

Predicting the future!

In the past, weather prediction was part of people's daily conversation, particularly in the UK where the weather can be so variable! Today (2023) however meteorologists can predict with accuracy local weather for up to three or four days ahead and with ever improving computing technology, prediction can be extended to weeks. This has all come about with the emergence of technologies from and after the 1980s including high power computers, sophisticated numerical modelling and global sensor data. The even longer-term numerical modelling prediction of global warming has also provided compelling evidence about the dangers of the world's past excessive reliance on burning fossil fuels.

Although catastrophic events such as massive volcano eruptions can also be modelled, no one knows quite where, when, and to what magnitude these events might occur. Similarly with earthquakes, we are aware that they will happen but still do not know exactly when. There still some uncertainty in the prediction of even physical events such as global weather patterns.

Predicting the state of the world in say 25, 50 or 100 years time is many orders of magnitude more difficult than predicting global weather! Modelling human behaviour is in its infancy and even then, the potential, unpredictable behaviour of individuals results in a huge cocktail of complexity.

A clue as to how the world will develop in the future is to look at scientific, innovation, technology and engineering tools that are currently available, as these have been the main drivers for change, certainly over the last century.

The scientific discovery of atomic physics for example in the 1900s followed by quantum mechanics has resulted in technologies of nuclear reactions and solid state electronic devices. Now, one hundred years later both technologies dominate our current pattern of life. Nuclear power and the threat of nuclear war are very high profile and our reliance on computers and mobile phones is an example of just how far solid-state electronics has become part of 'our own human DNA'.

Scientists, innovators, technologists and engineers are the people who now most influence changes in the world.

The combined proven power of IT and the nascent application to Artificial Intelligence (AI) will certainly change the way we live in the future. Also, the full realisation that the massive burning of fossil fuel in the past was wrong, both in terms of global warming and possibly in the distortion of huge global wealth to oil and gas rich countries, will be fully recognised.

History over many centuries has told us 'cash is king' and I do not see that changing. I can only hope that in the future, the distribution of 'cash' is more equitable around the world and scientists, innovators, technologists and engineers will recognise their deep responsibility to a fast changing world. These are hopes; not predictions!