

A quantum perspective:

an analogy for a GP worldview?

A DIFFERENT PARADIGM

At the beginning of the 20th century many physicists felt there was little left to uncover.¹ It took the genius of Albert Einstein to challenge the prevailing Newtonian laws of motion. Einstein showed that what was thought to be inherent in phenomena was merely a manifestation of how we chose to talk about them. Relativity reveals an integrated and dynamic universe. Time, for example, is not absolute, but part of the fabric of the universe and relative to observer perspective. The faster an observer travels, the slower time passes relative to the perspective of one travelling at slower velocity. Einstein was also pivotal in the development of quantum theory, which successfully predicts the workings of subatomic particles. Quantum theory successfully explains all of chemistry and most of physics, and has enabled the development of important resources such as computers, electron microscopes, and MRI scanners. Many of quantum theory's fundamental features hint at an underlying reality that is probabilistic and not fully knowable. Wave-particle duality, for example, demonstrated that every elementary particle can be described in terms of both a particle and a wave. Another fundamental, first captured in Heisenberg's uncertainty principle,² demonstrated that observation of the quantum world alters its qualities. Quantum objects seem to exist in many different states at one time, only being forced to collapse and adopt definite states by the act of measurement, which is encapsulated in Schrödinger's formula.³

Both relativity and quantum theories changed how we look at the world. Both recognise that cause and effect is not always linear and our view of the world is inherently biased. They were built mathematically on thought experiments and partially confirmed by empirical findings. Gödel's incompleteness theorem, which showed that mathematical-based theory will always be incomplete,⁴ and the uncertainty principle illustrate fundamental limitations to our abilities to understand and predict the universe. This is perhaps unsurprising as our brains have evolved to observe and rationalise the physical world from the perspective of living on Earth. In addition, our right brain enables us to view the world as dynamic, interconnected, and implicit, and to accept that things may never be fully known.⁵

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HOW DOES THIS RELATE TO GENERAL PRACTICE?

Illness can be predictable, for example, the second law of thermodynamics teaches us that degenerative disease and death are inevitable consequences of life. But illness is also dynamic: evolution demonstrates that viruses and bacteria continue to develop and thrive, and environments and our interactions with them are in flux. Illness is also a construct relative to historical time periods and cultural contexts.

In general practice, although advances in science and technology improve our understanding of illness, our quantum perspective acknowledges and accepts we may never know precisely what is going on. We operate in a world that is uncertain, probabilistic, and where cause and effect may be multifactorial. Patients present with symptoms whose origin does not fit the traditional medical-model worldview we are exposed to during most of our training. In dealing with such presentations we use judgements involving probability calculations of the presence of serious physical illness. Complexity science,⁶ which encourages a non-reductionist, non-linear approach to studying complex phenomena and allows for multilevel analysis from the micro to the macro, may help underpin our approach in the future, but will not provide all the answers.

During consultations we act as observers. Neuroscience teaches us cognition is intimately connected with our emotions and true value-free observation is unlikely.⁷ Effective practitioners acknowledge the

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inherent bias. During consultations we may glimpse inner realities that appear alien to us. We acknowledge our inner prejudices and accept the patient as they are, while sensitively but accurately ascertaining their experiences and feelings. Generalisation of quantum theory's observer effect demonstrates that the act of observation can change our and our patients' realities in ways that may be helpful. We deal with patients' multidimensional presented selves, which we help co-create by encouraging and respecting their narratives.

GPs are often in a position of power relating to who frames issues and whose version of reality holds sway. By being empathic, power is equalised and meaning co-created.⁸ A quantum perspective is a useful tool in a GP's repertoire.

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