

# Concepts of holism in orthodox and alternative medicine

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**ABSTRACT** – In this essay the nature of holism in orthodox and alternative medicine will be explored and the true meaning of the words will be illustrated with a complicated case history concerning the life or death of a young pregnant mother suffering from a BRCA type breast cancer. Holism in medicine is an open-ended and exquisitely complex understanding of human biology that over time has led to spectacular improvements in the length and quality of life of patients with cancer and that this approach encourages us to consider the transcendental as much as the cell and molecular biology of the human organism. ‘Alternative’ versions of holism are arid and closed belief systems, locked in a time warp, incapable of making progress yet quick to deny it in the field of scientific medicine.

**KEY WORDS:** alternative and complementary medicine, arts and humanities, breast cancer in young women, holism

## Introduction

Samuel Gee and I both worked at University College London but there the similarities end. As unlike Gee, who was personal physician to the Prince of Wales, I was unable to enjoy the same role following an outspoken open letter about holistic medicine.<sup>1</sup> The art and science of the practice of medicine have the twin objectives of improving length and quality of life.<sup>2</sup> All other outcome measures must be considered surrogates and discounted from this discussion. The objective of this paper is to illustrate how the clinician can be an holistic practitioner contributing much to the quality of life, even among those patients who are predetermined to die but also to recognise the limits of their skills and to know when to call upon other agents skilful in the practice of complimentary care.

## Holism as a word and a concept

The word ‘holism’ was coined in 1926 by Jan Smuts who used the word to describe the tendency in nature to produce wholes from the ordered grouping of units. The philosopher and author Arthur Koestler developed the idea more fully in his seminal book *Janus: a summing-up* in which he talks about self-

regulating open hierarchic order (SOHO).<sup>3</sup> Biological holones are self-regulating open systems which display both the autonomous properties of wholes and the dependent properties of parts. This dichotomy is present on every level of every type of hierarchical organisation and is referred to as the Janus Phenomenon.

## Holism in the organisation of organic systems

To do justice to Smuts’ definition of the word holism, a ‘reductionist’ approach to the molecular level should be adopted, and then from these basic building blocks an attempt to reconstruct the complex organism – the human subject living in harmony within the complex structure of a modern democratic nation state – should be made. Since Watson and Crick described the structure and function of DNA in 1953, the development of biological holism has grown way beyond anything Smuts might have envisaged. The basic building block of life has to be a sequence of DNA, that codes for a specific protein. These DNA sequences or genes are organised within chromosomes forming the human genome. The chromosomes are packed within the nucleus with an awe-inspiring degree of miniaturisation. The nucleus is a holon looking inwards at the genome and outwards at the cytoplasm of the cell. The cell is a holon that looks inwards at the proteins which guarantee its structure and function contained within its plasma membrane, and at the energy transduction pathways contained within the mitochondria which produce the fuel for life. As a holon, the cell looks outwards at neighbouring cells of a self-similar type which may group together as glandular elements, but the cellular holon also enjoys cross-talk with cells of a different developmental origin communicating by touch through tight junctions, or by the exchange of chemical messages via short-lived paracrine polypeptides. These glandular elements and stromal elements group together as a functioning organ which is holistic in looking inwards at the exquisite functional integrity of itself, and outwards to act in concert with the other organs of the body. This concert is orchestrated at the next level in the holistic hierarchy through the neuroendocrine/immunological control mediated via the hypothalamic–pituitary axis, the thyroid gland, the adrenal gland, the endocrine glands of sexual identity, and the lympho-reticular system that can distinguish self from non-self. Even this notion of self is primitive compared with the next level up on the hierarchy where the person exists in a conscious state somewhere within the cerebral cortex, with the mind, the great unexplored frontier, which will be the scientific challenge of doctors in the new millennium.

This article is based on the 2009 Samuel Gee lecture delivered at the Royal College of Physicians on 6 April 2009 by **Michael Baum**, professor emeritus of surgery and visiting professor of medical humanities, University College London

**Fig 1. The doctor painted by Luke Fildes in 1891.** This popular image from the Tate Britain Gallery shows a compassionate doctor who unfortunately lacks the understanding to change the course of pneumonia that is taking the life of this young girl. Reproduced with permission from Tate Images © Tate, London 2009.



### The modern oncologist as a holistic practitioner

A modern oncologist is one member of a team. Any self-respecting team these days includes one of the following:

- surgical oncologist
- clinical oncologist
- medical oncologist
- diagnostic radiologist
- histopathologist
- clinical nurse specialist (CNS)/counsellor.

It is my particular prejudice that the CNS bridges the gap between the clinical scientist and disciplines that offer complimentary and supportive care. My own team has immediate access to a clinical psychologist, as well as counsellors and I have made attempts in the past to evaluate this service according to scientific principles, with the development and use of psychometric tools.<sup>4</sup>

The following clinical case history, that demanded all the powers and expertise of a multidisciplinary team to come up with an appropriate management plan, illustrates these abstract concepts.

### The story of Mrs Sarah G, aged 29 years

- This young woman was asymptomatic but presented to the clinic following the detection of a suspicious abnormality on mammographic screening. Fine needle aspiration cytology confirmed the diagnosis of breast cancer.
- There was no relevant past medical history and she was gravid 1 para 1.
- There was a significant family medical history. She was of Ashkenasi Jewish origin. Her mother died of breast cancer at the age of 36 and her sister was recently diagnosed with bilateral breast cancer at the age of 21. A paternal aunt had breast cancer at the age of 37.

- On clinical examination she was a fit young woman and the only abnormality of note was an area of ill-defined nodularity in the upper outer quadrant of her right breast.
- Special investigations were reviewed. The mammograms which she had for screening, because of her family history, showed an area of microcalcifications in the upper outer quadrant of the right breast. Fine needle aspiration cytology showed atypical cells but a core cut biopsy showed duct carcinoma in situ and also areas of invasive duct cancer of intermediate grade.
- In the interval between diagnosis and the planning of surgery, the patient mentioned that she had missed a period and pregnancy testing was positive.
- How should this patient be treated and what should we do about her pregnancy?

The simple stereotype used for this case history presentation was intentional. Nothing but the patient's true narrative of her own life experience and fears can do justice to this story. It must be recognised that her mother died young and as a result the patient was raised by an aunt. We must also try to understand what it must feel like to be forced to come to terms with one's mortality at such an early age and the clinical history alone cannot do justice to the strength of feeling of Sarah and her husband about producing a sibling for their little daughter, in other words the pregnancy is very precious.

Next we come to the major ethical issues that are raised by this case. From her family tree and Ashkenasi origins it is highly likely that there is a germline mutation in the BRCA1 or BRCA2 gene. Sarah had already been counselled on this matter, hence her exposure to mammographic screening, yet she had opted not to go forward for the genetic test because at the time there was no proven intervention for a positive result. Now her cancer has made it even more likely that this extended family has a germline mutation, putting increasing pressure on other female relatives for genetic testing. This

leads to a further consideration of the genotype of the fetus. Would she want to know if it was male or female and abort the female, might it be possible to test for the gene on a cell of the developing fetus if a female and abort the female fetus if the test is positive? What about *in vitro* fertilisation and embryo selection? Unfortunately ethical guidelines on these difficult issues are falling far behind the rapid pace of progress at the molecular level.<sup>5</sup>

Next the issue of abortion itself; is this ethical or unethical? Well this of course depends very much on the cultural and religious background of the family. In a largely secular society most patients would consider themselves rational humanists and therefore feel that they should be fully autonomous in this decision. Yet if the patient was Catholic then abortion would be considered a sin whereas, according to the Jewish faith if the abortion would prolong the patient's life, by even a day, then it might be considered an ethical imperative to proceed. This immediately brings us back to the issue of epistemology. Although in theory it is plausible that the continuation of the pregnancy may increase the rate of progression of the cancer, are there empirical data that support or refute that opinion? In fact the weight of evidence would suggest that if anything women with breast cancer who become pregnant have a better outcome than expected, once again illustrating the beauty of the deductive logic whereby a plausible hypothesis is overturned by the accumulation of empirical data.

The evidence for and against different treatment modalities and the balance between quality of life and length of life, as a result of these different treatments, need to be considered. We know with confidence that conservative surgery supplemented by radiotherapy will provide the same chance of cure as more radical surgery. Adjuvant systemic chemotherapy in young women with breast cancer significantly prolongs life, but what about the effect of chemotherapy on the fetus? Again it is plausible that chemotherapy may have such an adverse effect that in order to provide the patient with the best chance of survival the fetus should be aborted, yet empirical data suggest that once organogenesis is complete, the fetus is remarkably robust and can in fact tolerate chemotherapy. So if the continuation of the pregnancy is not likely to interfere with treatment and thus impair length of life and if the fetus is tolerant of the treatment, then the only matter left to consider for this precious pregnancy is the possibility of Sarah dying young, leaving a second child to be brought up by her husband. However painful it was for me as a personal physician, I felt that it was my responsibility to inform Sarah and her husband that breast cancer at the age of 29 has a very poor prognosis and while supporting their wish to continue with the pregnancy they needed to be aware of the dreadful possibility that the baby would be left without a mother; but then as Sarah reminded me she also grew up without a mother and her life to date has been fulfilled, while her husband's response demonstrated a nobility of spirit. He was prepared to shoulder the burden with the compensation that there would always be two sets of eyes to remind him of his beautiful wife. Finally



**Fig 2. A simple model of a concept of holism that is relevant to a modern physician.**

facing an uncertain future and coming to terms with her own mortality, Sarah needed spiritual and psychological support which was certainly beyond my own competence or even that of my nurse counsellor. In addition to her extended family and her Jewish faith we were able to call upon Chai-Lifeline, a volunteer organisation set up specifically to work alongside doctors in this difficult and sensitive area.

Two years ago I attended the fifth birthday party of one of my grandchildren. In the midst of the *mêlée* I spotted Sarah with her cute little ginger-haired green-eyed five-year-old daughter. We exchanged meaningful glances, the only two in the room to fully understand the joy of this moment. Mother, daughter and surgeon were doing pretty well thank you. To manage this case adequately required a working knowledge at all strata in the hierarchy that provides an holistic model of the human subject: understanding the failure of DNA repair mechanisms in BRCA1 mutations at the molecular level all the way up to the understanding of a woman in her central role as mother, wife and member of a faith community.

## Conclusion

Holism in medicine is an open-ended and exquisitely complex understanding of human biology that over time has led to spectacular improvements in the length and quality of life of patients with cancer. This approach encourages us to consider the transcendental as much as the cell and molecular biology of the human organism. Alternative versions of 'holistic medicine' that offer claims of miracle cures for cancer by impossible dietary regimens, homeopathy or metaphysical manipulation of non-existent energy fields, are cruel and fraudulent acts. Such 'alternative' versions of holism are arid and closed belief systems, locked in a time warp, incapable of making progress yet quick to deny it in the field of scientific medicine.

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