It makes you think...

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It can be argued that the development of human enterprise has been made possible by specialisation. It may have been an inspiration which led to the invention of the wheel, but it was the generations of specialist wheel makers who were able to develop ever better wheels. But, would these specialists have come up with the concept of gears? As specialist wheel makers, the idea of a wheel with teeth would have probably seemed like a heresy. So what was it that allowed the shift to take place from a wheel that helped objects move across a terrain to a wheel which was essentially static but helped other things to move? I suggest that it was someone who was not a specialist wheel maker; someone who was not stuck in a very particular way of looking at the world.

In order to develop an object or class of objects, it is essential that a number of people become so obsessed with it, that they can think of nothing else. This, unfortunately, carries with it a danger - these people become blind to other possibilities and ideas. In fact, they can become so blinkered that they develop a hostility to ideas outside their own specialty.

This is true not just for the development of objects, but also for the development of ideas. Breakthroughs in thinking are the result of someone who is outside a discipline seeing the obvious which is hidden from those within the discipline.

Frequently, one reads reports of a scientific development or an experiment and immediately asks: "Why don't they…?". It is likely that in many cases those involved in the development or experiment have asked this question themselves, but I suggest that in some cases they have not.

Many years ago, there was a strike of medical doctors in the western USA. The death rate dropped during the strike. Some people did look at what might have caused the drop in death rate. One cause was the obvious drop in deaths caused by doctors in hospitals (in the USA, Australia and the UK, for which figures are available, the rate of such deaths is around 1 in 1,000 of the population each year). Another quoted cause was the people who were at Death's door but believed that they could not go ahead and die without a doctor. Yet another cause was the large number of people who took responsibility for their own wellbeing in the absence of doctors.

I am not aware of any further thinking that has gone into these phenomena. What can we learn from this? What changes could we make in the way health care is delivered? What does it say about people's attitudes to doctors? What does it say about the way many people have given up responsibility for their own lives?

In the 30th March 2002 issue of *New Scientist* (page 12) is an article: "Phone chips could provide instant warning of bioattacks". The article reports on research into the use of mobile phone chips to detect the presence of bioweapons. Apparently, proteins emit microwaves at a frequency of several gigahertz, within the range of the mobile phones. The signals are very weak, but detectable. One of the researchers, Lydia Sohn, said: "…most proteins emit some kind of microwave…".

I am prompted to ask a number of questions:

- Why do proteins emit microwave signals?
- Are these signals used in biological processes within the body?
- Could external microwave energy interfere with biological processes?
- If so, is this an area which would yield vital information on the effects of mobile phones on human health?

The public has, on the whole, been told that there is no danger from the use of mobile phones, because no dangerous effects have been observed. Maybe the researchers have been looking in the wrong place. I suspect that there is more we do not know about the human body and the processes taking place there, than what we do know. Humility can lead to an open mind and the admission of ignorance can lead to discovery.