

CRANIAL Connections

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In his excellent article *The Mystery of Craniosacral Therapy in The Fulcrum* (Winter 1998/99), Will Wilson presents a hypothesis for the generation of the CRI based on the concepts of resonance, coherence and quantum physics. He refers briefly to the power of thought, and cites evidence for the influence of thought on the structure of water, and on some mechanical and electronic devices. Craniosacral therapy uses the intention of the therapist to bring about palpable changes in the client's body. I'd like to add some of my own thinking about how the mind of one person can affect the body of another.

Much of this thinking developed as a result of doing one of the short course modules from The University of Westminster's M.Sc. in Complementary Therapies, a module called Mind-Body Medicine. I'm particularly interested in the mind-body question because I also work as a psychotherapist, and the divisions between the mind therapies and the body therapies, between practitioners who work with psyche and those who work with soma, fascinate and frustrate me.

I'm beginning to think that much of the problem lies in the splitting inherent in our language, thinking and experience around mindbody. The more I've thought about this the more I experience, sadly, my own splitness. Don't get me wrong; having spent much of my adult life pretty much dissociated from my body, I'm now able to connect to my body with ease (thanks to my craniosacral training, among other factors). I can easily tune into my liver, my root chakra, my trapezius. But the experience is of my mind in there, in my tissues, having a look round, as it were. Rarely do I lose the sense of my observing self separate from my observed body. I'm sure it's possible, but in the meantime my considerations about the power of thought are based on mind separate from but interacting with body.

Reductionism and upward causation, together with dualism and mechanism, are the conceptual underpinnings of the traditional biomedical model. Within this model, the person is seen solely as a biological organism, and thoughts, feelings and the meaning of the body, or of its symptomology, have no place. Mind-body medicine is a loose umbrella term encompassing cognitive science, new areas of medical science that have developed in reaction to the limitations of the traditional biomedical model, and the alternative and complementary therapies. Practitioners in this field are more likely to accept the mind body interaction as a two way process (mind affects matter and *vice versa*), take account of the individual in interaction with her environment, be interested in interdisciplinary discussion and be open to ideas about energy, spirit or soul.

There is a large body of evidence to support the idea that the mind plays an important role in the development of disease (life events research, stress studies and psychosomatic medicine) and on the maintenance or healing of disease (studies of the placebo response, biofeedback, meditation and the use of imagery). Although this evidence makes it abundantly clear that conscious and unconscious mental activity can have far reaching physiological consequences, there still remains the big question of how they interact.

The science of psychoneuroendoimmunology is beginning to show us the bridge between the semantic language of the mind (thoughts, memories, emotions) and the somatic language of the body (tissues, cells, molecules).

The limbic-hypothalamic system is an area of brain tissue which contains seemingly separate nuclei concerned with regulation of the autonomic, endocrine, immune and neuropeptide systems. In this centre electrically encoded messages from the cortex are transduced into messenger molecules, released via the pituitary to the body. These messenger molecules include the neurotransmitters of the autonomic nervous system, the neuropeptides of the central nervous system and sensory organs, the hormones of the endocrine system, and the cytokines of the immune system. Psychoneuroimmunology research has discovered that these molecules all belong to the same family, the peptides, and are not exclusive to any system. Hormones are found in the brain, and neurotransmitters in the immune cells.

Every cell in the body has many receptor stations, both on the cell surface and inside the cell, which can receive messenger molecules. Many cells contain the mechanisms for manufacturing and sending out messenger molecules. There is also evidence for pathways between the autonomic nervous system, central nervous system, endocrine activity and the immune system. Many of these pathways allow for messengers travelling in either direction. The old way of understanding the nervous, endocrine and immune systems as separate is beginning to give way to the idea of one communication network throughout the whole body. Candace Pert (1997) suggests that each peptide may be responsible for a particular emotional tone, for example, levels of brain serotonin correlate with the experience of depression.

Mind body interactions involve transductions of neural impulses to molecules, of energy to matter or *vice versa*. Somehow they also involve transductions of semantic (the stuff of mind) to somatic (the stuff of body). Memories involving context and emotion imply

that semantic information has been stored in a somatic form. Some mind-body scientists propose that the connection between mind and matter is information, using the term in the sense it is used in computer technology, as a signal, not a unit carrying meaning.

Given the evidence for effect of mind on body, it can be argued that the thoughts in the mind of the therapist could alter physiological variables in the body of the therapist, such as localised vasodilation in the hands, transmitted as heat to the client's body, picked up by nerve receptors in the skin and underlying muscles and transmitted to the brain. Somatic information sent, somatic information received. Information is transduced from electrical energy in motor nerves to thermal energy (heat) and mechanical energy (pressure) which is transferred across the gap between hands of therapist and body of client where it is transduced back into electrical energy in the sensory nerves of the skin and muscles. Using the computer concept of information as a signal, it becomes possible to describe the whole process in terms of semantic information carried by a succession of somatic messengers from the brain of one person to the brain of another. Many forms of bodywork, including osteopathy, Rolfing, and zero balancing as well as craniosacral therapy, involve inferred rather than actual touch. In craniosacral therapy, for example, the hands of the practitioner behave 'as if' they were in contact with tissues or organs deep within the body. This 'as if' is mediated through the thought processes of the practitioner. The thoughts 'carry' information about deep anatomy.

For example: it is not possible to manipulate the O/A junction directly, buried as it is under layers of muscle. When we cup our hands around the occiput and imagine our fingertips through the muscles and into contact with the O/A junction we are 'holding' an image of the anatomy of the junction in mind, a virtual O/A junction. We could hypothesise, using the computer information analogy, that the virtual image in our mind is transferred, as semantic message, via somatic messengers to our fingertips, and via somatic messengers from the skin/muscles of the client's neck to the client's brain. Here, we could also hypothesise, the semantic message, the virtual image, is 'read' and then relayed via somatic messengers to the actual O/A junction. Manipulations of the virtual O/A junction are transduced to the actual O/A junction along this pathway.

PERCEPTUAL PROJECTION AND NONLOCALITY

But there are alternatives to a purely physiological explanation to the power of thought. The cognitive sciences attempt to understand the nature of consciousness, the effects it has and neuro-psychological correlates between consciousness and brain. However, some cognitive scientists, including Max Velmans, suggest that consciousness may not

even be a brain process. Using the example of a pinprick to a finger, he argues that the experience of pain is in the finger, even though the neural correlates are in the brain. He calls this 'perceptual projection'. Phantom limb experience supports the view of the experience of body as partly a construct formed by the brain, with the psychological component persisting, projected into its usual location, after the physical limb is gone. A reflexive model of consciousness extends to include the external world and places experiences where they are experienced; in the head in the case of thoughts, in the body in the case of hunger and outside the body in the case of phantom limbs. Or in the body of another, in the case of craniosacral therapy?

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In physics, the idea of nonlocality is used to describe the effect of one event on another, which is not mediated by any known form of energy, whose effect is not diminished over space, and where the events occur simultaneously. Although the appropriation of concepts from physics, particularly quantum physics, to substantiate ideas in complementary therapy has been much criticised, Larry Dossey claims there is now enough evidence for the existence of nonlocal effect of consciousness (eg healing and prayer) on the physiological processes of a distant body (human, plant or animal) for researchers to begin to ask questions about the mechanism rather than the existence of nonlocality.

Ideas of perceptual projection, and of nonlocality, provide alternative descriptions of the transmission of thoughts from the consciousness of one person, a practitioner, to the body of another, the client, with consequent effect, but shed no further light on the mechanism, or on the perception and interpretation of the thoughts by the client.

MORPHIC AND ENERGETIC FIELDS

The notion of the mind moving out of the body to make contact with the world is also proposed by Rupert Sheldrake (1994). He calls this the extramission theory of perception. He suggests this was a commonplace understanding of our pre-Cartesian ancestors, together with the idea of the individual mind as part of a universal psychic soul, that belonged as much to plants and animals as to humans, an idea akin to Jung's collective unconscious. He also develops the idea of morphogenetic fields, from developmental biology. These are invisible and intangible fields within and around things which play a causal role in their form and behaviour and can become stabilised through continual resonance to become morphic fields, which are not energetic fields, but bring about their effects in conjunction with energetic processes. Morphic resonance, like nonlocalised consciousness, involves

the transmission of causally effective information through both time and space. Morphic fields hold memory, and for humans, habitual memory could be stored here rather than in the nervous system.

There are fields of measurable energy surrounding the human body. Many organs generate electromagnetic energy, and medical science has standardised ways of measuring this; of the brain, for example, by the electroencephalogram (EEG). The gastrointestinal and cardiovascular systems may generate measurable energy as well. The major source of energy, electrical and electromagnetic, is the heart, and this can be felt several feet away from the body. Watkins suggests that the heart may also play a leading role in mind-body communication. The electrical rhythms generated by the heart send information to a number of organs including the brain and immune system, and are affected by different emotional states.

Hugh Milne also suggests that the field (or spirit, in his usage) of the therapist interacts with the field of the client, whether touch occurs or not. It is possible to bring about, for example, movement of a cranial bone, solely by perceiving it, and thus altering the field. So now it becomes possible to think about an alternative pathway for the transmission of the intention of the craniosacral therapist. Invoking the idea of fields around both bodies, it may be that information is transmitted through this medium. On a reductionist level, information (as computer signal) could be transduced into the electrical/electromagnetic energy fields. Quantum physics tells us that the presence of an observer changes the behaviour of subatomic particles.

ENTRAINMENT

In physics the name given to the effect of one pendulum on another, so that they begin to swing in synchrony, is called entrainment. McPartland and Mien suggest that the CRI, the rhythm palpated and used diagnostically by craniosacral therapists, is a frequency consisting of the entrainment of other biological rhythms, including heart rate, cardiac pulse, CSF production, pulsation of glial cells and others. Leon Chaitow suggests that the physiological state of the therapist may impinge on the physiological state of the client through a mechanism like the pendulum, with a sort of resonance pulling the state of the weaker or more dysfunctional system towards entrainment with the stronger or healthier system. Which maybe offers another explanation for the phenomenon of group stillpoints. And maybe entrainment is possible between the contents of consciousness (thoughts, images) as well as between physiological oscillations?

MIND AND SPIRIT

One final line of enquiry involves the concept of mind as used in spiritual traditions like Buddhism, or anthroposophy, or among meditators. And to follow this line might necessitate accepting the need for yet another

new paradigm, one that encompasses not just mind and body as an indivisible unit, but also includes spirit, or soul, or mind, which Hugh Milne calls the dreambody.

Max Velmans, comparing ordinary thought and experience to that of mindful awareness, arrived at through the discipline of Buddhist meditation, describes how the mind and body are brought together in an embodied experience which invalidates the experience of duality. He offers mindful awareness as a valid tool for cognitive science. Ken Wilber, in a plea for the integration of science and religion, also suggests that the accepted tools of science, the physical world seen through the eye of the flesh, will never be able to understand the world of spirit, and the appropriate tool for this is the eye of contemplation.

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And what does the incorporation of mind or spirit into the equation have to add to inter personal mind to body communication? The perennial philosophy described by Ken Wilber, which is common to all world spiritual traditions in all ages, has at its core 'the great chain of being', the idea that the universe is arranged in layers, from the densest and least conscious, matter, to the most subtle, and most conscious, which in Judeo-Christian traditions would be called God. Each layer is contained within the next, like nests of Russian dolls, or like implicate order of quantum fields. Within this framework the separateness between therapist and client, between body and mind become less clear, and the possibilities for communication more open ended. Using the tools of contemplation, and a mind-body-spirit framework, it may eventually be possible to describe mechanisms for understanding the power of thought as an effective tool in craniosacral therapy, and for experiential understanding of a whole undivided mindbody. _

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