

CHAPTER TWO

IT'S THE CHEMISTRY OF LIFE...

The life of the body all starts with the fusion of two cells to make one – the tiny zygote from which all of the amazing cells, tissues, organs and systems of our brilliant bodies grow. Or is it sex it all starts with? The egg, or the chicken? We'll save sex for later, sprinkling it about here and there to spice up our anatomy life...

Actually, when you get down to it, it's about *chemistry*. Groans often ensue when people hear this word. But chemistry is just the language of the physical world. Chemistry is about how energy arranges itself to form matter. An endless dance of atoms, forming and reforming molecules, which get together with other molecules, which get together with other molecules to make – everything! Here is where modern Western science and mystical/religious/shamanic/energetic traditions agree:

Everything that exists is made of energy!

What is energy? It's a word we apply in all sorts of ways – oomph, zest, life-force, physical energy, mental energy, emotional energy, spiritual energy, kinetic energy, chi, agni, prana, pneuma, nuclear energy... the stuff which allows other stuff to happen.

Of course in Western science, the definition is narrower: energy is defined as the capacity of a system to do work, and is measurable by instruments. This definition of Newtonian origin (17th century) really came into its own in the 19th century, the Industrial Age, and perfectly reflects the work ethic of that time.

Interestingly, in the last fifty years, science has also realized that energy is the stuff that drives the universe, drives every event in the universe, and is in fact the basic constituent of the universe. Although it can be measured and quantified, we have no real idea what it actually is. Physics finds that energy is the most fundamental property of the universe; everything can be created by or dissolved into energy, including matter itself.¹⁴ There is a background buzz of energy everywhere – the 'Zero Point Field.'¹⁵ More on this later.

Consider Einstein's famous equation $E=mc^2$ (energy is equal to matter times speed squared).

¹⁴ Heinz R. Pagels *The Cosmic Code: Quantum Physics As The Language Of Nature*.

¹⁵ Lynne McTaggart *The Field*.

It kind of means, energy cannot be destroyed, only move or change from one form to another. The movements and changes in energy are produced by forces – such as by the push and pull of electrical force, and the pull of gravity, which is produced by all the local matter being attracted to all the other local matter (we experience this by being attracted to, or pulled, to the earth).¹⁶

Ancient spiritual systems throughout the world – including Vedic knowledge in India, shamanism or Earth-medicine (of which all tribal peoples have a version) and spiritual healing methods – all agree with modern physics on this business of energy being everything, but give this a different slant. Everything that exists is made of energy, including us. Because of this, we can communicate with everything – there is a place within us that can experience and in a very subjective way understand and use this energy. This approach is not separable from living in close harmony with what is all around us: nature.¹⁷ Vedic practice is about realizing one's true nature; realizing that one is pure consciousness, therefore knowing everything, having access to all knowledge from within. Shamanic practices using this principle include weather-working (affecting the weather by dedicated relationship with the Weather Gods); remote viewing to find animals or plants needed for survival; and uncovering the causes of illness.

Of course 'subjective' is a bit of a dirty word in Western science, which prefers things to be objective, to know how things are in and of themselves. However, more and more data is emerging about the profound effect the experimenter has on the experiment (an experiment being something which looks for objective facts); just the fact that someone is experiencing an experiment (subjective) can change the result that actually occurs (objective). Therefore a truly 'objective' result seems impossible.

Many people working in the field of holistic medicine consider that totally new research paradigms are needed to properly research the field. Perhaps, in attempting to be totally 'objective' we may be in danger of cutting ourselves off from the depth and power of our subjectivity, and have it rule us by our ignorance of it.

Some of the 'energy' that powers us humans, enables us to think and move and learn and love and play and work, is **electricity**. Our cells are powered by electric fields, generated by

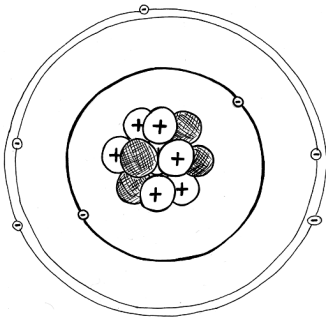
¹⁶ To do the great Albert Einstein justice, he in no way saw the universe as empty and mechanistic. To quote him, 'The most beautiful and most profound emotion we can experience is the sensation of the mystical. It is the power of all true science. He to whom this emotion is a stranger, who can no longer wonder and stand rapt in awe, is as good as dead...'

¹⁷ The Hopi people have long understood the interconnectedness of life forms, warning 'if you kill off the prairie dogs there will be no one to cry for rain' – "amused scientists, knowing that there was no conceivable relationship between prairie dogs and rain, recommended the extermination of all burrowing animals in some desert areas planted to rangelands in the 1950s 'in order to protect the sparse desert grasses'. Today the area (not far from Chilchinbito, Arizona) has become a virtual wasteland" (Bill Mollison in 'Permaculture'). It turns out that all the burrowing animals, from gophers to spiders, create a network of tunnels under the earth that then allow the water deep within the earth to rise and escape as moisture laden air which forms clouds and thus provides rain. Stephen Harrod Buhner says in *The Lost Language of Plants* "...indigenous peoples have always had access to the finest probe ever conceived, one that makes scientific instruments coarse in comparison, one that all human beings in all places and times have had access to: the focused power of human consciousness."

the positive and negative charges of the particles within atoms, which drive currents of protons through the tiny molecular machines within them. These positive and negative charges are derived from the breakdown of glucose, the body's fuel of choice.

Everything is made of energy, but there are also these things called 'particles', which seem to be there if you don't look too closely at them! We'll take a quick look at them now...

The smallest particles are tiny – even atoms are made of very little actual stuff – energy which just whizzes about and 'acts' solid. An atom has three types of particle: protons and neutrons, which are found together in the centre of an atom, forming a kind of nucleus, and electrons, which whiz about around the nucleus.



An atom looks a bit like this. The balls in the centre are protons and neutrons, the negatives orbiting around them are electrons. However, real atoms are mostly empty space. If we wanted to make an accurate drawing, we would have to draw the electrons about a mile away!

In this drawing, it looks like the electrons neatly orbit the nucleus, when in fact they don't. In reality, it is not possible to tell exactly where an electron is at a given moment or where it is going. Scientists can calculate the probability that an electron will be found in a given volume of space, but that isn't the same as knowing where that electron is. Spooky, huh?!

Electrons, which have a negative electrical charge, are the smallest particles of matter. Then there are neutrons and protons, being neutral and positive respectively. The electrons whiz around the proton and neutron centre of each atom incredibly fast.

What feels solid to us is really not so solid on a particulate level. There are particles called *neutrinos* that can move at speed straight through large solid objects – like the Earth – and out the other side without being changed at all. These particles form the basis of the universe and modern physicists are discovering some really amazing and weird stuff about them. For example, they appear and disappear *AND NO ONE KNOWS WHERE THEY GO...* This is all to do with the zero point field; so-called because physicists cool things down to absolute zero to study particles, so making them are much slower moving. Another fascinating phenomenon is that if you completely isolate two particles of the same type that are in relationship to each other (known as 'entangled') and do something to one of them, its relative in the other isolation chamber behaves as if that same thing has just been done to *it...*