

A precautionary tale about Wifi

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We thank Anne for her contribution and we hope for many responses to the research she presents – refer to footnote for other articles by Anne on wifi and electromagnetic radiation.*

A figure from Greek mythology came to mind when the World Health Organisation (WHO) in May 2011 announced it was classifying radio frequency radiation, (a non-ionising type of electromagnetic radiation) as a Class 2b possible carcinogen¹: It is Cassandra, the Trojan woman Homer writes of in his epic, the *Iliad*. On viewing the monumental horse left outside the city gates, she senses ruin and desperately warns the Trojans against hauling the Greek trophy inside. Her warnings go unheeded. The Greek soldiers hidden within the Trojan horse plunder and burn the city then murder its citizens.

Cassandra's call for caution is embodied today in what is termed the 'precautionary principle'. The precautionary principle or precautionary approach propounds: If an action or policy carries a risk of harming people or the environment, in the absence of scientific consensus the burden of proof that it is not harmful falls on those taking the action. Upholding this principle is one means of keeping the lid on 'Pandora's box'.

Timing is critical when giving a warning. Cassandra had the good sense to warn the Trojans before they opened the gates. The World Health Organisation's warning about radio frequency radiation's possible carcinogenic risks comes at a time when many technologies using this type of radiation are already a fixture of our 21st century lifestyles. They include the cell phones we use, the neighbourhood cell phone towers and antennas; cordless phones; wireless baby monitors; smart meters to measure electricity and/or water usage, wifi routers in homes, schools, offices and public places including coffee shops, buses, trains, airports, hospitals and hotels.

Only days before WHO's announcement on radio frequency radiation, The Parliamentary Assembly Council of Europe released its own cautionary warning: In resolution 1815 on the *Potential Dangers of Electromagnetic Fields and their effect on the Environment*, they state: '... *Certain high frequency waves used in the fields of... telecommunications and mobile telephony, appear to have more or less potentially harmful, non-thermal, biological effects on plants, insects and animals as well as the human body even when exposed to levels that are below the official threshold values...*'²

There have been earlier alerts such as *The Freiburg Appeal* 2002, when German physicians requested tougher guidelines for radio frequency exposure.³

Then in 2007 a group of 14 international scientists released *The BioInitiative Report*⁴. This report examined 2,000 peer-reviewed papers linking extremely low frequency (ELF) electromagnetic fields and radio frequency radiation with health symptoms ranging from headaches and concentration difficulties through to serious illnesses such as cancer, Alzheimer's and Electrosensitivity in humans. The evidence they uncovered has created unease over the current exposure levels and 'safety' guidelines set by The International Commission on Non-Ionising Radiation Protection (ICNIRP). The ICNIRP standards are set at thermal (heat) effect. Many scientists and medical doctors claim these standards are obsolete, due to research finding adverse biological affects at athermal levels. In 2009 a group of scientists produced the Seletun Scientific Statement calling on governments to adopt new EMF safety guidelines. Current EMF limits they find fail to protect public health⁵. Countries such as Russia and Poland have opted for stricter standards than those of the ICNIRP.⁶

1 http://www.iarc.fr/en/media-centre/pr/2011/pdfs/pr208_E.pdf

2 <http://assembly.coe.int/Mainf.asp?link=/Documents/AdoptedText/ta11/ERES1815.htm>

3 <http://electromagnetichealth.org/electromagnetic-health-blog/resolutions-and-appeals/>

4 www.bioinitiative.org

5 <http://electromagnetichealth.org/electromagnetic-health-blog/the-seletun-statement>

6 http://www.northbyram.org/routeb/pdf/WHO_ELF_EMF_june07.pdf

With an estimated five billion cell phone subscribers around the world, there are huge economic investments at stake. The global telecommunications industry is estimated to be worth US\$1.9 trillion dollars annually⁷. At the other end of the equation, should evidence against radio frequency radiation keep mounting, the potential costs of lawsuits citing health damages caused by these technologies could result in similar eye-watering figures.

Unlike New Zealand, parts of Europe have already taken a precautionary approach with their use of wifi in schools. Opponents of wifi believe children are especially vulnerable. 'A 5 year old child will absorb around 60 percent more radiation than an adult'⁸. They have thinner skulls, softer bones, underdeveloped immune systems, and their cells are dividing faster which heightens the potential for DNA damage. They will also have a longer lifetime of exposure to these electromagnetic frequencies than today's adults.

In 2005 the Salzburg Medical Director of Public Health, Dr. Gerd Oberfeld sent a letter to all schools in Salzburg warning against the danger of wifi in schools.⁹ In the same year Professor Olle Johansson, a neuroscientist at the Karolinska Institute in Sweden also sent out a letter to concerned parents quoting research showing the link between radio frequency



Cassandra 1891, by Evelyn de Morgan (1855-1919).#

radiation and health effects¹⁰. In 2009 Dr. Magda Havas, an Environmental toxicologist at Toronto University, Canada, sent a letter to all School Principals and School Boards in Canada warning against the use of wifi in schools on health grounds¹¹.

As early as 2006 the School Education Office in Frankfurt decided as long as wifi was not proven safe they would not introduce it into their schools. In France the city of Herouville St. Clair, has also removed wifi from primary schools. A number of other institutions in France such as the Sorbonne University, Sainte-Geneviève University, and the National Library of France have also removed wifi technology based on health concerns.¹²

In New Zealand we have no restrictions on the use of wifi in schools, however the Ministry of Education *National Administration Guidelines* does state that boards of trustees are required to 'provide a safe physical and emotional environment for students.' In light of the recent WHO classification of radio frequency radiation as a class 2b possible carcinogen it is time schools take a precautionary approach and opt for cable connections.

We are at a crossroad: either heed Cassandra's warning and take the precautionary route or hope that the gift of those free wifi hotspots dotted around the city and in many of our cafes and libraries are not a 21st century Trojan Horse. ♦

7 <http://www.totaltele.com/view.aspx?ID=466325>

8 The Stewart Report, 2000, 6.63-6.68

9 <http://www.antennafreeunion.org/salzburg.pdf>

10 http://www.powerwatch.org.uk/pdfs/20070723_wifi_olle.pdf

11 www.electricalpollution.com/documents/WiFischools09.pdf

12 <http://www.safeinschool.org/2011/01/wi-fi-is-removed-from-schools-and.html>

Footnote * *Gastinger, A* : Wifi in schools - at what costs?, in: *Organic NZ*, November/December 2010, Vol 69, No. 6, p. 32-33;

also: <http://www.organicnz.org/organic-nz-magazine/wifischools/> ... : Crimes against Nature. Electromagnetic radiation harms bees and other living things, in: *Organic NZ*, November/December 2011, Vol. 70, No. 6, p. 36

Footnote # http://commons.wikimedia.org/wiki/Main_Page