

THE SIXTH BLACKIE MEMORIAL LECTURE
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Professor Michael Baum ChM FRCS
Professor of Surgery at The Royal Marsden Hospital,
Fulham Road, London SW3 6JJ

CONCEPTS OF HOLISM IN ORTHODOX AND ALTERNATIVE MEDICINE

INTRODUCTION About 10 years ago, I was invited to join a series of colloquia at the Royal Society of Medicine wherein practitioners of orthodox and alternative medicine sat down together in an attempt to discover common ground ⁽¹⁾. These meetings provided a landmark occasion which helped to destroy the stereotypic image that each branch held of the other. Thus, we on the orthodox wing recognised that our opponents were not quacks and charlatans, but sincere good people, deeply compassionate, searching for the truth for the benefit of mankind. In return, the other side of the house recognised that we were not a conspiracy of a self-serving establishment seeking to crush new ideas that happen to arise outside of our own ranks. In fact, and this should come as no surprise, we shared a common goal which was the offer of our best for the improvement of length and quality of life of our sick and frightened patients.

Certainly, within the ranks of both orthodox and alternative medicine there are bad apples. Yet, my experience as a founder member of Healthwatch (formally the Campaign Against Health Fraud) has shown that the quacks and charlatans are equally well represented amongst those with a formal medical background, as amongst those who claim they practise alternative medicine.

So what is the demarcation between orthodox and alternative medicine? For many years I have been musing about this question and my contemplations have taken me down many interesting avenues and forced me to read books on scientific philosophy, social anthropology, mysticism and religious faith. I have concluded that the major demarcation is one of epistemology or the philosophical underpinning of our quest for knowledge ^(2,3). I have recorded in past essays on this subject, that until the early years of this century, there was no clear boundary between mainstream and fringe medicine other than the social status, respectability and income of their proponents! However, with the development of 20th century scientific philosophy, unnoticed by the medical profession itself (with a few rare exceptions) orthodox medicine has drifted towards a deductive science whereas alternative medicine has remained in large part, an inductive science. Today much (but certainly not all) of modern medicine is based on the hypothetico-deductive process which recognises uncertainty and appreciates that progress is and always will be a slow and painful approximation to the truth. In contrast, much (but not all) of alternative medicine is based on *a priori* reasoning with each clinical event being reinterpreted as further evidence to support the original hypothetical model.

However, even this divide is being bridged as the Research Council for Complementary Medicine recruits bona fide scientific empiricists to its Advisory Board, and furthermore, orthodox scientists including myself have been co-opted to the Scientific Advisory Board of the Blackie Foundation. Thus, if deductive scientists are beginning to advise the establishments of alternative medicine, the margins will begin to blur as concern for the 'wholeness' of the individual begins to rub off on the orthodox establishment, this 'edge-blurring' process will be a two-way mechanism.

It is therefore the function of this paper to compare and contrast the models of holism that are integral to the practice of good medicine whatever the provenance of the practitioner, and to develop the case that an holistic approach is not the prerogative of alternative medicine alone, but should be an essential component in the practice of orthodox medicine.

Concepts of Holism in Alternative Medicine

A beautiful expression of the concepts of holism in alternative medicine can be ascribed to Jason Serinus cited in the book 'The Whole Truth' by Rosalind Coward ⁽⁴⁾:-

“Holism deals with the total human organism, an integrated whole, that is greater than the sum of its parts, rather than just symptoms, viruses and illness. Holism understands that a person whose mind, body and spirit are in harmony, whose energy is in balance, does not manifest dis-eases. Holistic healing thus focuses not on getting rid of symptoms but on empowering the individual to establish a state of mental, emotional, physical and spiritual harmony and wellness in which health is a constant of life.”

This concept of holism attributed to a balance of metaphysical energies integrating the mind, body and spirit are essential to the philosophies of most alternative practices.

An adumbration of this belief system was proposed by Aristotle and codified in medical practice by Galen in the 2nd century A.D. Perfect health was considered a balance of the four 'natural humours'; blood, black bile, yellow bile and phlegm. Attempts to correct the putative excess of blood in inflammatory or malignant disease by venesection, was popular in "orthodox medicine" right up until the mid 19th century.

In a similar way, traditional Chinese medicine considers health to be a perfect balance of the yin and yang as it flows through the hypothetical meridians of the body. Dis-ease is an imbalance of these humours and the act of acupuncture is aimed at restoring the balance. Similar concepts of balance and imbalance appear in the classic models of osteopathy, chiropractic and homeopathy. Homeopathic philosophy is based upon the principle of restoring imbalances of the body of which disease is the symptom ⁽⁵⁾. A crude way of looking upon these belief systems is to consider the stability of a three legged stool which is a safe seat as long as the three legs are of the same length. If we consider these legs to be the mind, the body and the spirit, then any perturbation of the one will lead to instability of the whole. This is a seductive construct easily understood by the lay public. It is therefore easy to understand why, at a time of frustration with the lack of progress in the management of diseases such as cancer, alternative health systems are readily embraced by those too desperate to wait for the slow pace of conventional science.

Also essential to the concept of holism in alternative medicine is the individualisation of therapy. It is taught that the diagnostic processes can identify the individual imbalances for the individual patient which then identifies the specific therapy that has to be prescribed. No one would argue against dealing with all our patients as distinct human beings, yet it has to be recognised that just as height and blood pressure each exhibit a normal distribution curve around a median value, so disease and its manifestations has more in common with itself than the individual sufferer. Thus, tuberculosis is tuberculosis under the microscope and in its clinical expression irrespective of the age, sex and race of the sufferer. Because of the demands for the individualisation of therapy, it becomes almost impossible to study the treatments by the experimental method.

Finally to persist in some of these beliefs, is to deny the objective reality of 20th century physiology and the revolution in biology since the discovery of DNA.

It is therefore my wish to attempt to convert readers to a belief in a late 20th century model of wholeness, which satisfactorily integrates the metaphysical models of the past with the objective reality of 20th century science.

Holism in Orthodox Medicine

I reject the tripartite model of mind, body, spirit as too simple and inadequate to explain the beauty and mystery of our existence. I favour an hierarchical model built up of holons each functional in its own way as autonomous units, yet at each level of this hierarchical structure, the intermediate whole is greater than the sum of the parts at its subordinate levels. This idea is by no means original and curiously enough is favoured by at least two of the prophets of New Age thinking. For example, Arthur Koestler writing in his book, 'The Ghost in the Machine' in 1967 stated:-

“Organism and societies are multileveled hierarchies of semi-autonomous sub-wholes branching into sub-wholes of a lower order and so on. The term holon has been introduced to refer to these intermediary entities, which relative to their subordinates in the hierarchy, function as self-contained wholes relative to their subordinates or as dependent parts. This dichotomy of wholeness and partners of autonomy and dependence is inherent in the concept of hierarchic order”⁽⁶⁾.

Whereas Robert Persig, a cult author of the 70s in his popular book, 'Zen and the Art of Motor Cycle Maintenance', used as his theme the wholeness of organic and inorganic nature with the concept of Zen based on hierarchical systems.

“These structures are normally interrelated in patterns and parts so complex and so enormous, no one person can understand more than a small part of them in his lifetime. The overall name of these interrelated structures; the genus of which the hierarchy of containment and structure of causation are just species, is system. The motor cycle is a system, a real system”⁽⁷⁾.

I would like to attempt to describe the human subject as a system built up from a base level of molecular components to its final flowering as a remarkably integrated member of a species that can indeed operate as mind, body and spirit in unison.

Modern cosmology teaches us that when the universe was created there was nothing but energy. Within micro-seconds of creation, energy was packaged into sub-atomic particles. These particles organised themselves into atoms, the essential building blocks of the material universe. The atoms within the biosphere organised themselves into molecules which by some freak of nature, or as I would rather believe, as some act of creation, arrange themselves as self-replicating strands of DNA. The DNA has become packaged as genes, and the human genome is the molecular memory of our species. Watson and Crick discovered the structure of DNA in 1953 and described the statistics of DNA within our body which are mind boggling⁽⁸⁾. There are approximately 3×10^{12} cells in the body, each containing 46 chromosomes. It is estimated that there are two meters of the DNA blue print packed within each cell, making 6×10^{12} meters of DNA in each body, equivalent to the distance to the moon and back 8,00 times⁽⁹⁾. Each time the cell divides there is the hazard of a somatic mutation as a random event. Yet, some cells divide every 48 hours and the body in health maintains its integrity, suggesting a miraculous fidelity in recording and translation. As Richard Dawkins put it so wittily in his book, 'The Bland Watchmaker':

“DNA's performance as an archival medium is spectacular. In its capacity to preserve a message, it far outdoes tablets of stone. The DNA document is even more impressive because unlike tablets of stone it is not the same physical structure that lasts and preserves the text. It is repeatedly being copied and recopied as the generations go by like the Hebrew scriptures which were ritually copied by scribes every eight years to forestall their wearing out. It is hard to estimate how many times the DNA document has been recopied in our lineage; probably as many as 20 billion times. It is hard to find a yardstick with which to compare the preservation of more than

99% of information in 20 billion successive copyings. A line of real-life secretaries would degrade a text to 99% of its original letters by the twentieth member, of a line of 20 billion. By the 10 thousandth member of the line, less than one percent of the original text would survive”⁽⁹⁾ .

Each of these perfectly preserved genes of our species has (or had at one time) a gene product or protein. These complex polypeptides then organise themselves at the next level of the hierarchy into organelles. One of these, the mitochondrion, has incredible power for its size, in generating the energy necessary for the maintenance of life against the natural tendency of entropy. These organelles together with the nucleus that contains the human genome, organise themselves into a cell at the next level up the hierarchical ladder. The integrity of the cell is dependent on messages passed between the nucleus and the organelles, and autocrine or paracrine servo-mechanisms, acting through intra cellular or cel-surface receptors, so that each cell knows its place and its function. It is another miracle of nature that every cell contains the totality of the human genome and yet knows in health, precisely how to behave according to its place, and precisely when to stop reproducing itself and programming its own death for the benefit of the organ within which it sits.

At the next step up the hierarchy, the cells organise themselves together as organs whose functions are an order of magnitude more complex than the individual cells and whose structure and integrity are maintained by cell talking to cell, transferring messages that are only now beginning to be identified and measured.

One further step up the hierarchy; the organs themselves are arranged as a bodily structure communicating with each other by chemical and cellular messages. The chemical messages include the hormones and the cellular messages are circulated via lymphocytes of various sub-species. The chemical and cellular messages act as servo-systems to up-regulate and down-regulate the various organs to maintain them in perfect harmony. The lymphocytes also recognise self from not-self, initiating a cascade of events to maintain the integrity of the self by a constant and invisible process. At the next step up the hierarchy, the whole of this process is orchestrated via the pituitary gland following the release of trophic hormones. This in itself is under the control of the pothalamus which can act either as a self-regulating process or a system that can be kick-started or down-regulated by the higher centres within the cortex of the brain.

At this level, we enter an area of mystery. The brain and the bodily organs are organised in an as yet undiscovered way to make the mind, and with the mind the person is created: (“cognito ergo sum”).

Even at this level we can step up the hierarchy by recognising that a person does not exist alone and to a large extent is pre-programmed by the folk memory of his race and culture, and exists as a unit in a society that is greater than the sum of its individual parts.

“No man is an island entire of itself” – wrote Donne. But this is precisely the nature of autism – an island cut off from the main. In ‘classical’ autism, which is manifest, and often total, by the third year of life, the cutting off is so early that there may be no memory of the main ... Is being an island, being cut off, necessarily a death? It may be a death, but it is not necessarily so, for though horizontal connections with others, with society and culture are lost, yet there may be vital an intensified ‘vertical’ connections, direct connections, with nature ...² So wrote Oliver Sacks in his remarkable book ‘The Man who Mistook his Wife for a Hat’ (10). A book that explores the mind via a series of case histories (natural experiments) of cerebral damage and its impact of the elusive nature of ‘the mind’. By this definition, Adam was autistic yet finely attuned to his maker.

An individual cannot build a cathedral or reach out to the stars. These activities reflect the flowering of a society as a whole. Even a great musician or a great artist builds on the experience

of the past and expresses his creativity after cross-fertilisation with other musicians and artists of his own generation. Ultimately when this artist, musician, architect, scientist or humble artisan dies, his seed will already have passed on to the next generation, containing his tightly packed blueprint which is the molecular memory of his species.

Even as I convey my rambling thoughts to paper, I am awe-inspired yet again by God's creativity and recognise that what I am describing can only be a cartoon or an approximation of the truth. How much more we have to learn and how much more we will stand in fear as the mystery of the organism unfolds following our laudable pursuit of the truth.

Yet even this imperfect model can be studied, measured and perturbed. Messenger RNA, autocrine and paracrine growth factors, cytokines and hormones can have their messages decoded and quantified both in health and disease. Already, we can restore the body to health by correcting perturbations of these 'natural humours' and the burgeoning new biology is opening up infinite possibilities for control and cure of disease in the future.

Furthermore, this system allows for an explanation of disease that incorporates both endogenous and exogenous factors. Endogenous factors might include genetic susceptibility and constitutional disorders of the brain. Disease could then be seen as a result of chance concordance of exogenous factors such as viruses, bacteria and cosmic rays, with an endogenous frailty. In such cases the sufferer cannot be blamed. However, exogenous factors such as overeating, smoking, alcohol and pollution are exogenous factors within our control.

Jules Poincaré's Dictum on Scientific Structure is worth remembering at this point.

"Science is built up with facts as a house is with stones, but a collection of facts is no more science than a heap of stones is a house."

It is therefore necessary that we collect our facts within a structured system and this structured system for the accumulation of knowledge demands an understanding of 20th century scientific philosophy⁽²⁾. This is an open system, a system that allows and encourages discovery leading to the creation of infinitely more complex and beautiful models of the universe and the human species, which are far more awe inspiring than the simplistic systems first described in, say, ancient China or mid-19th century Germany.

Practitioners of alternative medicine have nothing to fear in embracing these modern concepts of holism within which they will find an explanation of their successes and if intellectually honest an explanation for their failures.

If we on the orthodox wing of medical practice and you on the alternative wing, use this same road map, our powers will link up again as in the mid-19th century, but this time the roads will have somewhere to go, no longer the circular path of conceptual rationalism, but the fertile route of conjecture, refutation and synthesis, that will guarantee a continuous process of approximations to the truth about biological creation. At the same time it would be extreme arrogance, close to blasphemy, for our generation or any future generation to believe they have solved all life's mysteries, for as Stephen Hawking stated in his book "A Brief History of Time":

"... there may be only one complete unified theory that is self-consistent and allows the existence of structures as complicated as human beings who can investigate the laws of universe and ask about the nature of God ... If we find the answer to that, it would be the ultimate triumph of human reason, for then we would know the mind of God!⁽¹¹⁾ .

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The Sixth Blackie Memorial Lecture was held in most attractive surroundings at the Museum of garden History in London's Lambeth Palace Road, to a near capacity audience. This was a most appropriate setting for this commemorative lecture of one who loved gardening. Professor Baum recalled an early meeting with Margery Blackie in the 1970s when he had invited her to speak to medical students at Kings College London. Her enthusiasm had impressed him and he was pleased to be part of the Scientific Committee of the Medical Charity named after her.