation of only one factor between two accurately matched groups of humans. It is many times more difficult in climate experiments where it is not possible to carry out simulated experiments of the weather on a global scale in which only one factor is varied at a time.

#### *The role of the media in withholding information questioning the global warming hypothesis*

Among the major Australian media, only *The Australian* has provided a balanced reporting of both sides of the debate, despite its editorial supporting the majority consensus of climate scientists. Newspapers such as the *Sydney Morning Herald* rarely mention the views of those who question the current consensus, thus depriving its readers of information they need for deciding which side of the debate to support.

Like the *Sydney Morning Herald*, Australia’s *ABC* also rarely mentions the views of those who question the current consensus. When it does it does so with disparaging comments. For example when the *ABC*’s “Lateline” interviewed former *ABC* Chairman Maurice Newman on 22 April 2014<sup>49</sup>, presenter Emma Alberici shared the assumption that the majority of experts must be right when she said:

“Nineteen academies of science across the world, including I have to say the Australian Bureau of Meteorology, the CSIRO, NASA, the American Academy of Sciences, the British equivalent, the Canadian equivalent, some really reputable bodies around the world are now agreeing that it’s human activity that’s causing climate change. So I’m wondering, who is it that’s influencing you so that is so convincing you otherwise? .....

.....But I’m just going on people with great reputations around the world, including our own Chief Scientist, Greg Hunt, the Environment Minister, Tony Abbott, the Prime Minister. I mean, around the world, there seems to be consensus that it is a man-made phenomena. (sic)”

In fact several from ABC management, including members of the ABC board such as Professor Fiona Stanley, openly oppose balanced reporting, despite it being a requirement in ABC's charter. On 18 September 2014 Fiona Stanley claimed that the ABC provides accurate and unbiased reporting in a country "poorly served by other parts of the media". She then went on to claim that the "requirement for balance does not mean bad science should be reported with the same emphasis as good science"<sup>50</sup>. Presumably the ABC knows which is the "good" science and which is the "bad" science when the scientific community itself is divided.

The above argument is identical to that used by *The New York Times* in 1980, referred to above, in arguing for the acceptance of the now questioned paradigm on saturated fats and cholesterol being the main cause of heart disease. Journalists who believe science is based on majority opinion of experts do not understand the scientific method.

A recent article in the Sydney Morning Herald quoted from Dr Helen Cleugh<sup>51</sup> as follows:

CSIRO research has shown that there is less than 1 chance in 100,000 that global mean air temperature over the past 60 years would have been as high without human-caused greenhouse gas emissions. That is, the probability of global temperature increases being due to human activity exceeds 99 per cent.

This statement first suggests that human activity has *contributed* to global warming – a valid statement. It then goes from this to the conclusion that there is a more than 99% confidence that the recent global temperature rise has been *mainly* due to human activity – a claim even more extreme than that of the IPCC. Yet there was no article or letter published questioning the absurdity of such a claim.

In recent months the global warming debate has entered a new phase. In a wide-ranging article<sup>52</sup> *The Weekend Australian* quotes from several leading climate scientists who are becoming increasingly sceptical of the global warming data as the planet reaches 18 years without warming. In particular it quotes Garth Paltridge, former Chief Research Scientist with CSIRO's Division of Atmospheric Research as saying:

Post-modern science envisages a sort of political nirvana in which scientific theory and results can be consciously and legitimately manipulated to suit either the dictates of political correctness or the politics of the government of the day.....We have at least to consider the possibility that the scientific establishment behind the global warming issue has been drawn into the trap of seriously overstating the climate problem in its effort to promote the cause. It is a particularly nasty trap in the context of science because it risks destroying, perhaps for centuries to come, the unique and hard-won reputation for honesty which is the basis of society's respect for scientific endeavour<sup>52</sup>

This description of the risk to science's reputation applies equally to the other four areas above although the minority of medical sceptics are not as well represented in the media as are the global warming sceptics, and it will take longer for the claims of "experts" in these other areas to become as widely questioned, even though it is much easier to question their science.

## Conclusion

It would appear that most of Australia's media share Fiona Stanley's belief that it is the responsibility of the media to only report one side of these important debates, viz the side of the consensus of "experts". *The Australian* is an exception in that it presents both sides of the Global Warming debate. With this exception the Australian media have unwittingly contributed to this situation by withholding vital information from the Australian public that is needed for them to make important decisions about their life, including their survival.

In each of the four areas of health referred to above all of the Australian media have unwittingly contributed to this situation.

*The Australian Financial Review* has published one full-page article presenting the views of those questioning the benefits of prostate cancer screening and treatment<sup>53</sup> and has published most of the letters from *CISS* that have questioned claims made by prostate cancer "experts".

In other words with these few exceptions, in an overwhelming majority of articles on the above five issues, the consensus view of experts is the only one represented. Whereas in the very small number of cases where the alternative viewpoint is expressed, the consensus view is always provided to ensure "balance".

## Summary

There is strong evidence that, in the five controversial areas of cancer, cardiovascular disease, HIV/AIDS, genetics and global warming, the consensus of the majority of “experts” is probably incorrect in that observations are in conflict with those predicted by the current paradigm or hypothesis.

When only this consensus view is reported it results in the community being subjected to unnecessary harm either to their health or their financial situation.

Yet viewpoints questioning the consensus of experts are rarely presented.

I believe that it is one thing for science to gradually lose its integrity as a result of vested interests. It is worse when the media take sides in the scientific debates. Free media are an important part of a democracy by ensuring both sides of debate are heard. Its responsibility is weakened by this lack of impartiality.

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## Author’s credentials

Don Benjamin is a former CSIRO Experimental Scientist. During his 25 years as a scientist he was part of a team of five scientists, technical officers and laboratory craftsmen who successfully completed a project to establish an absolute measurement of voltage that became the new international standard. This success was in competition with four other similar standards laboratories in Germany, Japan, the US and the UK. The project required very accurate calculation of a voltage value using three main factors and combining each factor with its level of uncertainty:

1. the height of a column of mercury derived from a series of readings over a short period (similar in concept to drawing a line of best fit through global temperatures);
2. the density of liquid mercury; and
3. the local value of gravity.

When the uncertainties of these three factors were combined, the uncertainty of the value of resulting voltage was a few parts in ten million (at a 95% confidence level)<sup>55-56</sup>.

The above research required an advanced understanding of statistics. His subsequent study for his Masters degree included a study of medical statistics. He has subsequently used this knowledge in running a randomised crossover trial to evaluate the benefits of pulsed magnetic therapy for cancer, in evaluating the results of published RCTs and writing several papers and submissions reviewing the results of RCTs on behalf of a cancer charity<sup>3,9,10,14</sup>.

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