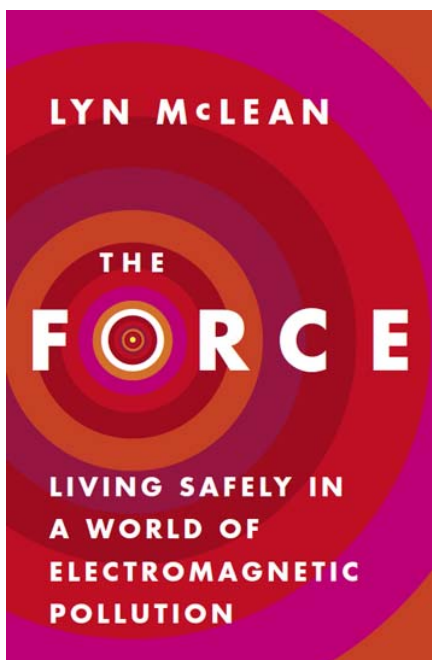


The Force: living safely in a world of electromagnetic pollution



The Force: living safely in a world of electromagnetic pollution

Lyn McLean

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As Hamlet told Horatio: “There are more things in heaven and earth than are dreamt of in your philosophy”¹. This could be a slogan for much of what affects our lives today. We live almost constantly immersed in an electromagnetic ‘soup’, but most of us are unaware of it. In *The Force*, Lyn McLean renders this soup visible and exposes much of the misinformation and obfuscation perpetrated by those with vested interests. She compares the current state of denial of adverse health impacts to the situation that for so long surrounded asbestos and tobacco.

Electromagnetic radiation (EMR) is invisible, odourless, tasteless and ‘touchless’. If it causes ill health it can be difficult to pin down as the cause. However, once data is gathered for a large number of people, statistical analysis implicates EMR in increased incidents of cancer, fatigue, behavioural changes, mood changes and reduced

mental clarity. EMR is produced by every electrical and electronic device, electrical wiring and switches, and its prevalence is increasing.

Lyn McLean has produced an important book, which hopefully will make more people aware of the dangers and what we can do to minimise the effects that EMR may have on our health. For those who know little or nothing about EMR, she starts the book with explanations of what it is, how it is produced and how its production is regulated or fails to be adequately regulated. While Lyn McLean is an Australian researcher and writer and she gives preferential treatment to the situation in Australia, she also quotes extensively from overseas research and regulatory and industry situations.

More than one quarter of the book is about the health implications of exposure to EMR. The author methodically goes through what is known about the mechanisms by which EMR affects living organisms and what is postulated. Much of the research done by the mobile phone industry, for instance, has concentrated on the heating effect of mobile phones on biological tissue (not always alive) and has ignored the effects it may have at a cellular or other level. There is growing, independent research that EMR from mobile phones and other devices can disrupt proteins, hormones, neural processes, even gene expression and other components and processes of living organisms and that the effects are cumulative. Also, the heating effect is often made less of by averaging it over the total body weight of a person. As Lyn McLean points out, this is akin to quoting the effect a candle flame has on a finger as the average increase in body temperature when the finger is held in the flame.

The author also deals with other devices and equipment we use and have around us, such as cordless phones, computers, televisions, switching equipment, transformers and high-tension transmission lines. She gives many examples of the way technology which produces EMR is burgeoning; for instance the school in the USA that has 304 mobile phone antennas located within 400 metres of the campus; and that in some countries there are more mobile phones in use than there are people. She further voices concern that children seem particularly susceptible to the effects of EMR with, for example, statistically significant increased instances of leukaemia in children who live in the vicinity of high tension transmission lines, compared with those who live away from them.

As mere consumers, we rely on governments and regulatory authorities to keep us safe, especially when the potential dangers we face are far from obvious. Unfortunately, as so often is the case, the safety regulations relating to mobile phone and mobile phone towers are heavily influenced by the industry and are, according to Lyn McLean and many engineers and scientists, too lax.

The layperson has very little to base choices and decisions on – unlike with other consumer items, where many inherent and potential dangers relating to their use are clear. The author recommends strongly that no-

one, and especially no children or teens, should sleep with a mobile phone or cordless phone under their pillow or next to their bed; and there are other devices that should not be anywhere near where we sleep.

One argument often used to counter concerns about adverse effects of EMR is that there is no known mechanism by which EMR can affect those exposed to it. This is a spurious argument – the fact that something cannot be explained does not make it disappear. In fact, since the book was published, there has been research published that shows that electric fields (a component of EMR) has an effect on the way nerves function². Earlier research points to the effects of microwaves on the folding of proteins³.

Although Lyn McLean is an advocate for more stringent and much clearer regulation and the dissemination of better and more honest information about EMR, this book is not a one-sided polemic. She appears fair in her examination of the health data and the regulatory situation, criticising or praising as appropriate, although she points out that the situation is heavily skewed in favour of industry. Because we are going to be living in this soup for a long time, and the soup will definitely get thicker before it is, hopefully, eventually watered down, Lyn McLean also devotes a large part of the book to information on reducing our exposure to EMR, through lifestyle changes and changes in our homes and workplaces.

As a result of the levels of EMR all around us, many people are becoming ill or dying unnecessarily, because something *can* be done about the causes. This book is an important source of information, data and advice to allow each of us to be better equipped to make choices if we feel sufficiently motivated. It contains many illustrations, tables and graphs to support what is known from research, as well as extensive lists of current regulations and recommendations relevant to Australia and many other countries. There is also a useful index.

As with so many controversies surrounding things we take for granted, we may need a wake-up call and then assistance in navigating our way. *The Force* fulfils all these requirements and should be read by everyone: layperson, regulator, scientist, teacher, student, parent, researcher, politician, journalist ... everyone.

1. *Hamlet*, Act 1, Scene 5, William Shakespeare.
2. see *Nature Neuroscience*, 14, 217-223; 2011 (www.nature.com/neuro/journal/v14/n2/abs/nn.2727.html)
3. see in PubMed: www.ncbi.nlm.nih.gov/pubmed/11088227