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I am happy to have this opportunity to express my opinion on the subject of sanitary impacts of electromagnetic radiation (EMR), as I have been studying this subject for all of my scientific career, which included 10 years in the power industry, consulting work for Nortel and Siemens, as well as 32 years with McGill University, where I am presently at the Faculty of Medicine, directing the Occupational Health program.

All of the testimonies supplied by industry claiming the EMR is innocuous are from individuals who have never personally worked on the subject of health impacts of EMR, but are relaying industry views produced from chosen concepts that distort the true science on this subject.

Since EMR is imperceptible to most of us, and since wireless has been widely deployed, it is easy to promote the idea that it has no sanitary impacts.

Statements that EMR is *non-ionizing* and below *thermal levels* are easy to understand: public relation tricks that divert attention from the scientific knowledge we have accumulated on this over the years in laboratory science, animal experiments, and epidemiology.

Enthusiastic acceptance by the public of the convenience of wireless, the attractiveness of bright computer screens, coupled with the unrelenting invasion of our privacy by communications software have given the wireless industry inappropriate control of

**1968 Health Standard on  
Electromagnetic Radiation  
developed by 15 people...**

10 from the Armed Services,  
1 from the Petroleum Institute,  
1 from Space Administration,  
1 from General Dynamics,  
1 from the US Treasury, and  
1 from the US Public Health Service.

This bias is maintained until today in the International Commission on Non-Ionizing Radiation Protection (ICNIRP) and the Federal Communications Commission (FCC).  
Are exposures appropriate for a fighter pilot in his F-16 acceptable for your daughter in school?

the public space, allowing them through publicity to overstate usefulness, and to hide the associated health impacts.

Human health was disregarded as an influence in the deployment of EMR because it

was initially captured by the military, due to the importance of wireless in war, and swiftly passed into the hands of industry, which imagined enormous markets for wireless, that they wished to expand much beyond rational needs. In their view, our society should become dominated by automat communication, rather than human communication. This would allow unlimited expansion of computer chips, but would ultimately push humans into a servile role within society, real power resting in the hands of the very few large organizations (corporations and governments) who own networks, and the ability to digest massive amounts of information.

The groups pushing for 5G (mostly IEEE) do so in the context of commercial greed and of self-delusions that wildly exaggerate the impact and importance of their innovations, while at the same time ignoring more powerful technical possibilities such as wired connections and optical fiber. In short, industry takes no account at all of sanitary impacts, simply because, in the words of Louis Slesin, the editor of Microwave News in New York City, “they do not want to know”.

Technology, contrary to what is publicly expressed by Tom Wheeler of the US FCC

(<https://www.youtube.com/watch?v=OMxfffqyDtc&feature=youtu.be&t=2m41s>)

is not a simple ballistic development that invents itself without reference other than profit.



*Adam Smith  
The Wealth Of Nations  
(1776)  
Book IV, Chapter VIII,  
p. 145,  
paragraphs c29-30.*

To widen the market and to narrow the competition, is always the interest of the dealers...

The proposal of any new law or regulation of commerce which comes from this order, ought always to be listened to with great precaution, and ought never to be adopted till after having been long and carefully examined, not only with the most scrupulous, but with the most suspicious attention.

It comes from an order of men, whose interest is never exactly the same with that of the public, who have generally an interest to deceive and even oppress the public, and who accordingly have, upon many occasions, both deceived and oppressed it.

SMITH WARNS US ABOUT LETTING THE MERCHANTS MAKE THE RULES

Technology should be steered in directions that humans wish to happen, and there are many ways in which human exposures to EMR can be substantially reduced, and privacy conserved, that in no way interfere with human technological development.

In many parts of the world the situation is already intolerable, as shown by the emergence of electro-hypersensitive populations, and “*unexplained*” increases in many chronic diseases. But such excesses were anticipated by Adam Smith in *The Wealth of Nations* in 1776, and will prevail unless discussion is promoted on a more rational ground.



Is it necessary to wait for sanitary risks to become so large that they cause scandals, bankruptcies and massive death and morbidity before action is taken?

Such has happened in England in

1952, where 12,000 people died within 4 days because of atmospheric pollution. It also happened in the USA in a less dramatic way, where 10 IQ point were lost by 15 million US children as a result of the decision to introduce of tetraethyl lead instead of ethanol in gasoline, starting in 1921.



Note that neither Swiss RE nor Lloyd’s of London will underwrite risks associated with EMR wireless exposure, and that these limitations are included in fine print in domestic insurance and in cell phone instructions.

5G is slated to increase individual exposures to EMR substantially, while touting benefits of faster video downloads and much reduced network latency.

We argue that wireless phones have already provided the benefits to society that they could, in the portability of important and short communications. Why is it necessary to download a 3 hour film within 3 minutes rather than 20 minutes? The reduced latency argument is valid for relations between computers only, and has no

value for humans. In this perspective, 5G could be deployed within the walls industrial plants, but should not be allowed to pollute the general environment.

The evidence for the negative health effects of EMR is clear in cancer studies (physiological, animal and humans) and in epidemiology. What this evidence shows most glaringly is that the recommendations of the International Commission on Non-Ionizing Radiation Protection, a self-appointed body dominated by industry, gives a new meaning to the word “protection” as

**CANCER**

Using laboratory experiments on cells, it has been obvious for years that the FCC limits do not protect us. Now, we have a succession of experiments on animals (rats and mice) that is entirely convincing.

Chou (1992)  
Repacholi (1997)  
Lerchl (2015)  
NTP (2019)  
Ramazzini (2019)

Experimenting on animals is the best method we have of predicting impacts on human populations. Take advice from 4,288 rats and 2,180 mice...or are they biased?

Not only is there overwhelming cell and animal evidence, but there is also human evidence from epidemiology.

**A STRONG TELECOMMUNICATIONS SYSTEM THAT MINIMIZES HUMAN EXPOSURES TO ELECTROMAGNETIC RADIATION**

- Re-Design Cell Phone hardware
- Improve Cell Phone use habits and accessories
- Use Cellular Phones as intended, rather than as mobile entertainment centers
- Heavily favor Optical Fiber to the home (10 MGB/s)
- Use LiFi

You are free to use WiFi in your home, if you wish, in the same way that you can smoke if you want. But you should not impose the exposure on others, many of which cannot tolerate it, and would need to escape society to survive.

*investment* protection, while it claims to give protection to the *public*...

I would urge you to reject 5G, support alternative and superior telecommunications techniques that allow for individual choice in exposures, rather than coercitively imposed shifts in the human environment,

changes that human and other living tissues were never meant to endure.



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